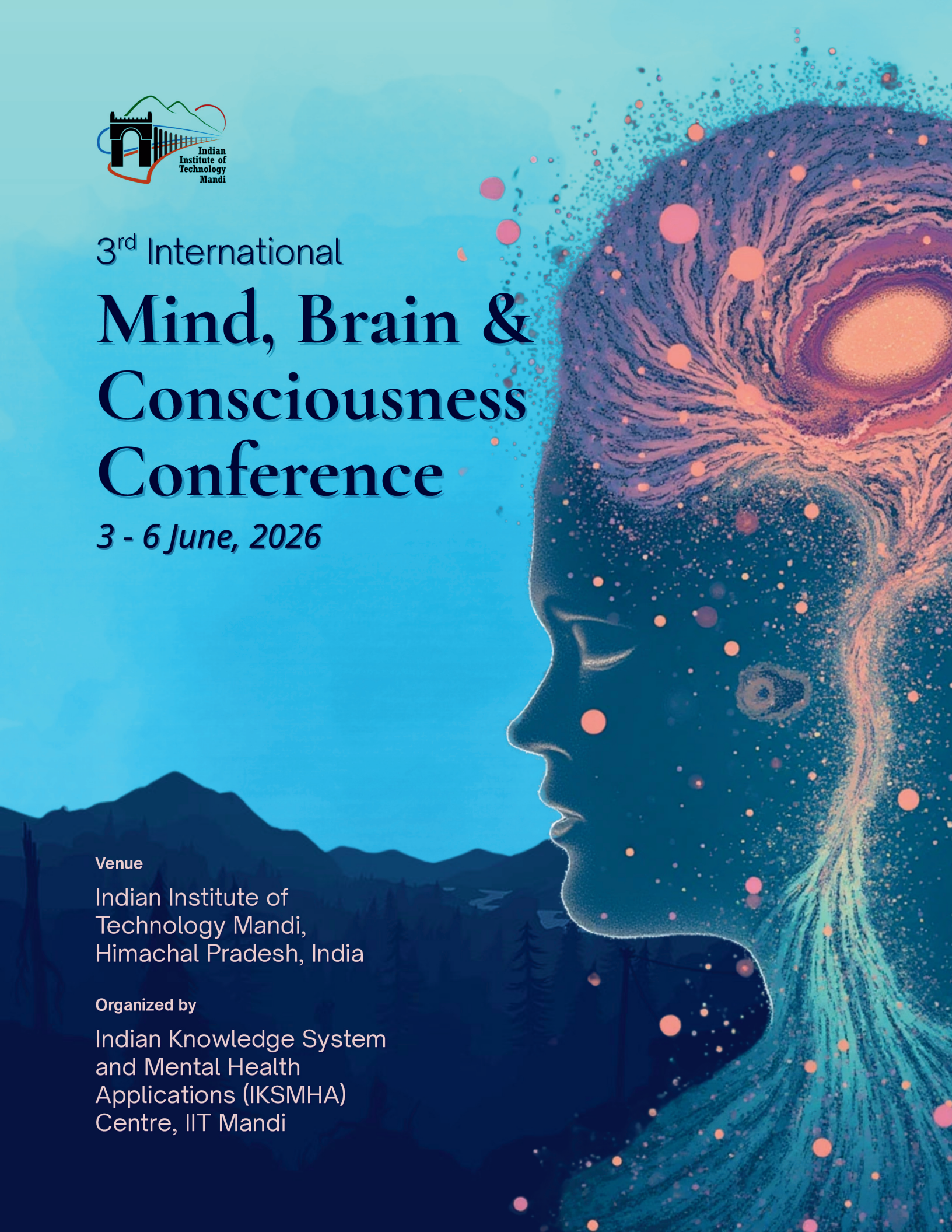
Indian Institute of Technology Mandi

3rd International

Mind, Brain & Consciousness Conference

3 - 6 June, 2026



Venue

Indian Institute of Technology Mandi, Himachal Pradesh, India

Organized by

Indian Knowledge System and Mental Health Applications (IKSMHA) Centre, IIT Mandi

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Day 1- June 3, 2026

Tritiya, Jyeshtha, Krishna Paksha, Vikram Samvat 2083 - Wednesday

Time	Event	Session Chair	Venue
6:15-7:15	**Yoga Session**	Jahnava Sundari	Yoga Room
7:30-8:30	Breakfast		Lawn
8:30-9:00	Inauguration Lamp Lighting with Chanting of 15th Chapter Bhagavad Gita Welcome Address: Laxmidhar Behera, General Chair, MBCC Chief Guest Address by **Dr. Padma Subrahmanyam** (Padma Vibhushan awardee, Bharatnatyam dancer) Book & MBCC Proceedings Launch		Auditorium
9:00-9:40	Visionary Talk (Keynote Talk 1): **Topic: Integrated study of Mind, Brain and Consciousness** **Speaker: Prof. Laxmidhar Behera**	Prof. Sisir Roy	Auditorium
9:40-10:20	Keynote Talk 2: **Topic: Are consciousness science and AI kindred and How India may blaze a new trail in the study of mind and cosmos** **Speaker: Côme Carpentier de Gourdon**	Prof. Partha Ghose	Auditorium
10:20-10:35	Tea Break		Foyer
10:35-12:05	Panel Discussion 1: **Saṃjñāna aur cetanā & Ask swāmi–swāminī & āśīrvacan**	Moderated by Dr. Richa Chopra	Auditorium
12:05-12:20	**Lecture Demonstration on Yoga**	Jahnava Sundari	Auditorium
12:20-13:00	Keynote Talk 3: **Topic: Perception and Awareness in Plants: Rethinking Intelligence in the Living World** **Speaker: Prof. Sudhir K. Sopory**	Prof. Rama Jayasundar	Auditorium
13:00-14:00	Lunch break		Lawn
14:00-17:30 (In parallel)	Key Thematic Special Session on **Ayurveda_1**	Prof. Rama Jayasundar & Dr Uma Shankar Prasad Adluri	Auditorium
14:00-17:45 (In Parallel)	Special Session 1: **The Bhagavad-gītā and Leadership Development (No 1)**	Dr. Sumanta Rudra & Mr. Shubash Marathe	A10-1A
	Special Session 2: **Bhagavad Gita and Mental Health: Integrating Ancient Wisdom with Contemporary Psychological Science (No 2)**	Dr. Ashish Gupta and Vinay Gupta	A10-1B
14:00-16:00 (In Parallel)	Key Thematic Special Session on **Gita and its relevance to Personal and Professional Excellence_1**	Prof. N. Ravichandran	CCE Conference hall

	Special Session 3: **Bhagavad Gita and Social Wellbeing (No 5)**	Dr. Akhaya Kumar Nayak	Hall A
	Special Session 4: **Bhagavad Gita and Science (No 6)**	Prof. P Hari Krishna	Hall B
	Special Session 5: **Bhagavad Gita and Cognitive Biomarkers (No 8)**	Dr. Tharun Kumar Reddy Bollu and Dr. Rohitash Chandra	Hall C
	Regular Session 1: **Track 4: Cognitive Neuroscience (Theme A)_8 + Track 5: Brain Computer Interface and Application (Theme A)_1**	Dr. Arpan Banerjee	CnP 1 (Hall D)
	Regular Session 2: **Track 11: Indian Philosophy_1 (Theme B)_10**	Prof. Sampadananda Mishra	CnP 2 (Hall E)
	Regular Session 3: **Track 1: Yoga and Meditation_1 (Theme D)_11**	Dr. Ramajayam Govindaraji, Prof. Supratim Ray & Dr. Ravindra PN	CCE Mini Auditorium
16:00-16:15	Tea Break/Networking		Foyer
16:15-18:15 (In parallel)	Special Session 6: **Bhāratīya Linguistic Thought and Multilingual Cognition: Conceptual Models and Trans-Himalayan Perspectives (No 17)**	Dr. Vivek Sharma	Hall A
	Special Session 7: **IKS-Infused Innovation: Startups and Incubation Ecosystems for Indian Knowledge Systems (No 13)**	Prof. Dipankar Deb	Hall B
	Workshop 1: **Story Telling**	Vikram Sridhar	Hall C
	Workshop 2: **शब्दब्रह्म — Sanskrit, Sound, Consciousness, and the Future of Knowledge**	Dr. Krishna Panda	CnP 1 (Hall D)
	Regular Session 4: **Track 13: Cognitive Science and AI_1 (Theme A)_10**	Dr. Ramana Vinjamuri & Dr. Tharun Reddy Bollu	CnP 2 (Hall E)
	Regular Session 5: **Track 7: Consciousness Studies_1 (Theme B)_10**	Dr. Venkatesh H Chembrolu & Prof. Chayan K Nandi	Guest House Conference Hall
	Regular Session 6: **Track 15: Natural Language Processing for Indian languages (Theme C)_9**	Dr. Rohit Saluja & Dr. Kunal Mooley	CCE Mini Auditorium
	Regular Session 7: **Track 3: Performing Arts and Therapeutic Applications (Theme D)_10**	Dr. Archi Banerjee & Dr. P Nirmal Harish	CCE Conference hall
18:30-20:00	Cultural event	Dr. Padma Subrahmanyam	Auditorium
20:00-21:00	Dinner		Lawn

Day 2- June 4, 2026

Chaturthi, Jyeshtha, Krishna Paksha, Vikram Samvat 2083 - Thursday

Time	Event	Session Chair	Venue
6:15-7:15	**Yoga Session**	Jahnava Sundari	Yoga Room
7:30-8:30	Breakfast		Lawn
8:30-9:10	Keynote Talk 4: **Topic: Indian Knowledge Systems and Microtubule Fractal Time Crystals** **Speaker: Prof. Stuart Hameroff**	Prof. Laxmidhar Behera	Auditorium
9:10-9:50	Keynote Talk 5: **Topic: Your Thoughts Grow on Trees** **Speaker: Prof. Giorgio Ascoli**	Dr. Anirban Bandopadhyay	Auditorium
9:50-10:30	Keynote Talk 6: **Topic: Spirituality and Mental Health in the Era of AI** **Speaker: BK Shivani ji**	Prof. Laxmidhar Behera	Auditorium
10:30-10:45	Tea break		Foyer
10:45-11:25	Keynote Talk 7: **Topic: Meditation Research, Scientific challenges and Insights from traditional wisdom** **Speaker: Prof. Sisir Roy**	Prof. Partha Ghose	Auditorium
11:25-13:00	Book Inauguration & Panel Discussion 2: **Artificial Intelligence vs. Natural Consciousness**	Moderated by Prof. Gautam Desiraju	Auditorium
13:00-14:00	Lunch Break		Lawn
14:00-14:40	Keynote Talk 8: **Rethinking Sustainability in the Bhagavad Gita: An Emic Perspective** **Speaker: Prof. Shonaleeka Kaul**	Prof. Venkatesh Chembrolu	Auditorium
14:40-15:00	Invited Talk 1: **Topic: Krishna Bhakti and the Yoga Sūtras: Reflections on Mind, Intelligence, and Identity** **Speaker: Dr. Abhishek Ghosh**	Dr. Ramajayam Govindaraji	Auditorium
15:00-18:30 (In Parallel)	Key Thematic Special Session on **Ayurveda_2**	Prof. Rama Jayasundar & Dr Uma Shankar Prasad Adluri	Auditorium
15:00-18:00 (In Parallel)	Special Session 8: **Linguistic, Computational, and Aesthetic Perspectives on the Bhagavad Gītā (No 3)**	Dr. Pawan Goyal, Dr. Ashish Gupta and Dr. Jivnesh Sandhan	A10-1A
	Special Session 9: **The Bhagavad-Gītā and Sustainability: An Indian Knowledge Systems (IKS) Perspective (No 4)**	Dr. Sumanta Rudra and Punit Rajendrakumar Bhalla	A10-1B
	Special Session 10: **The Bhagavad-gītā and Personality Development (No 9)**	Dr. Ranjan Kumar Behera & Dr. Abhishek Jaiswal	CCE Mini Auditorium

15:00-17:00 (In Parallel)	Key Thematic Special Session on **Gita and its relevance to Personal and Professional Excellence_2**	Prof. N. Ravichandran	CCE Conference hall
	Special Session 11: **Music Beyond Performance: Muthuswami Dikshitar and the embodied knowledge of conscious practice (No 11)**	Dr. P Nirmal Harish & Dr. Lakshmi Surya Teja	Hall A
	Special Session 12: **Holism in Ayurveda: A Whole-System Approach Integrating Body, Mind, and Consciousness from Classical Wisdom to Clinical Practice (No 15)**	Dr. Amrita Sharma & Dr. Anukul Deb Goswami	Hall B
	Regular Session 8: **Track 12: Cognitive Science and AR/VR (Theme A)_6 + Track 6: Material Science in IKS (Theme C)_3**	Dr. Varun Dutt & Dr. Supratim Ray; Dr. Neha Thakur & Prof. Chayan K Nandi	Hall C
	Regular Session 9: **Track 2: Sanskrit_1 (Theme B)_10**	Dr. Krishna Panda	CnP 1 (Hall D)
	Regular Session 10: **Track 9: Ayurveda_2 (Theme C)_6**	Dr. Uma Shankar Prasad Adluri & Prof. Rama Jayasundar	CnP 2 (Hall E)
	Regular Session 11: **Track 10: Experiments on Human Subjects for IKS (Theme D)_6 + Track 11: Indian Philosophy_1 (Theme B)_6**	Dr. Amit Sethi & Prof. Sampadananda Mishra	Guest House Conference Hall
17:00-19:00 (In Parallel)	Poster session /High Tea	Dr. Krishna Panda	Foyer
	Special Session 13: **Patanjali**	Dr. Kanak Soni	Hall A
	Special Session 14: **Consciousness-Aware AI for Mental Health: Integrating Brain Signals, Meditation, and Machine Learning (No 20)**	Dr. Sushil Chandra	Hall B
19:00-20:30	Cultural event	Pandit Ajoy Chakrabarty	Auditorium
20:30-21:30	Dinner		Lawn

Day 3- June 5, 2026**

Panchami, Jyeshtha, Krishna Paksha, Vikram Samvat 2083 - Friday

* In parallel: Whole day - IKS-Based Startup Competition (Final)
** Second half - IKS-Based Cultural Competition (Final) @ Auditorium

Time	Event	Session Chair	Venue
6:15-7:15	**Yoga Session**	Jahnava Sundari	Yoga Room
7:30-8:30	Breakfast		Lawn
8:30-9:10	Keynote Talk 9: **Topic: Seeing all Philosophy, Science, Mathematics and Technology etc. through the eyes of Indian Raga Music** **Speaker: Pandit Ajoy Chakrabarty**	Dr. Archi Banerjee	Auditorium
9:10-9:50	Keynote Talk 10: **Topic: Brain Implants, AI and Biophysics** **Speaker: Prof. Dimitris A. Pinotsis**	Prof. Laxmidhar Behera	Auditorium
9:50-10:30	Keynote Talk 11: **Topic: Neural Noise, Quantum-Like Dynamics, and Testable Markers in Single Neurons** **Speaker: Prof. Partha Ghose**	Dr. Pushpendra Singh	Auditorium
10:30-10:40	Tea break/Networking		Foyer
10:40-11:20	Keynote Talk 12: **Topic: Performance as Metaphor and Technique** **Speaker: Prof. Shekhar P Seshadri**	Prof. Partha Ghose	Auditorium
11:20-12:00	Keynote Talk 13: **Topic: Musical Biofeedback and Virtual Embodiment: Modulating Mind, Body, and Social Interaction** **Speaker: Prof. Pieter-Jan Maes**	Prof. Laxmidhar Behera	Auditorium
12:00-13:00	Panel Discussion 3: **Elevated Consciousness for Nation Building**	Prof. Ganti S. Murthy	Auditorium
13:00-14:00	Lunch break		Lawn
14:00-14:20	Invited Talk 2: **Topic: From Mind Mapping to Consciousness Mapping: An Indian Knowledge Systems Perspective** **Speaker: Mr. Mahesh Lohar**	Prof. Varun Dutt	Auditorium
14:20-14:40	Invited Talk 3: **Topic: Topic: Flourishing and Consciousness** **Speaker: Prof. Mala Kapadia**		
14:40-15:00	Invited Talk 4: **Topic: Clinical Evidence of Panchamahabhuta-Based Therapies in Mind-Body Disorders**		

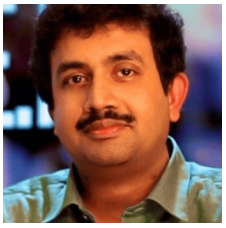
	Speaker: Dr. Kanak Soni		
15:00-17:00	Competition_Final Round (Music, Sanskrit & Yoga)	Dr. Archi Banerjee, Dr. P Nirmal Harish, Dr. Krishna Panda, Mr. Satyam Tiwari	Auditorium
15:00-19:00 (In Parallel)	Special Session 15: **Re-reading Indian Cosmology Today: Purāṇic and Siddhāntic Perspectives in Dialogue with Modern Science (No 7)**	Dr. Venketeswara R. Pai and Dr. V Ramanathan	A10-1A
	Special Session 16: **Theory of Quantum Emotion (TQE): Quantum Emotion: Exploring Coherence in Mind, Brain, Consciousness and Digital Identity (No 14)**	Dr. Mahesh Sakharam Lohar	A10-1B
	Special Session 17: **Exploring Consciousness: Bridging Science, Philosophy, and Indian Knowledge Systems for an Inclusive and Sustainable Society (No 16)**	Dr. Pooja Gupta & Dr. Vikas Kumar Saxena	CCE Mini Auditorium
15:00-17:00 (In Parallel)	Key Thematic Special Session on **Gita and its relevance to Personal and Professional Excellence_3**	Prof. N. Ravichandran	CCE Conference hall
	Special Session 18: **Sound, Movement and Awareness: Mind Body Practices in Indian Music and Dance (No 12)**	Dr. P Nirmal Harish	Hall A
	Special Session 19: **Reincarnation, OBEs and Afterlife communication**	Prof. Kunal Mooley & Prof. Laxmidhar Behera	Hall B
	Regular Session 12: **Track 13: Cognitive Science and AI_2 (Theme A)_2 + Track 8: Contemplative Psychology (Theme B)_8**	Dr. Ramana Vinjamuri, Dr. Tharun Reddy Bollu & Dr. Richa Chopra	Hall C
	Regular Session 13: **Track 5: Brain Computer Interface and Application_1 (Theme A)_10**	Prof. Ram Bilas Pachori	CnP 1 (Hall D)
	Regular Session 14: **Track 2: Sanskrit_2 (Theme B)_4 + Track 14: Mega Hz Signal and Nanobrain (Theme C)_6**	Dr. Krishna Panda, Dr. Pushpendra Singh & Dr. Rama Jayasundar	CnP 2 (Hall E)
17:00-17:45	**Session:** Role of IKS in innovation from IIT Mandi Catalyst & **Announcement of winners of IKS startup challenge**	Prof . Dipankar Deb	Auditorium
17:30-19:30	Poster presentation /High Tea	Dr. P Nirmal Harish	Foyer
17:30-17:50 (In Parallel)	Invited Talk 5: **Dr. Willy Colier (Artinis Medical Systems)**	Prof. Varun Dutt	Hall A
17:50-18:10 (In Parallel)	Invited Talk 6: **Dr. Martijn Schreuder (ANT Neuro)**		
18:10-18:30 (In Parallel)	Invited Talk 7: **Dr. Shubhajit Roy Chowdhury** (iHub, IIT Mandi)		
19:30-21:30	Gala Dinner and Sankirtan		Lawn

Day 4- June 6, 2026

Shashthi, Jyeshtha, Krishna Paksha, Vikram Samvat 2083 - Saturday

Time	Event	Session Chair	Venue
6:15-7:15	**Yoga Session**	Jahnava Sundari	Yoga Room
7:30 - 8:30	Breakfast		Lawn
8:30-9:10	Keynote Talk 14: **Topic: Functional Coherence Across Scales: From the Dynamics of the Universe to the Harmony of the Brain** **Speaker: Dr. Josefa Becerra Gonzalez**	Dr. Venkatesh Chembrolu	Auditorium
9:10-9:50	Keynote Talk 15: **Topic: From Silicon to Cytoskeleton: Why Microtubules Are the Final Computer and Homo Transcendens Is our Next Chapter** **Speaker: Mr. Joseph Jacks**	Prof. Arnav Bhavsar	Auditorium
9:50-10:30	Keynote Talk 16: **Topic: Hindu Hermeneutics - Its Importance and Relevance in Context of Our Understanding of Bharat** **Speaker: Prof. Nachiketa Tiwari**	Prof. Laxmidhar Behera	Auditorium
10:30-10:40	Tea Break		Foyer
10:40-11:20	Keynote Talk 17: **Topic: Beyond Mathematical Realism: A Yoga Vashishta Critique of Conscious Agent Modeling** **Speaker: Prof. Ganti S. Murthy**	Dr. Richa Chopra	Auditorium
11:20-12:00	Keynote Talk 18: **Topic: Before Consciousness: Why a Self-Operating Mathematical Universe Is Required for a Science of Mind** **Speaker: Dr. Anirban Bandyopadhyay**	Dr. Pushpendra Singh	Auditorium
12:00-12:20	Invited Talk 8: **Topic: Consciousness in the interval between thoughts** **Speaker: Dr. Ashutosh Simha**	Dr. Venkatesh Chembrolu	Auditorium
12:20-12:40	Invited Talk 9: **Topic: Avadhānam as a Cognitive Art: Insights from a Living Indian Tradition** **Speaker: Prof. Ramakrishna Pejathaya**		
12:40-13:00	Invited Talk 10: **Topic: Science Of Spirituality** **Speaker: Dr. Narendra Arya, DRDO**		
13:00-13:20	Invited Talk 11:		

	Topic: The Bhagavad-gītā: Bridging mind, Consciousness and Philosophy **Speaker: Prof. Ithamar Theodor**		
13:20-14:30	Lunch Break		Lawn
14:30-16:30	Key Thematic Special Session on **Gita and its relevance to Personal and Professional Excellence_4**	Prof. N. Ravichandran	CCE Conference hall
	Special Session 20: **GDV/EPI Bio-Energy Imaging: Live Device Demonstration and Physiological Interpretation (No 18)**	Shyamal Bhakne & Dr. Ranjan Solanki	Hall A
	Special Session 21: **The Philosophical and Scientific Theory of Jyotisha, with Applications to Psychology (No 19)**	Dr. Utkarsh Agrawal & Abhigya Anand	Hall B
	Regular Session 15: **Track 5: Brain Computer Interface and Application_2 (Theme A)_10**	Prof. Ram Bilas Pachori	Hall C
	Regular Session 16: **Track 7: Consciousness Studies_2 (Theme B)_8 + Track 12: Cognitive Science and AR/VR (Theme A)_1**	Dr. Venkatesh H. Chembrolu & Prof. Chayan K Nandi	CnP 1 (Hall D)
	Regular Session 17: **Track 16: Preventive Wellness and Clinical Trials (Theme D)_10**	Dr. Venugopal Damerla	CnP 2 (Hall E)
16:30-17:00	Closing ceremony/ Valedictory Session		Auditorium

Greetings from the General Chairs

Dear Delegates and Esteemed Speakers,

Warm greetings from IIT Mandi to each one of you who has contributed to the **3rd Mind, Brain, and Consciousness Conference (MBCC–2026)**. Whether as an author, track chair, or volunteer, your commitment has made it possible for us to assemble today with great pride. Our keynote and invited speakers — distinguished *patha-pradarshaks* or guiding lights — have adorned this conference by generously sharing their path-breaking research and rich wisdom. We heartily acknowledge and celebrate the contributions of all.

Why is MBCC special?

Prof. Stuart Hameroff has been conducting the Toward a Science of Consciousness (TSC) conference for over two decades — a spectacular effort to establish consciousness as a mainstream scientific inquiry. Yet consciousness has been the very cornerstone of Indian civilization for millennia. And still today, Orch-OR (Penrose-Hameroff), Integrated Information Theory (Tononi), and related frameworks advanced by Christof Koch and others remain dominated by Western institutions — a profound irony. MBCC — now in its third edition — is a humble yet determined effort to restore pride to the *Bharatiya Jnana Parampara*, the Indian Knowledge System.

MBCC is thus India's moment — an endeavour to unravel the deeper insights into consciousness that seekers of this land have practised over millennia and bequeathed to us in the form of the Bhagavad Gita, the Upanishads, the Vedas, the Yoga Sutras, Ayurveda, and allied literature. The themes convened under MBCC's aegis reflect this breadth: Consciousness Studies, Science of Mind, Mind–Matter Interaction, Yoga, Meditation and Mantra, Ayurveda and Naturopathy, Energy Chakras and Pancha Kosha, Indian Classical Music and Natya Shastra, Rasa Theory, Integrative Medicine, Cognitive Neuroscience, Brain-Computer Interfaces, Cognitive Science and AI, Sanskrit and Indian Philosophy, Natural Language Processing for Indian Languages, Material Science in IKS, Mega-Hz Signals and Nanobrain, Science of Reincarnation, Preventive Wellness and Clinical Trials, Performing Arts and Therapeutic Applications, and many other emerging fields with profound implications for humanity — spanning agriculture to healthcare, environment to sustainability — and laying the foundation for a harmonious world: *Vasudhaiva Kutumbakam*, one Earth, one family.

Growth of MBCC — Edition by Edition

MBCC 2023 set the stage with 165+ technical presentations, seven keynote speakers, twelve invited speakers, and a Springer conference proceedings volume. MBCC 2025 raised the bar significantly with 10 plenary talks, 6 invited talks, and 160+ technical presentations, resulting in four landmark Springer volumes —

Volume I: *Indian Knowledge System and Well-being*
Volume II: *Cognitive Biomarkers and BCI Applications*
Volume III: *Cognitive Neuroscience and Artificial Intelligence*
Edited Book: *Cognitive Biomarkers for Therapeutic Applications*

MBCC 2026 now sets a yet higher standard: more than 250 technical presentations (oral and poster) in 17 regular tracks, 19 keynote speakers and 10 invited speakers from India and across the globe, 3 highly contemplative panel

discussion sessions, more than 35 invited talks as well as over 100 contributory presentations across 23 special sessions, multiple Springer proceedings volumes, and an expanded set of competitions including the IKS-Based VR and Social Robot Storytelling Competition, National Yoga Competition, Music Competition, and Śloka Recitation Competition.

Distinguished Guests and Cultural Highlights

This edition carries two particularly special honours. Padma Vibhushan Padma Subrahmanyam will grace our inauguration as Chief Guest and will present a Bharatanatyam performance with her ensemble on the evening of 3rd June 2026. Padma Bhushan Pandit Ajoy Chakrabarty will deliver a keynote address and perform Indian classical vocal music with his ensemble on the evening of 4th June 2026. We are deeply grateful to these towering exponents of the Indian Knowledge System for honouring MBCC with their presence.

Acknowledgements

We gratefully acknowledge the IKS Division of the Ministry of Education for their steadfast patronage — both financial and intellectual — of this series. We also express deep appreciation to Prof. Ganti S. Murthy, National Coordinator, IKS-MoE, for his generous guidance and unflinching support.

MBCC 2026 is organised by the Indian Knowledge System and Mental Health Applications (IKSMHA) Centre, IIT Mandi, and will be held at IIT Mandi's North Campus, Kamand, nestled in the serene landscapes of the Uhl River valley in Himachal Pradesh — an environment that inspires both deep reflection and lively intellectual exchange.

We look forward to four exciting days — 3–6 June 2026 — of discovery, dialogue, and collaboration. IIT Mandi pledges a warm stay, rich cuisine, and a convening spirit worthy of the knowledge traditions we celebrate.

With warm regards and best wishes,
Prof. Laxmidhar Behera
On behalf of all General Chairs

Prof. Sisir Roy (*National Institute of Advance Studies, Bangalore*)
Dr. Anirban Bandyopadhyay (*NIMS, Japan*)
Prof. Shekhar Mande (*Indian National Science Academy, Delhi*)
Prof. Laxmidhar Behera (*Indian Institute of Technology Mandi*)

Keynote/Plenary Talks

An Integrated Study of Mind, Brain, and Consciousness: Some Reflections

Prof. Laxmidhar Behera

Director, IIT Mandi

Abstract:

This talk introduces the Vedāntic conception of perceptual space and asks a deceptively simple question: how does living matter come to possess self-awareness? The answer offered here turns on a chain of entanglement. The senses are entangled with the mind, and the mind in turn is entangled with the soul—the seat of consciousness. Matter, in this view, does not generate awareness; rather, consciousness, by its very nature able to pervade and illuminate whatever it contacts, lends its light through the mind to the senses, so that the entire bodily apparatus appears luminous. But how can such a reality be studied? The central proposal of this talk is that both conscious energy and mental energy are non-local, and that non-locality is precisely the lens through which mind, brain, and consciousness may be investigated in an integrated manner—rather than as three disconnected objects. Building on this premise, the talk sets out a research agenda and presents several of our recent results. It sheds new light on biomarkers of consciousness in plants, identified through anaesthetic intervention, and offers a principled account of the nature of death. Finally, it presents a model of mind–matter interaction that bridges Hilbert space and Euclidean space to explain the collective flocking of birds. Together, these three windows—the plant, the moment of death, and the flock—illustrate how a non-local view of mind and consciousness can yield testable science while remaining faithful to the Vedāntic vision..

Prof. Laxmidhar Behera is the Director of Indian Institute of Technology Mandi, a position he has held since January 2022, and a senior Professor in the Department of Electrical Engineering at Indian Institute of Technology Kanpur. He earned his B.Sc. (Engg.) and M.Sc. (Engg.) degrees from National Institute of Technology Rourkela in 1988 and 1990, respectively, and completed his Ph.D. in Electrical Engineering from Indian Institute of Technology Delhi in 1996. He also pursued post-doctoral research at the German National Research Centre for Information Technology, Sankt Augustin. With over 28 years of teaching and research experience, Prof. Behera has made significant contributions in intelligent systems and control, robotics, warehouse automation, brain-computer interfaces, drone technology, consciousness studies, and mental healthcare. He has led major sponsored research projects exceeding ₹25 crores and established collaborations with industries including TCS, Renault Nissan, and BEL Bangalore. Prof. Behera has supervised 31 Ph.D. scholars and over 70 master's dissertations. He has authored three graduate-level textbooks and more than 380 research publications. His books on intelligent systems and robotic control are widely recognized internationally. A Fellow of INAE, he received the prestigious National Systems Gold Medal in 2023 and currently serves as Associate Editor of IEEE Transactions on SMC: Systems.

Are consciousness science and AI kindred and How India may blaze a new trail in the study of mind and cosmos

Côme Carpentier de Gourdon
Director, India Foundation Journal

Abstract:

The talk draws from two previous international conferences co-organised in Bangalore, India (in 2023) and Padova, Italy (in 2024) on Consciousness and the various philosophical theories and scientific discoveries that pertain to it, and two collective books, one already published and the other in process, that resulted from those conferences. It addresses the ongoing debate about the connection between 'natural' consciousness, intelligence, mind sciences, and the AI revolution, and it also analyses the psychological thesis (by Dinald Hoffman and others) that consciousness both creates and reflects the universe as we (can) know it. This view converges with Vedantic and Buddhist psycho-cosmological conclusions and opens new perspectives on theories about the multiverse, parallel worlds, String Theory multidimensionality, the Holographic Principle, and the Global Workspace Theory.

Come Alexandre Marie Carpentier de Gourdon is a French writer, philosopher, scholar, and geopolitical analyst whose multidisciplinary work spans the history of civilizations, religions, arts, sociology, international relations, Eastern spirituality, and esoteric traditions. He has contributed extensively through books, academic papers, and essays, while also developing innovative interpretations of cosmosophy and psychosynthesis at the intersection of philosophy and natural sciences. Since 2003, he has served as Convener of the International Editorial Board of World Affairs – The Journal of International Issues and as Director of the India Foundation Journal, advising several academic, cultural, and technological institutions.

Born on March 11, 1959, in Las Palmas, Gran Canaria, to French parents, Carpentier was raised in an intellectually vibrant environment enriched by literature, philosophy, music, and intercultural dialogue. Influenced deeply by his father's interest in Oriental philosophies, yoga, and macrobiotics, he developed an early fascination for Hindu, Buddhist, and Sino-Japanese traditions, as well as natural sciences and parapsychology. In 1974, he embarked on an overland journey to India with his father along the "Hippie Trail." Settling later at the Theosophical Society in Adyar and studying at Kalakshetra in Chennai, he immersed himself in Indian philosophy, classical arts, and spirituality, experiences later chronicled in his book Memories of a Hundred and One Moons – An Indian Odyssey.

Perception and Awareness in Plants: Rethinking Intelligence in the Living World

Prof. Sudhir K. Sopory

Emeritus Senior Scientist, International Centre for Genetic Engineering and Biotechnology (ICGEB), New Delhi

Abstract:

Plants are often viewed as passive, silent, and unresponsive organisms. Yet, modern research is steadily challenging this perception, revealing that plants are highly sensitive, dynamic systems capable of perceiving, processing, and responding to a wide range of environmental signals. This lecture invites a rethinking of plant life—not merely as biochemical systems, but as organisms exhibiting a form of distributed awareness. Plants continuously monitor their environment through multiple sensory modalities. They perceive light across different wavelengths and use this information to regulate growth, architecture, flowering , and seasonal behavior. They sense temperature, gravity, and mechanical stimuli such as touch and wind, integrating these inputs into coordinated developmental responses. Recent studies further suggest that plants can respond to sound vibrations and may even be influenced by magnetic fields, opening new and intriguing dimensions in plant-environment interactions. Beyond sensing, plants actively communicate. Through chemical signals and volatile compounds, they interact with neighboring plants, microbes, and insects—warning, attracting, repelling, and cooperating within complex ecological networks. These interactions point toward a form of ecological intelligence that extends beyond the individual organism. More provocatively, emerging work revisits early insights of Sir Jagadish Chandra Bose, suggesting that plants utilize electrical signaling systems that bear functional similarities to neural processes. This has led to renewed discussions on ” information processing”, and possibility of memory-like behavior in plants. While such ideas remain debated, they are expanding the conceptual boundaries of how we understand cognition in living systems. For scholars in animal science and cognitive studies, these findings raise fundamental questions: Must cognition and intelligence be tied to a nervous system? Can awareness exist in distributed, non-neural forms? For those engaged with Indian knowledge systems, these developments resonate with long-standing philosophical views that regard life as inherently sentient and interconnected. At present, it would be premature to attribute consciousness to plants in the human or animal sense. However, it is increasingly evident that plants embody a form of intelligence—adaptive, responsive, and deeply integrated with their environment—which has enabled their survival and evolutionary success over millions of years.

Prof. Sudhir Kumar Sopory is a distinguished Indian molecular biologist and plant physiologist renowned for his pioneering contributions to plant biotechnology and stress physiology. Born in 1948, he earned his Ph.D. in plant molecular biology from the University of Delhi. He began his academic career at JNU in 1973 and later served as its Vice Chancellor from 2011 to 2016. Prof. Sopory’s research has significantly advanced understanding of plant stress tolerance, signal transduction, and the glyoxalase pathway, contributing to the development of stress-resistant crops. He has also worked with leading international institutions, including International Centre for Genetic Engineering and Biotechnology. He received the prestigious Shanti Swarup Bhatnagar Prize in Biological Sciences in 1987 and was awarded the Padma Shri by the Government of India in 2007 for his contributions to science and education. Prof. Sopory is a Fellow of all major Indian science academies as well as The World Academy of Sciences.

Indian Knowledge Systems and Microtubule Fractal Time Crystals

Prof. Stuart Hameroff
University of Arizona

Abstract:

Indian Knowledge Systems consider ambient factors in the universe directly informing consciousness, the brain acting at least in part as a receiver rather than strictly as a generator of consciousness. Ambient factors potentially encoding meaningful information might include electromagnetic vibrations and fields, quantum fluctuations and particles, gravity, neutrinos, dark matter and others. How could they interact functionally with the brain, viewed by most as a complex computer of simple neurons, active in frequencies only up to ~100 hertz? Inside neurons and all other cells, cytoskeletal microtubules have coherent fractal resonance oscillations in hertz, kilohertz, megahertz, gigahertz and terahertz, proposed to regulate biological activities. These self-similar oscillation patterns are consistent with microtubules acting as 'fractal time crystals', systems which break time symmetry (Saxena et al, 2022; Hameroff et al, 2026). Their dynamics repeat at different times/frequencies which match and could be sensitive to ambient hertz (Schumann resonance), kilohertz, megahertz (radiowave), gigahertz (microwave), terahertz (infra-red and optical) and higher frequency electromagnetic oscillations prevalent in the universe. Microtubules also have quantum states which could transduce non-local entanglements including subtle 'Platonic values' in spacetime geometry (suggested by Sir Roger Penrose), Bohm's 'implicate order', gravity waves, the 'Akashic record' and Casimir force in which evanescent photons in zero point energy fields exert net pressure on geometries which exclude longer wavelengths. The Casimir force on a microtubule is calculated to be about 20 atmospheres. Microtubule time crystals and other helical organic oscillators (RNA, DNA) are also potential mediators of meaningful interactions with the universe. A recently- developed warm temperature organic quantum gel system (Singh et al, 2026) based on helical organic oscillators may be an appropriate system in which to test for such effects.

Prof. Stuart Hameroff is an anesthesiologist, researcher, and professor at the University of Arizona. He is widely recognized for his pioneering work on consciousness studies and for co-developing the "Orchestrated Objective Reduction (Orch-OR)" theory of consciousness in collaboration with physicist Roger Penrose. His research explores the relationship between quantum processes, brain function, and human consciousness, with interdisciplinary contributions spanning neuroscience, anesthesiology, cognitive science, and quantum biology. Prof. Hameroff has delivered numerous lectures internationally and continues to contribute significantly to the scientific understanding of consciousness and the mind–brain relationship.

Your Thoughts Grow on Trees

Prof. Giorgio Ascoli

Kashnow Institute, USA

Abstract:

The content of our conscious mind depends on the experience matured throughout life through learning and memory. Neuroscientists have long investigated the molecular and cellular mechanisms underlying these processes. How does the architectural organization of biological neural circuits determine what each individual remembers, what s/he does not, and why? In the mammalian brain, tens of billions of nerve cells, with their tiny tree-like input and output structures, make up a massive network capable of enormous computational power. The branching shape of neurons has a huge impact in shaping our thoughts. If mental states reflect neural activity patterns, then psychological phenomena such as memory gating by background information are intrinsically tied to neuroanatomy principles. In return, lived experience sculpts network connectivity via synaptic plasticity, making every conscious subject absolutely unique. This explains why humans and other animals can quickly absorb causal associations while seamlessly filtering much more numerous spurious occurrences.

Dr. Giorgio A. Ascoli received a Ph.D. in Biochemistry and Neuroscience from the Scuola Normale Superiore of Pisa, Italy, and continued his research at the US National Institutes of Health to investigate protein structure and binding in the nervous system. He moved to the Krasnow Institute for Advanced Study at George Mason University in 1997, where he is Distinguished University Professor in the Bioengineering Department and Neuroscience Program. He is also founder and Director of the Center for Neural Informatics, Structures, & Plasticity, a transdisciplinary research group that includes biologists, physicists, psychologists, computer scientists, mathematicians, engineers, and physicians. Dr. Ascoli is founding Editor-in-Chief of the Springer-Nature journal Neuroinformatics and Past President of the Potomac Chapter of the Society for Neuroscience. He was elected AIMBE fellow in 2022, WIA fellow in 2025, and won the Beck Presidential Medal for Excellence in Research and Scholarship as well as the NIH/FASEB DataWorks!Challenge ‘Distinguished Achievement Award’ in 2023.

Spirituality and Mental Health in the Era of AI

BK Shivani ji

Globally renowned spiritual guide, mentor and motivational speaker

Abstract:

In today's rapidly changing world, artificial intelligence is becoming a powerful part of human life. Machines are learning to think, respond, and even understand emotions, but in the middle of this technological progress, the human mind is becoming more restless, anxious, and emotionally tired. Spirituality reminds us that peace, happiness, and stability cannot come from technology alone; they are created from within. When we disconnect from our inner self and become dependent on external validation, comparison, and digital stimulation, mental health begins to suffer. Spiritual wisdom teaches us to pause, observe our thoughts, and consciously create positive energy through meditation, gratitude, compassion, and self-awareness. AI can support life, but it cannot replace the healing power of human connection, pure thoughts, and emotional understanding. The mind becomes healthy when it is calm, not when it is constantly occupied. In the era of AI, spirituality is not an escape from technology; it is the balance that helps humanity use technology wisely without losing emotional strength and inner peace. A spiritually empowered mind can face uncertainty, pressure, and change with stability and clarity. Therefore, the future of mental health depends not only on intelligent machines, but also on emotionally and spiritually awakened human beings.

BK Shivani is a Globally renowned spiritual guide, mentor and motivational speaker from the Brahma Kumaris World Spiritual University, known for her teachings on Raja Yoga meditation, emotional well-being, and mind management. Through television programs, workshops, and international conferences, she has guided millions of people on stress management, relationships, leadership, and inner transformation through meditation and positive thinking.

Her work focuses on the connection between thoughts, emotions, health, and overall well-being, integrating spiritual principles with modern lifestyle challenges. She has delivered lectures and conducted workshops worldwide, contributing significantly to the promotion of meditation, mental wellness, and values-based living.

Meditation Research, Scientific challenges and Insights from traditional wisdom

Prof. Sisir Roy

NIAS, Bengaluru

Abstract:

In recent decades there is exponential growth in contemplative research based on rich and ancient spiritual tradition that compasses a variety of diverse practices, such as physical postures, breathing techniques, meditation techniques, mantras and ethical teachings. These practices are designed to promote personal and spiritual growth with the ultimate aim of gaining access to pure consciousness and reaching enlightenment. These practices help also to enhance cognitive ability and stress management. Scientists are looking into the neuronal correlation during these practices. However, there are some foundational issues which need to be resolved before starting this kind of study. For example, in the experiment, the concept of a deep meditator is used (who has completed at least ten thousand hours of meditation practices). There are many enlightened persons who did not satisfy this criteria. Moreover, the issue of the base line needs to be clarified. We think if we can characterize the stages of meditation from a neuroscientific perspective, it will shed new light to resolve the issues. In various Ancient Indian Texts, for example, Ptanajali Yoga Sutra, Bhavanakrama in Buddhist tradition and Tattarhta Sutra in Jaina philosophy these stages are discussed at length. It is claimed that these stages are discrete in nature like Savikalpa Samadhi and Nirvikalpa Samadhi. Of course there are various sub- stages within each of these categories. We propose that the degree of coherence in synchronized brain waves along with the noise during the meditation process. Here, noise is defined as unwanted variation and depends on the context. So, broadly speaking, meditation is considered as a noise regulatory process from science and technology perspective. The insights from the above texts will help us to make not only international protocols for meditation research but also shed new light on modern brain research.

Prof Sisir Roy is a theoretical physicist and his main field of interests includes Foundations of quantum theory, theoretical astrophysics and cosmology, Brain function modelling and higher order cognitive activities as well as Ancient Indian Traditions. He is currently Visiting Professor at NIAS and has been awarded the prestigious Senior Homi Bhabha Fellow by Homi Bhabha Fellowships Council, Mumbai, he worked as Raman Pai Chair Visiting Professor at NIAS till May 2018. Prof. Roy served as Professor , Physics and Applied Mathematics Unit, Indian Statistical Institute, Kolkata during 1993-2014. He has collaborated with Prof. Jean Pierre Vigier, Paris on Quantum Theory and Prof. Rodolfo Llinas, New York, on Neuroscience. He visited many US and European Universities as a Distinguished Professor. He published more than two hundred fifty papers in international journals and eighteen research monographs by Springer, Kluwer Academic Publishers, World Scientific Publishers etc. His recent books include “Decision making and Modeling Cognitive function (Springer), “Demystifying the Akasha : Quantum vacuum and consciousness” (Epigraph, New York) jointly with Prof. Ralph Abraham (USA) and “Understanding Space Time and causality: Modern Physics and Ancient Indian Traditions” (Rutledge Taylor and Francis, NY and London) jointly with Prof. B V Sreekantan.

Rethinking Sustainability in the Bhagavad Gita: An Emic Perspective

Prof. Shonaleeka Kaul

Centre for Historical Studies, Jawaharlal Nehru University

Abstract:

Presenting a close reading of the Bhagavad Gita, this talk argues against the well meaning but erroneous view that tenets of the modern sustainability doctrine, like ecological conservation, minimal consumption of resources, welfarism, pacifism, and social equity, are to be found in this ancient text from 2000 years ago. It will show how such interpretations extract and decontextualize select portions of the Gita. This talk argues for restoring the Gita to its own logic and purpose, and thereafter redefining sustainability in the light of the venerable text's own vision.

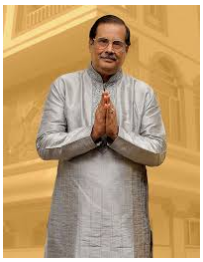
Prof. Shonaleeka Kaul is India's leading cultural and intellectual historian, specialising in Sanskrit literature. She is Professor, Centre for Historical Studies, Jawaharlal Nehru University, and has been the Malathy Singh Distinguished Lecturer in South Asian Studies, Yale University (USA), the Jan Gonda Fellow in Indology, Leiden University (The Netherlands), and Visiting Professor of History, Heidelberg University (Germany). She has published 9 internationally acclaimed books including Imagining the Urban: Sanskrit and the City in Early India (2010), The Making of Early Kashmir: Landscape and Identity in the Rajatarangini (2018), Retelling Time: Alternative Temporalities from Premodern South Asia (2021), Myths and Places: New Perspectives in Indian Cultural Geography (2023) and Bharata Before the British and Other Essays: Towards a New Indology (2024). She has been invited to speak widely around India and the world including at Sorbonne (Paris), Sapienza (Rome), Stanford, and Michigan, Freie University (Berlin), Witwatersrand (Johannesburg), Australian National University (Canberra), University of Kent and Liverpool, University of Warsaw and Sophia, the World Sanskrit Conference (Bangkok and Canberra), and the United Nations (Geneva).

Seeing all Philosophy, Science, Mathematics and Technology etc. through the eyes of Indian Raga Music

Pandit Ajoy Chakrabarty (Padma Bhusan awardee)
Shrutinandan and ITC Sangeet Research Academy

Abstract:

God, I believe, sends every man to this mortal world with a purpose and for me it is music. But with my five-decade long practice and experience of music. I have realised that this music especially the Indian Raga Music is not meant for the musicians only. It should be an inseparable part of everybody's life. The reason is that it carries a typically powerful divine energy in its core kindling great imaginations which is the other name of philosophy. Indian Raga Music is no doubt the confluence of Philosophy and Science. The principles of Raga music match in great measure with the corollaries of various disciplines of science including mathematics and even technology if looked through the inner lens of music with expert analysis. I therefore firmly believe that music education always serves as a multi-modal learning tool activating different sensory systems that allow students and all others including professionals to grasp concepts more thoroughly and effectively. It helps develop a tremendous sense of improvisation and dynamic thought-process for creative activities. Another major work that it does is softens all harsh particles of mind and shapes the right approach and the right attitude in every soul. All this together is sure to lead our hard built civilization to the most cherished peace and harmony all the world over.



Pandit Ajoy Chakrabarty is a world-renowned Indian classical vocalist, revered as one of the foremost Gurus of Hindustani music. Trained for over three decades under the legendary Pandit Jnan Prakash Ghosh, he is celebrated for his mastery across Dhrupad, Khayal, Thumri, Tappa, Bhajan, Ghazal, Folk, Bengali songs, and film music in multiple languages. A senior-most Guru of the ITC Sangeet Research Academy and its only Gold Medalist Fellow, he has taught thousands of young musicians Indian raga music through his institution, Shrutinandan, established in 1994. He has received numerous honours including the Padma Bhushan (2020), Padma Shri (2011), Sangeet Natak Akademi Award, Kumar Gandharva National Award, Maha Sangeet Samman, Banga Bibhushan Sammanana, Tansen Award, Vasavara Rajguru Samman, and Omkarnath Award and the Best Male Playback Singer Award for Bengali cinema. He has also been awarded honorary D.Litt. degrees from several universities and a D.Sc. from IIT Kanpur. He is the only Vocalist of India invited by IIT Kharagpur as a Distinguished Professor. His recordings, exceeding 100 albums published across India, USA, UK, Canada, Germany etc. are treasured worldwide. His daughter and disciple, Kaushiki Chakraborty, continues the Shrutinandan tradition internationally. The first Indian Vocalist to be invited by BBC in its Golden Jubilee Celebration of India's Independence. Through his Guru Shishya Parampara Live Online classes he has extended the Shrutinandan method of music education to students across India and several other foreign countries. Many legendary personalities, including Indian Music maestros like Pandit Ravi Shankar, Ustad Ali Akbar Khan, Ustad Zakir Hussain, Dr. M. Balamuralikrishna, Nobel Laureate Prof. Roald Hoffman, Former President of India Dr. A.P.J. Abdul Kalam, Bharat Ratna Scientist Dr. C.N.R. Rao and Oscar winning film director Satyajit Ray, deeply admired his musical genius and visionary contribution to Indian music.

Brain Implants, AI and Biophysics

Prof. Dimitris A. Pinotsis

Department of Psychology and Neuroscience, City St George's, University of London

Abstract:

I will discuss theoretical advances in brain implants for depression, focusing specifically on how understanding the interaction between neuronal spiking and the brain's electric fields can yield putative biomarkers. I will argue that these insights are particularly relevant for the development of next-generation AI-guided brain implants, in which machine-learning models do not simply decode spikes but learn from higher-order electrical dynamics of neural tissue. These dynamics, implemented by Electric Fields (EFs), operate one level above neuronal spiking: while they emerge from spiking, they turn around and constrain spiking by providing more stable and efficient representations of neuronal information. This reciprocal top-down influence, known as ephaptic coupling, can account for representational drift, where individual neurons change over time but the electric field patterns remain similar when the same cues are represented—as well as for intertrial variability. I will present analyses that quantify these effects and explain how electric fields could be harnessed to develop more efficient brain implants. I will suggest that AI systems designed for the brain–machine interfaces could exploit this stability in electric fields rather than relying solely on single-neuron activity. Finally, I will discuss a broader hypothesis that extends these findings to other brain structures, known as "cytoelectric coupling." This hypothesis suggests that electrical activity arising from other components of the cytoskeleton—at multiple spatial scales, including microtubules and proteins—interacts with neuronal electric fields; the resulting aggregate fields then exert causal influence back onto the cytoskeleton at the molecular level, promoting stability and enhancing information-processing efficiency. I will propose that future AI models for neural interfaces may need to incorporate this multi- scale electrical architecture, moving beyond neuron-centric approaches toward a more holistic, field-based view of brain computation.

Dr. Dimitris Pinotsis is an Associate Professor at the Department of Psychology and Neuroscience at City, University of London and head of the computational neuroscience and psychiatry lab (www.pinotsislab.com). He is also the Editor-in-Chief of the Journal of Computational Neuroscience published by Springer Nature and a Research Affiliate at MIT's Miller Lab. Previously, he was a Senior Research Fellow at UCL's Wellcome Trust Center for Neuroimaging and a Senior Scientist at MIT. Dimitris holds a PhD and an MSc in Mathematics from the Department of Applied Mathematics and Theoretical Physics (DAMTP) of the University of Cambridge, UK. His research has been funded by the NIH, US Air Force Office of Scientific Research, UK Research Councils (EPSRC, ESRC, Innovate UK) and several UK charities. It spans diverse areas including machine learning, the analysis of big data in neuroimaging, theoretical neurobiology and nonlinear systems in mathematical physics. Dimitris has received over 10 Fellowships from Cambridge Isaac Newton Trust, Onassis Foundation, NATO, Bernstein Organization and others. He is also the recipient of several awards including an OCNS Award, a Smith-Rayleigh Prize of the University of Cambridge and a Poincare Institute Award.

Neural Noise, Quantum-Like Dynamics, and Testable Markers in Single Neurons

Prof. Partha Ghose
Former Professor, S N Bose National centre of Basic Sciences
Member Board of Trustees, Academy of Fine Arts, Kolkata

Abstract:

Classical neuroscience treats neural variability as noise arising from ion channels, synaptic drive, and thermal agitation. In our recent work (Ghose & Pinotsis, 2025), we used Nelson's stochastic mechanics to show that the classical FitzHugh–Nagumo dynamics with intrinsic Wiener noise can be recast in a Schrödinger-type form for a complex amplitude. In this formulation, complex phase is not postulated; it emerges as the natural encoding of time-symmetric (forward/backward) stochastic information flow. A key follow-up applies this framework to subthreshold oscillations. In magnocellular neurons, Böhmer and collaborators reported discrete spectral peaks with strongly nonlinear spacing (e.g., 12, 18, 26, 42 Hz) within single-cell recordings. We show that the neural Schrödinger description can reproduce this spectrum provided the effective mass is weakly voltage dependent (as expected from inductive/reactive effects of channel kinetics), yielding an effective Planck-like scale in the mesoscopic range . (P. Ghose, L. Behera, M. Chaurasiya and D. A. Pinotsis). Finally, we extend the programme to spatial propagation. We outline a comparative test between the classical stochastic cable equation (diffusive coupling) and a Kac-type telegrapher coupling (finite-speed propagation with stochastic reversals), which reduces to diffusion in the long-time limit but predicts distinct short-time observables such as arrival-time statistics, branch-point scattering in Y-geometries, and frequency-domain coherence measures.

Dr. Partha Ghose is an Indian physicist, philosopher, author, and former Professor and Academic Programme Coordinator at the S. N. Bose National Centre for Basic Sciences, Kolkata. He obtained his D.Phil. from Calcutta University under the supervision of Nobel Laureate Prof. Satyendra Nath Bose. His major scientific contributions include research on wave–particle duality using single-photon experiments, extension of the de Broglie and Bohm causal quantum theory to relativistic bosons, photon trajectory calculations, and entanglement in classical optics. His interdisciplinary research spans quantum classical physics interface, unified theories of gravity and electromagnetism, cognition modelling, music-induced emotions, and quantum-like behaviour of the brain. He is a Fellow of the National Academy of Sciences, India, and the West Bengal Academy of Science & Technology, and has received several prestigious recognitions including the Indira Gandhi Prize for the popularization of science, the Senior Scientist Platinum Jubilee Fellowship of NASI, an honorary MBE from Queen Elizabeth II, and the National Award for Best Science and Technology Coverage in Mass Media. He has also served in national policy and academic leadership roles, including the Knowledge Commission Working Group on National Language Policy and Chairman of the Satyajit Ray Film & Television Institute.

PERFORMANCE AS METAPHOR AND TECHNIQUE

Prof. Shekhar P Seshadri

Formerly - Director, NIMHANS

Abstract:

Natyashastra has been a classic on dramatics and aesthetics which has been commonly attributed to Bharata, the sage for its authorship. It has been founded on human psychology prevailing under conditions of India's cultural system with a focus on stage performance. Rasa theory is at the centre of the Natyashastra. Performance arts, states Natyashastra, are a form of Vedic ritual ceremony (yajna). The general approach of the text treats entertainment as an effect, but not the primary goal of arts. The primary goal is to lift and transport the spectators, unto the expression of ultimate reality and transcendent values.The session will then engage the audience in a brief workshop which will consist of the preparation and performance of a syncretic Yajna. However, the context of the Yajna will be contemporary and include wellbeing transformations.

Dr. Shekhar Seshadri is a child psychiatrist with over 40 years of experience in the field of child and adolescent mental health. As Former Senior Professor in the Dept. of Child and Adolescent Psychiatry, NIMHANS, his work has extended beyond the clinical population to children and child care institutions/ service providers across the country as well as the South Asia region. Some of his special areas of interest are childhood trauma, gender and sexuality issues and life skills education. He has been part of policy and legal deliberations in these areas. Also, an artist and musician, he uses a number of creative methodologies in child mental health interventions including theatre and developmental approaches. In May 2025, he completed a four-year advisory position in SAMVAD (Support, Advocacy & Mental health interventions for children in Vulnerable circumstances And Distress - A National Initiative & Integrated Resource for Child Protection, Mental Health, & Psychosocial Care), supported by the Ministry of Women & Child Development, Government of India. Dr.Shekhar is based in Bangalore, India and currently works as Professor (Health) in The Azim Premji Foundation.

Musical Biofeedback and Virtual Embodiment: Modulating Mind, Body, and Social Interaction

Prof. Dr. Pieter-Jan Maes
Ghent University, Belgium

Abstract:

In my research, music and extended Reality technologies are explored as ways to directly "hack" into the human action–perception system, giving rise to what we call virtual embodiment. Musical biofeedback systems are developed and experimentally tested for their capacity to regulate human cognition, emotion, motor coordination, social interaction, and states of consciousness. Currently, we are investigating interactive, multimodal embodied human and anthropomorphic agents to better understand and modulate bodily energy and engagement. The outcomes of these (neuro)cognitive science studies have practical applications across domains, including the arts, health, and well-being. In my talk, I will present both the underlying science and its real-world applications.

Prof. (Dr.) Pieter-Jan Maes is a professor in systematic musicology (LW17) and coordinator of the IPEM research institute and the Art and Science Interaction Lab (ASIL, www.asil.ugent.be) at Ghent University. His research focuses on embodied and social interactions with music. Using empirical-experimental and data-driven methodologies, he explores the principles underlying bodily coordination processes in music performance and listening, framed within the perspective of dynamical systems theory. Central to his work are advanced digital technologies, including immersive and 3D stimulus displays, body and brain activity measurement tools, and sophisticated data analysis techniques. Through interdisciplinary collaboration spanning art, science, and technology, he also investigates innovative approaches to cultural heritage and artistic-creative practices, emphasizing technology-enhanced embodied interactions.

Functional Coherence Across Scales:
From the Dynamics of the Universe to the Harmony of the Brain

Dr. Josefa Becerra Gonzalez
Research Department, Universidad de La Laguna

Abstract:

In the vast landscape of physics, order emerges in a remarkable way: when complex systems are driven far from equilibrium, they do not necessarily descend into chaos, but can instead give rise to coherent structures. From the spirals of galactic matter to the rhythmic flow of fluids, stability is born from precise functional coordination that ripples across scales. This coherence can act as an organizing principle, minimizing internal friction and allowing energy and information to flow with reduced resistance, thereby sustaining the system as a whole. The same organizing principle may hold the key to understanding ourselves. Just as the universe self-organizes, living systems may undergo shifts in functional organization that fundamentally alter how reality is experienced. Recent developments in high-frequency electrophysiology have opened a window into brain activity beyond the classical frequency range, revealing structured signals in the mega-hertz (MHz) band. While MHz patterns have been observed under anesthesia, they have also been detected in non-pathological conditions, coinciding with enhanced perceptual clarity, a seamless continuity of time, and a deep calm that can persist across the boundaries of sleep and wakefulness. Rather than reflecting a suppression of mental activity, these observations suggest a transition toward a more *harmonic* regime of nervous system function—one in which internal interference fades and body and mind operate in functional resonance.

In this talk, we explore the idea that consciousness is not an isolated event, but a local expression of multiscale coherence extending from sub-neuronal dynamics to the organization of the universe itself. The cosmos may thus be understood as a tireless, multiscale dance of organization, with consciousness emerging as one localized manifestation of that same universal choreography. This perspective resonates with insights from Indian Knowledge Systems, where knowledge and existence are traditionally understood as inseparable from the coherent order of nature.

Dr. Josefa Becerra is an astrophysicist researcher currently affiliated with the Instituto de Astrofísica de Canarias (Spain). She earned her PhD in 2011 and subsequently developed her research career at DESY (Germany), ETH Zürich (Switzerland), and NASA Goddard Space Flight Center (USA). Her scientific work focuses on the extreme universe, particularly astroparticle physics and active galactic nuclei—galaxies hosting active supermassive black holes at their centers. In addition to her astrophysical research, Becerra is deeply interested in the foundations of reality, exploring the interplay between cosmic dynamics and human experience. Recently, her work has expanded to investigate the connections between the universe, the nervous system, and human consciousness.

From Silicon to Cytoskeleton: Why Microtubules Are the Final Computer and Homo Transcendens Is our Next Chapter

Mr. Joseph Jacks

Founder and General Partner, OSS Capital, USA

Abstract:

This talk traces my unconventional journey — from home schooling and working in the technology industry for the last 20 years, my journey with venture capital and open-source software … to the frontiers of biological quantum computing. I will describe how my early fascination with memristors led to a deeper inquiry into the physical substrates of computation and consciousness — first through engagement with Hameroff and Penrose's Orchestrated Objective Reduction (Orch-OR) framework, then through direct collaboration with Anirban Bandyopadhyay on microtubule resonance dynamics, fractal time crystals, and the nanobrain architecture at NIMS. A radical thesis emerged: the tubulin lattice is not merely structural scaffolding but the most sophisticated computational medium known, integrating electromagnetic, phononic, and quantum-coherent processing across multiple scales in ways no engineered system has yet approached. The talk argues this recognition demands aggressive and large scale engineering action — not just academic admiration. I will make the case that we are entering an era where it is both possible and necessary to deliberately engineer our biological successors through deep understanding and purposeful extension of the microtubule architecture that evolution spent billions of years refining.

Joseph Jacks is the Founder and General Partner of OSS Capital. He is based in San Francisco. Previously, Joseph was an EIR at Quantum Corporation in support of the Rook project which was subsequently donated to the CNCF (its first storage project) where he has also been involved (at the board level, in various committees and as an advisor) since inception. Joseph also founded KubeCon (now also run by the Linux Foundation's CNCF) while also founding and building Kismatic, the first enterprise-focused commercial Kubernetes company (acquired by Apprenda, subsequently acquired by ATOS). Over the preceding several years, Joseph worked at Mesosphere (now D2IQ), Enstratius (acquired by Dell Software), TIBCO Software and Talend in various sales, engineering, product and strategy capacities. Joseph is also the founder of Open Core Summit, the global COSS ecosystem conference, run independently as a vendor-neutral community that includes the leading investment firms, cloud providers, COSS companies, analysts, F2000 enterprises and more. Since 2018, JJ has directed OSS to lead more than 40 rounds of inception / seed stage investments representing over $200 million in funding. OSS has also played a critical role in driving the creation of over $20 billion in portfolio value creation over the last 5 years. JJ is also the co-founder of Latent Holdings, the leading Bittensor lab stewarding most of the open source toolchain and infrastructure for Bittensor, and also maintaining TAO.app and Subnets 14 and 5.

Hindu Hermeneutics - Its Importance and Relevance in Context of Our Understanding of Bharat

Prof. Nachiketa Tiwari
Department of Mechanical Engineering, IIT Kanpur

Abstract:

Hermeneutics is the science of interpretation of texts. The same text can have multiple interpretations - and these could vary significantly. There are multiple approaches to interpret a text. Some methods push for interpretations with the stated aim of promoting a specific ideology. Then there are methods which encourage the reader to connect author's intentionality with textual meaning. There are also methods which do just the opposite. Such methods focus more on the reader's response and less on the intention of the author. In some methods interpretation is driven by the idea of unravelling the objective truth. In other methods objective truth is deemed non-existent and hence narratives are what the interpreter focuses on. At present almost all interpretational methods which are taught in Bharatiya universities are Western in origin. Quite often these methods are not entirely relevant to Bharatiya contexts. This is so since such interpretation schemes are primarily anchored in Western historical experience. Moreover, many such methods have an explicit purpose – to promote specific ideologies by "discovering" conflicts in any text. These conflicts could be based on class, caste, religion, gender, sexuality, ethnicity and nationality. Finally, some of these theories seek to officially replace truth with narratives. The consequences of teaching such methods include; inauthentic understanding of Bharatiya texts, fomenting of large scale social unrest, and loss of academic rigor. Thus, there is a pressing need for finding authentic and rigorous interpretational approaches which are connected to Bharat's history and experience. Hindus too have a very robust hermeneutical tradition. However, much of such approaches have been traditionally used to analyse texts with adhyatmik themes. It is required of modern Hindu scholarship to understand these methods, and repurpose them so that they can also be used to analyse "secular" texts as well. Sans authentic interpretations of Bharatiya texts, ancient or modern, our understanding of ourselves will remain flawed and incomplete.

Prof. Nachiketa Tiwari is a Professor in the Department of Mechanical Engineering at Indian Institute of Technology Kanpur. He obtained his Ph.D. in Engineering Mechanics from Virginia Tech, USA, and has extensive academic and industrial experience in the fields of acoustics, vibrations, composite structures, product design, and finite element analysis. His research interests include acoustics and noise control, solid mechanics, automotive systems, MEMS, and structural dynamics. Prof. Tiwari has contributed significantly to interdisciplinary research and engineering education through several publications, sponsored projects, and NPTEL courses. He is also known for establishing advanced acoustics research facilities at IIT Kanpur and for his work in vibration control and composite materials.

Beyond Mathematical Realism: A Yoga Vashishta Critique of Conscious Agent Modeling

Prof. Ganti S. Murthy

National Coordinator IKS-MoE, and Professor, IIT Indore

Abstract:

Contemporary cognitive science, exemplified by Donald Hoffman's Interface Theory of Perception (ITP), increasingly identifies spacetime as a non-fundamental derivative of consciousness. However, a critical tension exists between Hoffman's reliance on mathematical formalisms—such as Markovian dynamics—and the non-dualistic metaphysics of the Yoga Vashishta. This paper examines the limitations of "mathematical reductionism" in consciousness studies, proposing that while Hoffman successfully deconstructs physicalism, his model of discrete "Conscious Agents" remains trapped within the conceptual interface it seeks to transcend.

Drawing on the Vashishta's doctrine of Drishti-Srishti-Vada (perception-defined creation), we argue that mathematics is itself a sankalpa (mental construction)—a sophisticated syntax of the "headset" rather than a description of the ontological substrate. By contrasting Hoffman's pluralistic network with the Vashishta's Ajata Vada (the law of non-origination), this study suggests that the ultimate nature of Samvit (Absolute Awareness) is trans-rational and resistant to algorithmic modeling. The presentation concludes that while evolutionary game theory provides a useful provisional bridge, the Yoga Vashishta offers a more parsimonious, non-dual completion that avoids replacing materialist bias with a new mathematical one.

Ganti S. Murthy is Adani Indology Chair Professor in Mehta Family Foundation School of Biosciences and Biomedical Engineering at Indian Institute of Technology-Indore. He is the National Coordinator for the Indian Knowledge Systems of the Ministry of Education, Govt. of India. He is also the Founding Head of the Center for Indian Scientific Knowledge Systems at IIT Indore. Previously he was a tenured professor in the Biological and Ecological Engineering Department at Oregon State University for 14 years. He is the co-founder of LTS, LLC and currently serves as its Chairman, Board of Directors. He has PhD in Agricultural and Biological Engineering from University of Illinois at Urbana-Champaign. He has a M.Tech and B.Tech in Agricultural Engineering from IIT-Kharagpur and NERIST, respectively. Murthy's research group broadly focuses on developing sustainable solutions for a resource-constrained world. His group employs a combination of experimental and theoretical approaches to conduct multi scale and systems level analyses of bioprocessing and engineered Agro-ecological systems.

Before Consciousness: Why a Self-Operating Mathematical Universe Is Required for a Science of Mind

Dr. Anirban Bandyopadhyay

Senior Scientist, NIMS, Japan

Abstract:

We propose that consciousness cannot be formulated rigorously until the prior question is answered: how does the universe originate, structure itself, and operate without external intervention? This talk introduces the framework of the Self-Operating Mathematical Universe (SOMU), in which reality is not assumed to begin as pre-given matter, space, or flowing time, but emerges from undefinedness, singularity, probabilistic fluctuation, projection to infinity, and feedback from infinity. Within this view, the universe is not a static object but a self-generating mathematical process. What appears as stable reality is an organized expression of quantum probability, geometric recursion, and temporal architecture. Space is recast as curvature and loop structure rather than linear extension, while time is treated not as a universal flow but as a hierarchy of quantized clocks distributed across scales.

On this basis, we argue that consciousness must be derived from cosmological self-operation rather than inserted afterward as a local biological anomaly. The brain is therefore modeled not as a purely ionic wiring diagram confined to cortex, but as a multiscale geometrical system extending through interneural architecture and helical biological motifs. Its operational core is proposed as a trinity of coupled vortices—magnetic, optical, and microwave/radio—whose interconvertibility enables fast, distributed, resonance-based information exchange. In this formulation, the fundamental unit of cognition is a polyatomic time crystal: a three-dimensional assembly of clocks that stores and updates information by discovering geometric invariances and prime-number symmetries.

SOMU further replaces the linear Turing tape with a fractal tape, where information grows recursively "within and above," mirroring the architecture of the universe itself. The central thesis is that origin, geometry, resonance, information, and consciousness are not separate scientific problems. They are different manifestations of one self-operating mathematical order, and any serious theory of mind must begin there.

Dr. Anirban Bandyopadhyay is a Senior Scientist at National Institute for Materials Science (NIMS), Tsukuba, Japan, and a key member of the International Center for Materials Nanoarchitectonics (MANA). He received his Ph.D. in Physics from the Indian Association for the Cultivation of Science, Kolkata. His research focuses on nanotechnology, brain-inspired computing, and the biophysical basis of cognition. He is known for pioneering work on nano-brain architectures and frequency-based information processing in biological systems. His interdisciplinary contributions span physics, neuroscience, and artificial intelligence.

He has received several prestigious honors, including the NIMS President's Award and the Hitachi Science and Technology Award. His interdisciplinary work continues to contribute to the development of next-generation computing systems inspired by biological intelligence.

Invited Talks

Krishna Bhakti and the Yoga Sūtras: Reflections on Mind, Intelligence, and Identity

Dr. Krishna Abhishek Ghosh

Dean, Faculty of Dharma studies, Somaiya Vidyavihar University, Mumbai

Abstract:

Vyāsa's Yoga Bhāṣya glosses citta as the composite of manas, buddhi, and ahaṅkāra, placing the entire yogic enterprise within the threefold architecture of mind, intelligence, and identity. The cessation of citta vṛtti that Patañjali enjoins in Yoga Sūtra 1.2 is therefore not the stilling of a single faculty. It is a transformation of the whole interior person, of what one thinks, how one discerns, and who one takes oneself to be. This paper argues that the Gauḍīya Vaiṣṇava tradition, though best known for its theology of bhakti rasa, has long carried within it the resources for a sustained commentary on Patañjali, and that this commentary, once articulated, uncovers bhakti as already operative within the yogic project itself. Drawing on Jīva Gosvāmī's treatment of īśvara praṇidhāna in the Bhakti Sandarbha, Baladeva Vidyābhūṣaṇa's Govinda Bhāṣya on the Sāṅkhya Yoga adhikaraṇas of the Brahma Sūtras, and Bhaktivinoda Ṭhākura's reframing of yogic categories in Tattva Viveka and Jaiva Dharma, the paper reconstructs a Gauḍīya hermeneutic that reads each dimension of citta in devotional register. Manas becomes the seat of remembrance of Bhagavān. Buddhi becomes the discerning faculty refined through īśvara praṇidhāna. Ahaṅkāra becomes the false identification that bhakti alone dissolves into the true selfhood of the jīva as eternal servant. A close reading of Yoga Sūtra 1.23, set in dialogue with Bhagavad Gītā 6 and Viśvanātha Cakravartī's Sārārtha Darśinī, shows that īśvara praṇidhāna is constitutive rather than auxiliary, and that citta vṛtti nirodha is best understood as a bhakti effect, the natural quiescence of mind, intelligence, and identity when each is reoriented toward its true object. Situating this reading within the longer history of Vedāntic engagements with Yoga, the paper proposes that uncovering bhakti within the Yoga Sūtras opens a productive interface between classical Indian philosophy of mind and contemporary inquiry into consciousness, attention, and the phenomenology of selfhood.

Dr. Krishna Abhishek Ghosh is the Dean of the Faculty of Dharma Studies at Somaiya Vidyavihar University. A distinguished scholar of Hindu Studies and South Asian religions, he specializes in Vaishnava traditions, Indian philosophy, yoga, meditation, and comparative religious studies. He received his M.A. and Ph.D. in South Asian Languages and Civilizations from the University of Chicago and completed his M.St. in Theology and Religious Studies from University of Oxford. Dr. Ghosh has nearly two decades of international teaching, research, and academic leadership experience. Before joining Somaiya Vidyavihar University, he taught at institutions including Grand Valley State University and the University of Chicago, where he received the Dean's Award for excellence in teaching. He currently serves as Senior Editor of the Journal of Vaishnava Studies and Director of the Institute for Vaishnava Studies. His scholarly and public engagements focus on preserving and interpreting classical Indian knowledge systems for contemporary global audiences. Dr. Ghosh has represented India in international academic and cultural forums, including discussions connected with India's United Nations Security Council reform initiatives. His interdisciplinary approach promotes dialogue across Hindu, Buddhist, Jain, and other Dharmic traditions while encouraging critical inquiry into religion, culture, ethics, and society.

From Mind Mapping to Consciousness Mapping: An Indian Knowledge Systems Perspective

Mahesh Lohar
I Smart Life Foundation

Abstract:

Modern mind–brain research has achieved significant advances in mapping neural correlates and cognitive processes; however, the deeper dimensions of self, meaning, and conscious awareness remain insufficiently integrated within prevailing scientific models. Indian Knowledge Systems (IKS) offer a complementary and rigorous framework to bridge this gap by viewing the human being as an integrated continuum of self (Ātman), mind (Manas–Buddhi–Chitta), and consciousness (Caitanya). This keynote traces a conceptual and applied journey from Mind Mapping to Consciousness Mapping, grounded in IKS and informed by contemporary neuroscience and systems science. The talk introduces purposive mapping as a method to relate inner intent, emotional coherence, and cognitive patterns with neural and behavioral expressions. Drawing upon Sankhya–Yoga models, Vedantic insights, and indicative neuro-links, the presentation explores how the inquiry "Who am I?" unfolds into the power of Self, power of Mind, and ultimately the power of conscious being. A key component of the session is the presentation of MindLab, a consciousness-oriented mind mapping platform developed by Dr. Mahesh Lohar, Mind and Consciousness Scientist, and Founder–Chairman of I Smart Life Foundation (ISLF). MindLab enables structured reflection and experiential mapping of attention, emotion, values, and purpose, supporting both individual and organizational consciousness inquiry. Selected participants will engage in live experiential interaction with MindLab tools, demonstrating how subjective awareness can be studied systematically without reducing consciousness to purely physiological metrics. The keynote proposes consciousness mapping as a pramāṇika synthesis of experience and inquiry, offering scalable relevance for mental well-being, leadership, governance, and the future of integrative mind–brain–consciousness research.

Dr. Mahesh Lohar is an internationally recognized speaker and mentor in the fields of Cognitive Development, Mind and Consciousness, Organizational Transformation, Green Habitat, and Indian Knowledge Systems (IKS). He brings a unique fusion of science, spirituality, and sustainability to Individuals, corporate and academic platforms. As the founder of I Smart Life Foundation (ISLF), a Section 8 company, Dr Mahesh leads transformative work across organizational consciousness, green community design, and mind-body-spirit integration for achieving holistic, sustainable living. Certified CBT (Cognitive Behavioural Therapy) and REBT (Rational Emotive Behaviour Therapy) practitioner, and a trained NLP (Neuro-Linguistic Programming) practitioner. With over two decades of experience, Dr Mahesh has been a visionary guide to leaders, institutions, students and communities on the path to conscious, sustainable, and purpose-driven living. As the Founder of I Smart Life Foundation (ISLF), Under Mentorship of Padma Bhushan - Padam Shri Dr Vijay Bhatkar he has architected over 18 pioneering consciousness-based initiatives, serving diverse sectors—from defence to academia, corporate leadership to rural transformation.

Flourishing and Consciousness

Prof. Mala Kapadia

Director, Special Projects, Siddhanta Knowledge Foundation

Abstract:

We as humanity seem to be standing at a point of no return with Anthropocene and Wars for power. And yet, as Sri Aurobindo says, an evolutionary crisis is an opportunity for evolutionary progress. Consciousness, to the land of Rishis, is a given and known as the ever present, omnipotent and omniscient Energy. Consciousness, to the rest of the world, is still a phenomenon to be discovered. Body, Mind and Consciousness as continuum needs to be understood well for individual and planetary flourishing. For us, in Bharat, this is a point of return, to our roots, culture and civilization for revival of Dharmic Frameworks for Flourishing. This session will explore two such Dharmic frameworks from Ayurveda- the science of Life.

Prof. Mala Kapadia is a highly accomplished scholar and practitioner with a distinguished career spanning research, education, journalism, human resources, and consulting. She is a passionate advocate for integrating ancient Indian wisdom with modern approaches to wellbeing, leadership, and organizational development. Wellbeing and Happiness, Sustainability – Individual and Planetary Flourishing and Indigenous Psychology are some of the areas of teaching and research. She has published her work titled Sukha Sutra- An Indic Wellbeing and Happiness Guide for Flourishing in 2025. Her other book Bharteeya Manas Sastra is also published in January, 2026 by INDICA.

Dr. Kapadia is currently the Director of Siddhanta Knowledge Foundation, Special Projects and a former director of Centre for Indigenous Knowledge Systems, at the Anaadi Foundation. She has completed as the Principal Investigator for a Ministry of Education (India) Indian Knowledge Systems Research Project on Wellbeing and Happiness based on Ayurveda. She is also the member of the Advisory Council of Centre for Indian Knowledge Systems at Chanakya University, Bengaluru, India.

Clinical Evidence of Panchamahabhuta-Based Therapies in Mind-Body Disorders

Dr. Kanak Soni

University of Patanjali Haridwar, Uttarakhand

Abstract:

The Panchamahabhuta (five-element) theory, Prithvi (earth), Jala (water), Agni (fire), Vayu (air), and Akasha (ether) constitutes the philosophical and therapeutic foundation of Yoga and Naturopathy within Indian Knowledge Systems (IKS). Despite its extensive traditional use, systematic evaluation of its clinical applicability in managing psychosomatic and mind-body disorders remains limited. The present retrospective observational study was conducted at an integrative inpatient and outpatient facility, Patanjali Wellness Center, to assess the therapeutic effectiveness of Panchamahabhuta-based interventions. A structured protocol incorporating mud therapy (Prithvi), hydrotherapy (Jala), heliotherapy and controlled fasting (Agni), pranayama (Vayu), and meditation and mindfulness practices (Akasha) was administered to patients with anxiety disorders, depression, hypertension, irritable bowel syndrome (IBS), and chronic pain syndromes. Clinical parameters, validated psychological scales, and functional well-being indicators were evaluated before and after interventions lasting 7–21 days. The findings revealed notable improvements in both physiological and psychological outcomes, including reduced sympathetic overactivity, decreased anxiety and depressive symptoms, improved blood pressure regulation, enhanced gastrointestinal functioning, pain reduction, and better sleep quality. Element-specific benefits included anti-inflammatory and detoxifying effects of mud therapy, circulatory and neural regulation through hydrotherapy, metabolic and endocrine modulation via fasting and heliotherapy, and enhanced vagal tone with reduced stress markers following pranayama and meditation. The study suggests that Panchamahabhuta-based therapies may serve as effective, non-invasive, and integrative approaches for managing mind-body disorders. These findings support their potential role in autonomic regulation, neuroendocrine balance, detoxification, and psycho-emotional stabilization, while highlighting the feasibility of developing scalable protocol-based models for integration into contemporary healthcare systems.

Dr. Kanak Soni is associated with the University of Patanjali and has been actively involved in the fields of yoga, holistic health, and traditional Indian knowledge systems. His academic and research interests include yogic sciences, wellness practices, and the scientific exploration of traditional healing approaches. Through his contributions in teaching, research, and academic activities, he has supported the promotion and integration of yoga-based practices within contemporary health and educational frameworks.

Consciousness in the interval between thoughts

Dr. Ashutosh Simha

NIAS, Bengaluru

Abstract:

In this paper we explore the concept of sandhi or the intrinsic state of the mind that appears in the intervals between cognitions. In the vedic parlance this state is called kshanika samadhi i.e. an instantaneous occurrence of the highest peak of Yogic excellence-Samadhi. Unlike formal methods of attaining samadhi, these fleeting samadhis are possible even amidst daily life, making the study far more ubiquitous than esoteric yogic experiences. A particular occurrence of sandhi that we focus on is the intervals of bliss that occur on instantaneous gratification of desires, and thereby characterize the state of consciousness in sandhi to be our intrinsic nature of bliss or aananda. In this study we characterize the state of consciousness in these intervals and distinguish it from common cognitive states such as sense perception, mental cogitation as well as the states of consciousness in waking, dream and deep-sleep. We demonstrate how sandhi can be a 'gateway' for realizing our true consciousness, and study specific methods of attaining this state as explained in various scriptural texts.

In this study we also draw parallels between sandhi and concepts from neuroscience such as thought boundaries or the ‘gap’ of silence that exists in between thoughts via suppressed activity in the default mode network (DMN). We also study the relation between memory encoding and sandhi, demonstrating how context free cognition, or intervals between change of memory context can lead to sandhi. In particular, the popular notion of nirvichaara samadhi from the Patanjali Yoga sutras is compared with the intervals occurring via memory free cognition. We further demonstrate correlations between suppression of memory encoding and deeper states of meditation via correlative results from EEG based experiments.

Dr. Ashutosh Simha completed his doctoral degree from the Indian Institute of Science in 2018 in the field of Geometric Control theory. Subsequently he worked as a post doctoral researcher in the Institute of Cybernetics, Estonia on nonlinear systems and control, and later at TU Delft on IoT systems and robotics. He now works as a consultant for UAV Defense Systems, and a Professor in computer science at Jyoti Institute of Technology, Bangalore, as well as an adjunct faculty at the National Institute of Advanced Studies, Bangalore. Apart from his scientific research, he is also deeply rooted in Vedic studies, and serves as senior member at Vedanta Bharati.

Avadhānam as a Cognitive Art: Insights from a Living Indian Tradition

Prof. Ramakrishna Pejathaya

Chanakya University

Abstract:

Avadhānam is a classical Indian performance tradition in which an Avadhāni simultaneously engages with multiple streams of questioning, composition, and recall under structured constraints. Celebrated as a literary art and often described as a form of intellectual sport, Avadhānam also offers a distinctive window into the integrated functioning of the human mind. This presentation approaches Avadhānam as a cognitive art, where attention, memory, creativity, and linguistic mastery are not merely supportive faculties but become the very medium of performance. Drawing on the perspective of a practicing Avadhāni, and supported by examples such as samasyā-pūrti, citra-kāvya, and aprastuta-prasaṅga, the talk explores how multiple cognitive processes operate in coordination. Particular emphasis will be placed on the orchestration of attention across concurrent tasks, retention and recall amidst interruption, real-time poetic construction under constraint, and adaptive responses to unforeseen challenges during performance. At the same time, the presentation will highlight the role of bhāva—the affective and expressive dimension—showing that Avadhānam is not merely a display of mental agility but also an aesthetic experience. The talk will further reflect on the making of an Avadhāni, outlining the implicit training processes that cultivate discipline, flexibility, and composure. Without reducing the tradition to contemporary frameworks, this paper places Avadhānam in dialogue with ongoing conversations on mind, brain, and consciousness, presenting it as a living model of complex, embodied cognition within Indian Knowledge Systems.

Dr. Ramakrishna Pejathaya is a Sanskrit scholar, Avadhāni, and Professor at the Centre for Indian Knowledge Systems, Chanakya University, Bengaluru. He holds a Ph.D. from the National Sanskrit University, Tirupati, with research on Śrīpati's Siddhāntaśekhara and its intellectual legacy. Trained in the traditional disciplines of Jyotiṣa, Vyākaraṇa, and Sāhitya, his academic work spans early astral sciences, Sanskrit literary traditions, and the study of Indian śāstric knowledge systems. He has been actively engaged in teaching, research and curriculum design in areas such as Indian Knowledge Systems, classical literature, and cultural studies. His research and publications focus on recovering and interpreting lesser-known texts and traditions within the broader Sanskritic and regional intellectual heritage.

Dr. Pejathaya is also one of the few practicing Aṣṭāvadhānis in India, having performed over forty Avadhānams across the country. His contributions to this tradition have been recognized with the title Avadhāna Vichakṣaṇa by Śrī Palimaru Maṭha, Udupi, and the Prof. C. G. Purushottama Book Award for his scholarly work. His work brings together scholarship and performance, exploring Indian knowledge traditions as living practices at the intersection of cognition, creativity, and pedagogy.

The Bhagavad-gītā: Bridging mind, Consciousness and Philosophy

Prof. Ithamar Theodor

Zefat Academic College, Department of Religious and Spiritual Studies

Abstract:

This paper suggests that the Bhagavad-gītā should be taken as a legitimate participant in the world philosophical tradition articulating a philosophy of mind and consciousness. This is so as underlying the Bhagavad-gītā is an a-priory structure combining three metaphysical layers with a karma-yoga ladder. The Gītā's concept of Vedāntin jñāna or knowledge is systematic and unified, but as opposed to the generally accepted philosophical practice which makes linear arguments that start with premises and builds to larger conclusions, this type of knowledge is not linear but is hierarchical in that it leads to higher and higher states of being and consciousness. As opposed to a body versus mind dualism, the Gītā furthers an ātman versus body/mind dualism. As such it offers an analysis of various mental states and relates these to various states of consciousness. In doing so, it takes help from Sāṅkhya philosophy through the guṇa concept, which enables the categorization of the world in terms of Sāṅkhya metaphysics, expressed through ontology, epistemology and ethics in a universal and humanistic fashion.

Prof. Ithamar Theodor specializes in Indian philosophy, comparative theology, and Hindu–Jewish studies, with particular focus on the Bhagavad Gita, Bhagavata Purana, Vaishnavism, and comparative Asian philosophy. His academic work explores Indian philosophy, comparative religion, ethics, spirituality, and intercultural philosophical dialogue. He has held academic and administrative positions at the University of Haifa and Zefat Academic College, Israel, and has played a key role in developing Hindu–Jewish and comparative Asian philosophical studies.

Prof. Theodor is the author and editor of numerous books, journal articles, and book chapters on Indian philosophy, comparative theology, and religion. His book Exploring the Bhagavad Gita: Philosophy, Structure and Meaning received the Choice Outstanding Academic Title Award. He has delivered lectures and presented research internationally on Indian philosophy, comparative religion, ethics, and spirituality, contributing significantly to intercultural and interreligious academic dialogue.

Science Of Spirituality

Dr. Narendra Kumar Arya

Scientist 'G', Defence Research and Development Organisation (DRDO)

Abstract

Religious/Spiritual (R/S) practices play an important role in enhancing well-being. In an analysis of 139 studies, a positive correlation between religion and well-being was observed (Spencer, Madden, Purtill, & Ewing, 2016). Several studies have reported how practicing religion can have a significant effect on happiness and an overall sense of personal well-being (Delle Fave, Brdar, & Vella-Brodrick, 2013; Green & Elliot, 2009; Ismail & Deshmukh, 2012). Spirituality is also an essential component of overall well-being. Spirituality correlated with better health (Koenig, McCullough, & Larson, 2001; Mueller, Plevak, & Rummans, 2001), meaning in life, self-esteem and positive affect (Kashdan & Nezlek, 2012). Individuals with higher level of spiritual well-being experience lesser levels of emotional and mental illness (Brown, Carney, Parrish & Klem, 2013). Forgiveness is also found to be correlated with psychological well-being (Tenklova, & Slezackova, 2016; Suchday, Western Models of Well-being are primarily about hedonic pleasure and eudemonia (Ryan & Deci, 2001). Other western models like Subjective well-being (Diener, 1984), Six dimensions of Psychological well-being (Ryff & Keyes, 1995), Five key elements of social well-being (Keyes, 1998), Mental health continuum (Ryff, 1989; Keyes, 2002) and finally PERMA (Seligman, 2011) are also notable. On the other hand, Indian Perspectives of Well-Being focuses on Sat - Chit - Ananda. It says that bliss can be achieved by having the inner experience of connecting with infinite happiness called Sat-Chit-Ananda (Sat meaning being truthful, Chit referring to being aware, and Ananda being the bliss) (Srivastava and Misra, 2011). A scale called Sat-Chit-Ananda has four dimensions namely, Chit-consciousness, Antah Shakti-Inner strength, Sat- truthfulness and Ananda- blissfulness (Singh, Khari, Amonkar, Arya, & Kesav, 2013; Singh, Khanna, Khosla, Rapelly & Soni, 2016). Sukha - Dukha is another perspective where Dukha is negatively correlated with SPANE-P and Flourishing Scale and Sukha is positively correlated with SPANE-P and Flourishing Scale (Singh, Raina, & Sahni, 2016). Upanishads talk about Transcendental aspects, talking about the spirit, bliss etc., dealing in the dimensions of consciousness and self (Kumar, 2006) Indian philosophy also talks about Multi Layered Existence (Kumar, 2003) - Anandamaya Kosh, Vigyanmaya Kosh, Manomaya Kosh, Pranmaya Kosh, Annamaya Kosh. Meditation can be one of the most effective ways for experiencing the same. Meditation in general can be categorized in two groups - Focused attention (involves continuous attention on a specified object) and Open monitoring (content of experience is monitored without reacting to it). Automatic self-transcending – a Third category has been suggested by Travis and Shear (2010). In this category the techniques are designed to transcend their own activity. Finally I will conclude with Three Studies on Heartfulness - Study I implies that mental health improvements and learning can be achieved together if spiritual practices and other activities are part of the program. Study II implies that staying at an ashram can be an interesting and joyful activity along with spiritual progress. There is some difference in results of Study I and Study II, which may be due to some difference in the programs. Study III implies that heartfulness-cleaning and meditation have a positive effect on sympathovagal balance.

Dr. Narendra Kumar Arya is an eminent scientist and senior research leader associated with the Defence Research and Development Organisation (DRDO), where he serves as Scientist 'G'. He is widely recognized for his significant contributions to defence science, technology

innovation, and strategic research management in India. With extensive experience in advanced scientific research and interdisciplinary technological development, Dr. Arya has played an important role in strengthening indigenous defence capabilities and promoting self-reliance in critical technologies. Currently serving as Outstanding Scientist and Director of Extramural Research & Intellectual Property Rights (ER & IPR), DRDO, Dr. Arya has been actively involved in fostering collaborations between academia, research institutions, and defence laboratories to encourage innovation-driven research and technology transfer. His leadership has contributed to advancing scientific excellence, intellectual property development, and strategic research initiatives aligned with national priorities. Dr. Arya is respected for his commitment to scientific advancement, mentoring young researchers, and encouraging interdisciplinary approaches to solving complex technological challenges. Through his distinguished career, he continues to contribute meaningfully to India's defence research ecosystem and the promotion of cutting-edge scientific innovation.

Industry Invited Talks

Dr. Willy Colier (Artinis Medical Systems)

Dr. Willy Colier is a prominent scientist, medical researcher, and entrepreneur who is widely recognized as one of the top experts in the field of Near-Infrared Spectroscopy (NIRS). In 2002, he co-founded **Artinis Medical Systems**, a Dutch-based global leader in neuroimaging, medical research, and quality assurance solutions. He initiated his scientific career in the late 1980s and holds a Doctor of Medicine degree from Radboud University Nijmegen in the Netherlands, where he has long been associated with the Department of Physiology. His extensive academic footprint includes over 4,800 citations on Google Scholar, focusing heavily on non-invasive optical oximetry, functional Near-Infrared Spectroscopy (fNIRS), and medical device development. As a pioneer in his field, Dr. Colier transitioned his deep research background into commercial innovation at Artinis, where he actively guides research projects, mentors doctoral students, and serves on international biomedical program committees to make optical brain and muscle imaging highly portable and accessible to the global scientific community.

Dr. Martijn Schreuder (ANT Neuro)

Dr. Martijn Schreuder is a neuroscientist, machine learning expert, and business executive who serves as the Chief Executive Officer and General Manager of ANT Neuro, a global innovator in high-density EEG and neuronavigation solutions, alongside his role as General Manager at eemagine. He holds an M.Sc. in Artificial Intelligence from Vrije Universiteit Amsterdam and earned his Ph.D. in Computer Science and Neuroscience from the Technische Universität Berlin, where his doctoral research focused heavily on non-invasive brain-computer interfaces, auditory event-related potentials, and machine learning. Over his career, he has published more than 50 peer-reviewed scientific papers, bridging the gap between computational neuroscience and neurotechnology. Since joining ANT Neuro in 2009, Dr. Schreuder has led the company's transition from research-grade neuroimaging to cutting-edge clinical applications, driving global dialogue on translating complex neurodiagnostics into real-world medical impact.

Dr. Shubhajit Roy Chowdhury (iHub, IIT Mandi)

Dr. Shubhajit Roy Chowdhury is currently serving as a Professor at the School of Computing and Electrical Engineering and the Chairperson of the Centre for Human-Computer Interaction at the Indian Institute of Technology (IIT) Mandi. An alumnus of Jadavpur University and Vidyasagar University, he earned multiple academic gold medals and completed his Ph.D. in Electronics and Telecommunication Engineering in 2010. Over his career, he has held key academic positions at Jadavpur University, IIIT Hyderabad, the Indian Statistical Institute, and the University at Buffalo. His interdisciplinary research focuses on biomedical embedded systems, non-invasive neurodiagnostics, and VLSI architectures, which has led to over 180 published papers, 9 books, and several patents for medical diagnostic devices. A Senior Member of the IEEE, Dr. Roy Chowdhury has been recognized with numerous accolades, including the COMSYS Young Achiever's Award, the World Stroke Organization's Young Neurologist Award, and the Institution of Engineers India Young Engineers Award.

Day-wise Detailed Schedule

Day 1- June 3, 2026

Tritiya, Jyeshtha, Krishna Paksha, Vikram Samvat 2083 - Wednesday

Morning Session

Time	Event	Session Chair	Venue
6:15-7:15	**Yoga Session**	Jahnava Sundari	Yoga Room
7:30-8:30	Breakfast		Lawn
8:30-9:00	Inauguration Lamp Lighting with Chanting of 15th Chapter Bhagavad Gita Welcome Address: Laxmidhar Behera, General Chair, MBCC Chief Guest Address by **Dr. Padma Subrahmanyam** (Padma Vibhushan awardee, Bharatnatyam dancer) Book & MBCC Proceedings Launch		Auditorium
9:00-9:40	Visionary Talk (Keynote Talk 1): **Topic: Integrated study of Mind, Brain and Consciousness** **Speaker: Prof. Laxmidhar Behera**	Prof. Sisir Roy	Auditorium
9:40-10:20	Keynote Talk 2: **Topic: Are consciousness science and AI kindred and How India may blaze a new trail in the study of mind and cosmos** **Speaker: Côme Carpentier de Gourdon**	Prof. Partha Ghose	Auditorium
10:20-10:35	Tea Break		Foyer
10:35-12:05	Panel Discussion 1: **Saṃjñāna aur cetanā & Ask swāmi–swāminī & āśīrvacan**	Moderated by Dr. Richa Chopra	Auditorium
12:05-12:20	**Lecture Demonstration on Yoga**	Jahnava Sundari	Auditorium
12:20-13:00	Keynote Talk 3: **Topic: Perception and Awareness in Plants: Rethinking Intelligence in the Living World** **Speaker: Prof. Sudhir K. Sopory**	Prof. Rama Jayasundar	Auditorium
13:00-14:00	Lunch break		Lawn

Panel Discussion 1:

Title: Saṃjñāna aur cetanā & Ask swāmi–swāminī & āśīrvacan

Moderator: Dr. Richa Chopra, IIT Kharagpur

Date: June 3, 2026

Timing: 10:35-12:05

Venue: Auditorium

Panelists:

1. **H G Keshav Murari Das ji,** President, ISKCON, Rohini Temple, New Delhi
2. **Parvathy Baul ji,** Performer and Teacher, Baul Tradition
3. **Pravrajika Divyanandaprana ji (online),** Sri Sarada Math
4. **Swami Vedapurushananda,** Secretary, Ramakrishna Mission Ashram, Narendrapur, West Bengal
5. **Swami Virupaksha ji,** Senior Teacher, The Art of Living,
6. **Swami Prakarshananda ji,** Chinmaya Mission
7. **Revered Sant Jodh Singh Ji Maharaj,** Nirmal Ashram
8. **Sh. Gurvinder Singh Ji,** Nirmal Ashram
9. **Sri Ramachandra Baul,** Baul Tradition

Description:

Panel 1a: Sañjñāna and Cetanā: First-Person Narratives of Cognition and Consciousness from the Renunciate Traditions of Sanātana Dharma

Moderated by Dr. Richa Chopra, Core Faculty, Centre of Excellence for Indian Knowledge Systems, IIT Kharagpur

Abstract: Sañjñāna and cetanā (Cognition and Consciousness) is a proposed special panel bringing together renunciate representatives from eight living sampradāyas of Sanātana Dharma to deliberate upon first-person understandings of Consciousness (cetanā) and cognition (sañjñāna) emerging from contemplative life, spiritual praxis and embodied realization traditions. The panel is grounded in a multi-year research programme undertaken by Dr. Richa Chopra, Principal Investigator, Centre of Excellence for Indian Knowledge Systems (CoE-IKS), IIT Kharagpur, through three nationally sponsored projects: (1) A Yoga–Vedānta Theoretical Framework of Consciousness & Cognition (and niṣkāma sevā): A Phenomenological (FirstPerson) Account of Sādhaka from Different Indic Schools of Thought funded by the Indian Knowledge Systems (IKS) Division, Ministry of Education, Government of India (20232025); (2) Emerging Interdisciplinary Models based on the Study of niṣkāma sevā in Different Indic Schools of Thought supported through the Faculty Start-up Research Grant (FSRG), SRIC, IIT Kharagpur (2025–2027); and (3) niṣkāma sevā in Sanātana Dharma: An Indic Model for Mainstream Social Work funded by the Indian Council of Social Science Research (ICSSR), Ministry of Education (2023–2026). The research programme involved ethnographic and phenomenological engagement with approximately 180 renunciate sādhakas representing nine sampradāyas—Ramakrishna Order, ISKCON, Sri Sarada Math, The Art of Living, Baul tradition, BAPS Swāminarayan sampradāya, Chinmaya Mission, Nirmal Ashram and Yogoda Satsanga Society of India (YSS)—creating a rare civilizational-scale archive of first-person contemplative narratives and experiential accounts. The present panel shall feature H.G. Keshav Murari Das ji (ISKCON); Smt. Parvathy Baul ji (Baul Tradition); Pravrajika Divyanandaparana ji (Sri Sarada Math); Swami Vedapuruṣānanda ji (Ramakrishna Mission Ashram); Swami Virupaksha ji (The Art of Living); Swami Prakarshananda ji (Chinmaya Mission); and Revered Sant Jodh Singh Ji Maharaj (Nirmal Ashram). The projects culminated in the formulation of Indic theories of Consciousness, cognition and niṣkāma sevā, establishment of Yoga–Vedānta as a “do-it-yourself” science of inner transformation, and development of methodological guidelines for first-person research. The research further contributes to contemporary discourse on the hard problem of consciousness, contemplative psychology, cognition studies, social work and first-person methodologies by foregrounding lived renunciate experience as a valid epistemic resource. The session therefore seeks to explore questions central to both Indic wisdom traditions and

contemporary consciousness studies: What constitutes Consciousness from within contemplative traditions? How is cognition transformed through sādhana? What are the phenomenological markers of inner refinement? Can disciplined first-person inquiry complement prevailing third-person models of cognition research? How do contemplative transformations culminate in ethical action and niṣkāma sevā? Positioned at the intersection of contemplative studies, consciousness research, cognitive science, psychology, social work and Indian Knowledge Systems, the panel foregrounds renunciates not merely as informants but as epistemic contributors and living repositories of experiential knowledge. By bringing first-person contemplative narratives into dialogue with contemporary scholarship, the session seeks to advance theoretical and methodological conversations around consciousness, cognition and human transformation.

Description:

Panel 1b: Ask Swāmi–Swāminī & Āśīrvacan: Public Dialogue and Living Wisdom Traditions from the Renunciate Lineages of Sanātana Dharma

Moderated by Dr. Richa Chopra, Core Faculty, Centre of Excellence for Indian Knowledge Systems, IIT Kharagpur

Abstract: Ask Swāmi–Swāminī & āśīrvacan is conceived as an open public interaction session bringing together renunciate representatives from diverse living sampradāyas of Sanātana Dharma in a shared space of dialogue, inquiry and experiential exchange. Rooted in the Indic civilizational ethos, āśīrvacan (words of blessing) extends beyond its conventional meaning to embody transmission through speech, wherein blessings become vehicles of wisdom, ethical reflection, lived experience and guidance. Within Indic traditions, renunciates have historically functioned not merely as spiritual practitioners but as custodians of experiential knowledge systems and repositories of contemplative wisdom. Their contributions have extended across philosophy, education, ethics, service, social reform and pathways of inner transformation. Ask Swāmi–Swāminī & āśīrvacan seeks to create a participatory forum wherein audiences may directly engage with these living traditions through questions, reflections and dialogue. The session shall bring together distinguished renunciate representatives including H.G. Keshav Murari Das ji (ISKCON); Smt. Parvathy Baul ji (Baul Tradition); Pravrajika Divyanandaparana ji (Sri Sarada Math); Swami Vedapuruṣānanda ji (Ramakrishna Mission Ashram); Swami Virupaksha ji (The Art of Living); Swami Prakarshananda ji (Chinmaya Mission); and Revered Sant Jodh Singh Ji Maharaj (Nirmal Ashram). These traditions have further contributed to a broader research initiative led by Dr. Richa Chopra, Principal Investigator, Centre of Excellence for Indian Knowledge Systems (CoEIKS), IIT Kharagpur, documenting first-person narratives of consciousness, cognition and contemplative practice across Indic renunciate lineages and creating an archive of experiential knowledge emerging from living contemplative traditions. Conceived as an open public forum, participants shall be invited to interact freely with the renunciate representatives on themes including consciousness, contemplative life, sādhana, ethical action, niṣkāma sevā, social harmony, inner well-being, self-cultivation and pathways of human transformation. The session aims to move beyond conventional speaker–audience structures by enabling inquiry to be met not merely with information but with insight, lived experience and āśīrvacan emerging from contemplative realization. Positioned at the intersection of public scholarship, contemplative traditions and community engagement, the session seeks to reaffirm the continuing relevance of living wisdom traditions in addressing contemporary human concerns while fostering dialogue between experiential knowledge systems and society.

Day 1- June 3, 2026

Tritiya, Jyeshtha, Krishna Paksha, Vikram Samvat 2083 - Wednesday

Afternoon Session

Time	Event	Session Chair	Venue
14:00-17:30	Key Thematic Special Session on **Ayurveda_1**	Prof. Rama Jayasundar & Dr Uma Shankar Prasad Adluri	Auditorium

14:00-17:45 (In Parallel)	Special Session 1: **The Bhagavad-gītā and Leadership Development (No 1)**	Dr. Sumanta Rudra & Mr. Shubash Marathe	A10-1A
	Special Session 2: **Bhagavad Gita and Mental Health: Integrating Ancient Wisdom with Contemporary Psychological Science (No 2)**	Dr. Ashish Gupta and Vinay Gupta	A10-1B
14:00-16:00 (In Parallel)	Key Thematic Special Session on **Gita and its relevance to Personal and Professional Excellence_1**	Prof. N. Ravichandran	CCE Conference hall
	Special Session 3: **Bhagavad Gita and Social Wellbeing (No 5)**	Dr. Akhaya Kumar Nayak	Hall A
	Special Session 4: **Bhagavad Gita and Science (No 6)**	Prof. P Hari Krishna	Hall B
	Special Session 5: **Bhagavad Gita and Cognitive Biomarkers (No 8)**	Dr. Tharun Kumar Reddy Bollu and Dr. Rohitash Chandra	Hall C
	Regular Session 1: **Track 4: Cognitive Neuroscience (Theme A)_8 + Track 5: Brain Computer Interface and Application (Theme A)_1**	Dr. Arpan Banerjee	CnP 1 (Hall D)
	Regular Session 2: **Track 11: Indian Philosophy_1 (Theme B)_10**	Prof. Sampadananda Mishra	CnP 2 (Hall E)
	Regular Session 3: **Track 1: Yoga and Meditation_1 (Theme D)_11**	Dr. Ramajayam Govindaraji, Prof. Supratim Ray & Dr. Ravindra PN	CCE Mini Auditorium
16:00-16:15	Tea Break/Networking		Foyer
16:15-18:15 (In parallel)	Special Session 6: **Bhāratīya Linguistic Thought and Multilingual Cognition: Conceptual Models and Trans-Himalayan Perspectives (No 17)**	Dr. Vivek Sharma	Hall A
	Special Session 7: **IKS-Infused Innovation: Startups and Incubation Ecosystems for Indian Knowledge Systems (No 13)**	Prof. Dipankar Deb	Hall B
	Workshop 1: **Story Telling**	Vikram Sridhar	Hall C
	Workshop 2: **शब्दब्रह्म — Sanskrit, Sound, Consciousness, and the Future of Knowledge**	Dr. Krishna Panda	CnP 1 (Hall D)
	Regular Session 4: **Track 13: Cognitive Science and AI_1 (Theme A)_10**	Dr. Ramana Vinjamuri & Dr. Tharun Reddy Bollu	CnP 2 (Hall E)
	Regular Session 5: **Track 7: Consciousness Studies_1 (Theme B)_10**	Dr. Venkatesh H Chembrolu & Prof. Chayan K Nandi	Guest House Conference Hall
	Regular Session 6: **Track 15: Natural Language Processing for Indian languages (Theme C)_9**	Dr. Rohit Saluja & Dr. Kunal Mooley	CCE Mini Auditorium

	Regular Session 7: **Track 3: Performing Arts and Therapeutic Applications (Theme D)_9**	Dr. Archi Banerjee & Dr. P Nirmal Harish	CCE Conference hall
18:30-20:00	Cultural event	Dr. Padma Subrahmanyam	Auditorium
20:00-21:00	Dinner		Lawn

Key Thematic Special Session on Ayurveda_1

KSS1_1: Ayurveda		
June 3, 2026 14:00-17:30 Venue: Auditorium		
Session Chair: Prof. Rama Jayasundar & Dr Uma Shankar Prasad Adluri		
Special Session Ayurveda_1: **Theme: Vriksha & Marga Ayurveda - Consciousness in Plants and Animals**		
Time	**Keynote/ Invited Speakers**	**Topic**
12:00-13:00	**Keynote Talk:** Prof. Sudhir K. Sopory; Emeritus Senior Scientist, International Centre for Genetic Engineering and Biotechnology (ICGEB), New Delhi	Perception and Awareness in Plants: Rethinking Intelligence in the Living World
14:00-14:40	**Invited Talk:** Dr. Ajeyan Sadanandan, MD, PhD, DPharm; Director, Amma Medicinal plants Academy, Thiruvananthapuram	Vanaspati Chetana: Plant Consciousness in Indian Traditions
14:40-15:20	**Invited Talk:** Vaidya NN Devan Namboodiri, BAMS, Chief Physician-Ashokalayam, Ayurveda Chikitsa Kendram, Palakkad; Hasthyadya Ayurveda Pathana Gaveshana Kendram (GTNGET), Guruvayur	Concept of mind and in veterinary ayurveda with special reference to elephants/hasthi ayurveda
Special Session Ayurveda_2: **Theme: Toxins/Visha and Mind - The Toxic Association**		
15:20-16:00	**Invited Talk:** Dr. Nithya Narasimha Murthy, MD, PDF Consultant - Child & Adolescent Psychiatrist, Rainbow Children's Hospitals, Child Development Centre, Hyderabad	Overview of Adolescent Psychology in Modern Medicine
16:00-16:40	**Invited Talk:** Vaidya SG Savithri, MD Ayurveda Physician, Sameeksha Ayurvedalaya, Bangalore, Secretary, Ayurveda Academy, Bangalore	Adolescent Mind and its Health: The Cause and Effect Perspective of Ayurveda
Special Session Ayurveda_4: **Theme: Rasa Shastra and Mind – Impact of Metals and Crystals on Mind**		
16:40-17:20	**Invited Talk:** Dr. M Gopikrishna, MD; Chief Consultant, Srinivasa Clinic, Bellary, Karnataka; Chairman & Co-founder - Indian Institute of Ayurveda and Rasa Shastra, Bellary.	Metals and Crystals on Mind and Consciousness

Theme of the session:

Mind, Brain, and Consciousness remain a profound intrigue not only for biologists and psychologists but for scientists across disciplines, spiritualists, and laymen alike. The Indian Knowledge Systems offer millennia of wisdom, systematically organised within Ayurveda for the prevention and management of mental health. Since its inception in 2023, the Mind, Brain, Consciousness Conference (MBCC) has convened leading Ayurveda experts. This year, in an unparalleled effort, MBCC will expand its scope to explore the Mind through the lens of all eight specialities (Ashtangas) of Ayurveda, drawing on the experience of distinguished experts across the nation. The five-themed special session presents distinct Ayurvedic branches and their modern science/medical parallels.

Special Session 1:

SS1: The Bhagavad-gītā and Leadership Development			
June 3, 2026 14:00-17:45 Venue: A10-1A			
Session Chair: Dr. Sumanta Rudra & Mr. Shubash Marathe			
Time	**Speakers**	**Events**	
14:00-14:15	Dr. Sumanta Rudra & Mr. Shubash Marathe	**Introduction** to theme, objectives, and session flow	
14:15-15:30	**Authors**	**Contributory Paper Presentations**	**Paper ID**
	Monica Prabhakar	Extended embodied self in the Bhagavadgītā: A validation of the contemporary synthesized concept of embodied self	453
	Kanishka Singh, Ashish Gupta	Navigating the Modern Kurukshetra: India's Ascent as a Global Leader Guided by the Ethical Paradigms of the Bhagavad Gita	385
	Riya Singh, Sagar Morle	Reconceptualising Governance Through the Tri-Guna Framework: Insights from the Bhagavad Gita	321
	Shivangi Gaur, Dhruv Garg, Shekhar Shukla	Enhancing Organizational Effectiveness through Indian Knowledge System: A convergent hermeneutics and natural language processing approach using Srimad Bhagavad Gita	211
	Rekha Navneet	Situating the Bagvad- Gītā's Conception of sthitaprajña within the Contemporary Notions of Mindfulness and Emotional Regulation	120
15:30-16:00		**Reflection** on key themes, challenges, and future directions	
16:00-16:45	Moderated by Dr. Sumanta Rudra & Mr. Shubash Marathe	**Panel Discussion:** IKS and Leadership Development	
16:45-17:35	Prof. Ithamar Theodor	**Keynote Address** by Invited expert	
17:35-17:45		**Closing remarks** by the session chairs	

Theme of the session:

In an era marked by organizational uncertainty, ethical crises, political polarization, and rapidly shifting social structures, the question of leadership has assumed renewed urgency. Contemporary leadership models often

emphasize efficiency, influence, and performance outcomes, yet frequently fall short in addressing ethical integrity, inner resilience, and long-term social responsibility. There is therefore a growing scholarly interest in leadership paradigms grounded in ethical wisdom, self-transformation, and civilizational values. This session invites critical and interdisciplinary engagement with the Bhagavad-gītā as a foundational classical text for rethinking leadership development through the integrated lenses of dharma, self-mastery, and conscious action.

The Bhagavad-gītā presents leadership not merely as positional authority but as a moral and spiritual responsibility rooted in svadharma—one's duty aligned with individual nature and social order. Addressing Arjuna's crisis on the battlefield, Śrī Kṛṣṇa reframes leadership as the capacity to act decisively while remaining inwardly detached, ethically grounded, and oriented toward the collective good. Central to this vision is the doctrine of niṣkāma karma—action performed without attachment to personal gain:

karmaṇy evādhikāras te
mā phaleṣu kadācana (Bhagavad-gītā 2.47)

This principle challenges instrumental and outcome-driven leadership models, advancing instead a framework of responsibility, integrity, and service-oriented action.

The Bhagavad-gītā further emphasizes self-regulation and emotional intelligence as prerequisites for effective leadership. Śrī Kṛṣṇa highlights mastery over desire, anger, and ego as foundational to clarity of judgment and stability of action (Bhagavad-gītā 3.37; 6.5–6). Leadership development, from the Gītā's perspective, begins with inner governance before extending to social or organizational authority.

Ethical leadership in the Bhagavad-gītā is also profoundly pedagogical and exemplary. Śrī Kṛṣṇa notes:

yad yad ācarati śreṣṭhas
tat tad evetaro janaḥ
(Bhagavad-gītā 3.21)

"Whatever actions great persons perform, common people follow."

This verse underscores the formative power of leadership by example, emphasizing that leaders shape organizational culture, social norms, and moral imagination through their conduct as much as through formal policies. The Gītā also offers a nuanced typology of leadership dispositions through the framework of the guṇas (sattva, rajas, and tamas), providing a psychological and ethical lens for understanding motivation, decision-making, and organizational behavior (Bhagavad-gītā Chapters 14 and 18). Such insights contribute meaningfully to contemporary discussions on values-based leadership, character development, and transformative learning.

[453] Extended embodied self in the Bhagavadgītā: A validation of the contemporary synthesized concept of embodied self

Monica Prabhakar (Daulat Ram College, University of Delhi)

Abstract

The three layered concept of self in the Bhagavadgītā complements the 'embodied self' synthesis. Self1 is centred in the body, with five senses and five motor organs. Self2 is centred in the mind, with control on the body. Self3 is the integrated self in which the soul governs the mind and body and is conscious of the physical and mental individual as well as self-conscious. It is concretely individual and also universal because it is linked to divinity. The tri-partite ontology glues the concept of the self as an experiential existential individual to that of it as spread out in the world. 'Self1'and 'self2' jointly are the phenomenological self where the particular and experience have primacy and 'self3' connects the existential self to other selves and the objective world. Neither the experiential embodied self nor the embodied self extended in the world is sufficient but both are required for ethical action. Hence, Arjuna in the Bhagavadgītā is apprehensive as his self2, the existential experiential self faces a moral dilemma at the beginning of the discourse but by the end self3, the extended self, rules as fighting the battle for the greater good overcomes his earlier apprehension of killing his own relatives. Arjuna's self3 is the embodied self with the body of the best archer and the resolute mind of a warrior governed by the soul. Hence, if we accept the primacy of ethics over philosophy of mind, Bhagavadgītā's extended embodied self is a validation of the contemporary synthesized concept of embodied self.

[385] Navigating the Modern Kurukshetra: India’s Ascent as a Global Leader Guided by the Ethical Paradigms of the Bhagavad Gita

Kanishka Singh, Ashish Gupta (Maulana Azad National Institute of Technology)

Abstract

As the 21st-century global order mirrors the "Modern Kurukshetra" because of its fragmented multilateralism, systemic inequality, and the limitations of transactional diplomacy, there is an urgent need for a new governing paradigm. This paper proposes a transition from the Western Social Contract to a “Dharmic Social Contract”, leveraging the ethical and strategic frameworks of the Bhagavad Gita. While existing literature retrospectively analyzes India’s diplomatic behavior, this study identifies a critical research gap: the lack of a prescriptive roadmap for structural global institutional reform. Utilizing the Vedic hermeneutic method, the research attempts to place Bha-gavad Gita as an anchor to transition towards nishkam karma or duty based world order through: Satya-nishthata (Refuting propaganda with truth), Loksangraha Council (universal welfare), reclaiming own identity through Swa-dharma and Samatvam doctrine (for conflict resolution). By moving the unit of analysis from behavioral alignment to structural redesign, the paper argues that India’s ascent as a "Dharmic Architect" offers a non-hegemonic, duty-based alternative to interna-tional relations. This transition ensures a "Middle Path" that balances development with universal welfare, ultimately fulfilling the dictum: yato dharmastato jayaḥ (where there is righteousness, there is victory).

[321] Reconceptualising Governance Through the Tri-Guna Framework: Insights from the Bhagavad Gita

Riya Singh, Sagar Morle (Maulana Azad National Institute of Technology, Bhopal)

Abstract

Enhancing institutional efficacy and performance inside present governance systems, as well as strengthening the larger institutional functions that influence public outcomes and policy execution, have been the subjects of extensive research exploration. We have observed significant advancements in many areas, but we also see areas where the conflict continues to intensify. This gap highlights the need for an integrated governance model. Motivated by the texts of the Bhagavad Gita, this article attempts to establish a holistic model of a Tri-Guna governance that goes beyond the existing governance system. Through the perspective of the Bhagavad Gita, we examine the theory of the Tri-Guna governance system. Precisely, this Tri-Guna model focuses on the three aspects of governance: Sattvik, Rajasik and Tamasik. These models are the need of the present governing system. The Tri-Guna Governance is essential in transforming inputs into desired results. Tri-Guna Governance offers a framework for systematic synergy. When combined, these strategies provide approaches to organising modern governance issues include inadequate policy execution, corruption in public administration, bureaucratic stagnation, and an inadequate level of accountability in public institutions. Additionally, the present research article incorporates insight into relevant Bhagavad Gita shlokas to theorise the Tri-Guna Governance model.

[211] Enhancing Organizational Effectiveness through Indian Knowledge System: A convergent hermeneutics and natural language processing approach using Srimad Bhagavad Gita

Shivangi Gaur, Dhruv Garg, Shekhar Shukla (IIM Indore)

Abstract

Optimizing organizational potential requires a deep understanding of workforce traits to drive meaningful employee engagement. This study explores the identification of these traits through the philosophical framework of the Srimad Bhagavad Gita, specifically the concepts of Gunas (Modes) Sattva, Ra-jas and Tamas, Svabhava (inherent nature)

and Svadharma (prescribed duty). Utilizing a methodology that combines Natural Language Processing (NLP) and Applied Philosophical Hermeneutics, the research aims to give a novel perspective from the lens of ancient wisdom for modern management. The findings provide Human Resources and Employee Care teams with a novel, data-driven framework for assessing personnel, ultimately facilitating tailored engagement strategies that enhance efficiency and productivity.

[120] Situating the Bagvad- Gītā's Conception of sthitaprajña within the Contemporary Notions of Mindfulness and Emotional Regulation

Rekha Navneet (Gargi College, University of Delhi)

Abstract

This paper explores the Bhagavad-Gitā's timeless wisdom on mind restraint, emotional stability (sthithaprajña), and life's purpose, linking them to modern concepts like Emotional Intelligence (EI) and reviewing meaning and purpose of life. The paper flags the possibility of ethically engaged spirituality achievable through sustained emotional stability and mindfulness—essentials for navigating today's life-issues like mental health, burn-out at the workplace, and inter-personal dynamics. The Bhagavad-Gītā envisions spirituality as holistic mental and emotional well-being, and inspires purposive action (karma without attachment), righteousness, and integrated mind-body-heart harmony, equipping individuals to excel despite emotional distress, and other challenges. The central goal of the paper is to suggest how the concept of Sthitaprajña, a person steadfast in wisdom and emotionally stable, is an exemplar to be emulated. I have drawn parallels between the Gītā and Daniel Goleman's five components of Emotional Intelligence, and Logotherapy as suggested by Viktor Frakl. The paper shall delineate Philosophies of Vedanta, Sankhya and Yoga to elaborate on a disturbance of the trigunas (Sattva, Rajas, and Tamas), leading to chitta-viksipta (agitated/distracted mind). The paper, drawing on the Bhagavad Gītā's philosophical and scriptural wisdom, reinterprets renunciation, action (karma), self identity, and interconnectedness to foster an inner-life perspective. The paper contends that these guidelines enable a person to become a Sthitaprajña (a model of emotional intelligence) by realising the real meaning of ātma-vidyā (self-knowledge/awareness), and by pursuing an ethically engaged ideal of human flourishing.

Special Session 2:

SS2:Bhagavad Gita and Mental Health Integrating Ancient Wisdom with Contemporary Psychological Science			
June 3, 2026 14:00-17:45 Venue: A10-1B			
Session Chair: Dr. Ashish Gupta and Vinay Gupta			
Time	**Speakers**	**Events**	
14:00-14:10	Dr. Ashish Gupta and Vinay Gupta	**Opening Remarks** on IKS and mental health integration	
14:10-16:10	**Authors**	**Contributory Paper Presentations**	**Paper ID**
	Pragati Kumari, Anjuli Jain, Ashish Gupta	Atman, Ahamkara, and the Digital Self: Identity Orientation in Social Media Environments	295
	Sushank Bhojak, Anjuli Jain, Ashish Gupta	Bhagavad Gita as a Psycho-Spiritual Intervention for Moral Fatigue in Policing: A Mixed-Methods Study among Police Personnel	311

	Dr. Shuchi Srivastava, Anshika Soni	Food Habits and Personality Traits- A Qualitative Analysis on Bhagavad Geeta [Chapter 17]	333
	Raksha Purohit, Anjuli Jain, Ashish Gupta	Gita-Informed Indigenous Framework (GIIF) for Mental Wellness and its Application	358
	Garvit Jain, Anjuli Jain, Ashish Gupta	Saṃyama (Self-Regulation) in the Digital Age: A Bhagavad Gita Perspective on Social Media Addiction and Phubbing	441
	Sushank Bhojak, Anjuli Jain, Ashish Gupta	The K-K-L-M Model: Integrating the Bhagavad Gita with Contemporary Criminological Theory	456
	T. Suba Nachiar , Dr. S. Sridevi	Mapping Digital Tamas: An IKS Framework for Understanding Passive Engagement and Fragmented Attention in Online Youth Cultures	457
	T. Suba Nachiar , Dr. S. Sridevi	Kṛtrimamedhā: AI-Driven Behavioral Analysis Leveraging the Bhagavad Gita's Five-Factor Action Model	458
16:10-16:50	Moderated by Dr. Ashish Gupta and Vinay Gupta	**Panel Discussion** on key themes, challenges, and future directions	
16:50-17:00		Summary, Discussion about ongoing collaborations	

Theme of the session:

This special session explores the relevance of the Bhagavad Gita as a holistic framework for understanding mental health and psychological resilience. The session will examine how foundational concepts from the Gita—including self-regulation (self-monitoring and impulse control), emotional equanimity (maintaining balance amid adversity), action with detachment (karmayoga), duty-oriented engagement (svadharma), deliberate practice (abhyāsa), and non-attachment (vairāgya)—map onto and extend modern evidence-based cognitive and psychological approaches such as cognitive-behavioral therapy (CBT), acceptance and commitment therapy (ACT), mindfulness-based stress reduction (MBSR), positive psychology, and neuroscience-informed interventions. The session will feature scholarly analyses, empirical research findings, clinical case studies, and conceptual frameworks that demonstrate how ancient Indian philosophical principles can be systematically integrated into contemporary mental health research, clinical training, and therapeutic practice.

[295] Atman, Ahamkara, and the Digital Self: Identity Orientation in Social Media Environments

Pragati Kumari , Anjuli Jain, Ashish Gupta (Maulana Azad National Institute of Technology)

Abstract

Digital platforms have transformed how individuals construct, perform, and experience the self. In social media environments structured around visibility and engagement metrics, identity is continually curated, displayed, and evaluated, raising questions about the stability of selfhood in digitally mediated contexts. Drawing on the Bhagavad-Gita's distinction between Atman (the stable witnessing self) and Ahamkara (ego-based identification with roles and outcomes), along with the interpretive contrast between a detached observer orientation (sākṣī bhāva) and externally contingent identity processing, the present study examines whether sustained engagement with Gita teachings corresponds to differences in digital self-experience among young adults. Using a quasi-comparative

survey design, 60 university students were categorized as regular Bhagavad-Gita readers (n = 30) or non-readers (n = 30). Participants completed a 30-item instrument assessing contextual consistency, identification with online persona, feedback reactivity, and internal groundedness. Results indicated that readers reported stronger internal groundedness and contextual continuity, alongside lower persona identification and feedback responsiveness. These findings suggest that orientations emphasizing internally anchored awareness correspond to reduced dependence on externally validated digital self-representation, contributing to interdisciplinary scholarship linking Indian philosophical models of selfhood with contemporary digital identity research.

[311] Bhagavad Gita as a Psycho-Spiritual Intervention for Moral Fatigue in Policing: A Mixed-Methods Study among Police Personnel

Sushank Bhojak, Anjuli Jain, Ashish Gupta(Maulana Azad National Institute of Technology Bhopal)

Abstract

Police personnel operate in occupational environments characterized by exposure to traumatic incidents, organizational pressure, public accountability and frequent ethical dilemmas. These conditions contribute not only to burnout, involving emotional exhaustion, depersonalization and reduced professional efficacy, but also to moral distress and moral injury, which arise when individuals experience conflict between professional demands and personal ethical values. Over time, repeated exposure to such strain may result in moral fatigue, conceptualized in this study as the cumulative depletion of emotional, motivational, and moral-psychological resources.This mixed-methods study integrates Bhagavad Gita–based philosophical analysis with primary quantitative data collected from 60 police personnel in Bhopal, India, representing ranks from constable to inspector. Burnout was assessed using the Maslach Burnout Inventory, while moral distress and moral injury were measured through standardized psychometric scale. Participants were categorized based on self-reported engagement with Bhagavad Gita reading or reflective practice. Conceptual mapping linked key Gita principles; karmayoga (duty-focused action), svadharma (role-aligned responsibility), samatvam (equanimity) and vairāgya (non-attachment)—to contemporary psychological constructs including intrinsic motivation, identity coherence, emotional regulation and resilience. Comparative findings indicated that officers reporting engagement with Gita-based reflective practices demonstrated comparatively lower emotional exhaustion and moral distress, along with a stronger sense of professional meaning. The study proposes a culturally grounded psycho-spiritual intervention framework incorporating guided reflective reading, discussion of duty-related dilemmas, and contemplative practices based on Gita teachings.

[333] Food Habits and Personality Traits- A Qualitative Analysis on Bhagavad Geeta [Chapter 17]

Dr. Shuchi Srivastava, Anshika Soni (Maulana Azad National Institute of Technology, Bhopal)

Abstract

This paper examines the relationship between food habits and personality traits through a literary and qualitative framework derived from Bhagavad Gita Chapter 17, Verses 8–10. These verses classify food into three categories: sattvic, rajasic, and tamasic corresponding to the three gunas that shape human temperament. Sattvic foods are described as life-promoting, nourishing, and conducive to clarity and well-being (Bhagavad Gita 17.8); rajasic foods are excessively stimulating and associated with restlessness and discomfort (17.9); tamasic foods are stale and impure, contributing to inertia and dullness (17.10). Using this typology as a conceptual framework, the study employed semi-structured interviews with randomly selected thirty participants to explore whether contemporary dietary patterns reflect identifiable personality characteristics. Thematic analysis revealed consistent parallels between food preferences and self-reported behavioral tendencies. Participants consuming fresh, balanced diets commonly described themselves as calm and disciplined, aligning with sattvic attributes. Those favoring highly spicy or stimulating foods reported ambition and emotional intensity, reflecting rajasic qualities, while irregular or processed food consumption corresponded with lethargy and reduced motivation, consistent with tamasic traits. Supported by classical Ayurvedic insights from Charaka Samhita and Sushruta Samhita, which link diet to mental balance, the findings suggest that food habits function as embodied expressions of psychological disposition. The

study underscores the continuing relevance of classical Indian philosophical frameworks in contemporary discussions of personality and behavioral science.

[358] Gita-Informed Indigenous Framework (GIIF) for Mental Wellness and its Application

Raksha Purohit, Anjuli Jain, Ashish Gupta (Maulana azad national institute of technology)

Abstract

The present study proposes the Gita-Informed Indigenous Framework (GIIF) as an indigenous model for mental wellness grounded in the psychological teachings of the Bhagavad Gita. In the context of the growing global burden of anxiety, depression, and stress-related disorders, and the limitations of predom-inantly symptom-focused therapeutic approaches, the study examines the Gita as a framework for consciousness, self-regulation, and psychological well-being. Drawing upon selected verses, psychological interpretations, and con-temporary literature on Indian psychology and mental health, the framework emphasizes self-awareness through Ātman consciousness, regulation of the mind through practice and detachment, duty-oriented action (Nishkāma Kar-ma), and emotional regulation through the management of desire, anger, and attachment. The framework also incorporates therapeutic music- and sound-based practices as applied dimensions that may facilitate attentional regulation, emotional balance, and reflective awareness. GIIF proposes that Gita-based principles of self-awareness, detached action, and emotional regulation can contribute to resilience, cognitive balance, and integrative mental well-being. Unlike predominantly pharmacological approaches, the framework adopts an "inside-out" perspective that emphasizes self-awareness, meaning-centered coping, and self-regulatory balance.

[441] Saṃyama (Self-Regulation) in the Digital Age: A Bhagavad Gita Perspective on Social Media Addiction and Phubbing

Garvit Jain, Anjuli Jain, Ashish Gupta (MANIT)

Abstract

The pervasive integration of digital technologies has intensified problems of attention fragmentation, social media addiction, and relational disruptions such as phubbing. While contemporary psychology documents these phenomena extensively, it often lacks a deeper philosophical framework addressing the roots of mental restlessness. This paper proposes a transdisciplinary framework that integrates contemporary psychological insights with the philosophical psychology of the Bhagavad Gita. The study interprets the Gita's conception of the restless mind (Chanchala Mana) and the cycle of desire through modern models of impulsivity and reward sensitivity. Building on this synthesis, we propose a Gita-informed digital self-regulation model grounded in the principle of Saṃyama (self-regulation). The model integrates key constructs including Abhyāsa (attention training), Vairāgya (detachment from digital validation), moderation in digital engagement, Samatva (emotional equanimity), and duty-oriented engagement prioritizing real-world relational presence. By aligning these principles with contemporary cognitive behavior and mindfulness-based approaches, the framework offers a culturally grounded perspective to understand and mitigate problematic digital behaviors. The model contributes to emerging discussions on digital well-being and suggests pathways for integrating classical philosophical insights into modern psychological discourse.

[456] The K-K-L-M Model: Integrating the Bhagavad Gita with Contemporary Criminological Theory

Sushank Bhojak, Anjuli Jain, Ashish Gupta (Maulana Azad National Institute of Technology Bhopal)

Abstract

Criminological theory has been grounded in sociological and psychological theories developed and informed by the Western intellectual tradition. Although these theories have been successful in providing significant insights into the structural and individualistic factors which influence criminal behavior, they rarely reference philosophical traditions

which, historically, have been concerned with the internal moral psychology of human conduct. This conceptual paper will introduce the K-K-L-M model of spiritual criminology, which has been informed by the ethical and psychological principles of the Bhagavad Gita. The model proposes that the internal psychological processes of kama (desire), krodha (anger), lobha (greed), and moha (delusion) gradually and sequentially build on one another to lead individuals down the path of deviant conduct. By bringing these theories together with the more established criminological theories of Rational Choice Theory, General Strain Theory, Self-Control Theory, and the empirical literature on the role of religion in desistance, the paper will propose an interdisciplinary theory which brings spiritual psychology and traditional criminological theory together. The analysis will show how the Bhagavad Gita presents an ancient cognitive model of moral degeneration which mirrors more recent theories of impulsivity, emotional strain, and moral disengagement. The K-K-L-M model, which brings ancient moral philosophy and more recent empirical criminological theory together, offers new insights into the psychological processes which influence criminal decision-making and the role which spiritual cognition might play in the rehabilitation of the offender.

[457] Mapping Digital Tamas: An IKS Framework for Understanding Passive Engagement and Fragmented Attention in Online Youth Cultures

T. Suba Nachiar , Dr. S. Sridevi (thiagarajar college of engineering)

Abstract

The rapid proliferation of digital platforms has profoundly reshaped the conditions under which young individuals perceive information, form intentions, and initiate action. Contemporary digital environments operate through algorithmic curation, constant notifications, and immersive sensory stimuli that fragment experience and repeatedly reinforce narrow patterns of attention and behavior. Although these platforms promise the ability to connect and be informed, they also establish feedback mechanisms where partial, emotionally coloured stimuli control perception and action. The project is based on the Indian Knowledge Systems and especially the knowledge of the Bhagavad Gita to analyse the effect of digital environment on the qualitative nature of cognition and action among the youth. The analysis of the guṇas in the Gita (sattva, rajas, tamas) gives a theoretical perspective on how clarity, restlessness, or inertia can define perception and behaviour. The framework suggests an organised approach to investigate the way in which digital stimuli lead to the mobilisation of certain psychological dispositions, and special focus is on the tamasic tendencies that can be described in terms of confusion, passivity, and mindless involvement. The study will develop an integrative concept of digital action formation by mapping the visible digital practises to the psychological characteristics outlined in Indian philosophical thought. The framework is expected to result in a theoretical and analytical model explaining the applicability of classical Indian models to the interpretation of contemporary digital behaviour. This work is presented in a friendly way, targeting to enrich the knowledge of the people on the role of digital spaces in the cognitive and action process, and show that the Indian Knowledge Systems remain relevant in order to solve the modern society problems.

[458] Kṛtrimamedhā: AI-Driven Behavioral Analysis Leveraging the Bhagavad Gita's Five-Factor Action Model

T. Suba Nachiar , Dr. S. Sridevi (thiagarajar college of engineering)

Abstract

Each action is unique, and individuals engage in different kinds of endeavors based on their abilities, inclinations, and circumstances. In Chapter 18(18.13–14) – Mokṣha Sanyās Yog, Lord Krishna elucidates that every action is governed by five fundamental factors: Adhishthana , Karta , Karanam , Chaista and Daivam ,as It underscores the complexity of human endeavor, acknowledging the interplay between individual effort, the physical and mental faculties involved, the diversity of actions, and the influence of factors beyond external determinants. However, the ethical and intrinsic quality of an action is determined by the intention underlying it, leading to its classification into three distinct categories: Sattvic , Rajasic and Tamasic . Modern intention-based action analysis relies on self-reporting and direct questioning, which are limited by dependence on honesty, lack of real-time assessment, and inability to capture hidden motivations. These methods also suffer from subjectivity, variability, and limited

contextual awareness, highlighting the need for a passive, continuous monitoring framework for accurate intention-driven action analysis. We propose a Kṛtrimamedhā (AI)system which is rooted in Krishna's Five-Factor Model, integrates Svādhyāya (Introspective Knowledge), Anumana(Observation/Inference), Paristhiti(contextual evaluation). to provide a holistic assessment of actions. This integrated framework, grounded in Anvikshiki (the art of thinking), highlights that while the mechanics of action are shaped by intrinsic and extrinsic determinants, the ethical and consequential implications are dictated by the individual's underlying intention.Evaluating actions necessitates both an analysis of their structural components and an assessment of their intentional dimensions,ensures a greater accuracy in AI-driven decision-making systems.

Key Thematic Special Session on Gita and its relevance to Personal and Professional Excellence_1

KSS2_1: Gita and its relevance to Personal and Professional Excellence			
June 3, 2026 14:00-16:00 Venue: CCE Conference hall			
Session Chair: Prof. N. Ravichandran (online)			
Time	**Speakers**	**Events**	
14:00-14:15	Prof. N Ravichandran, Retired Professor, IIM Ahmedabad (online)	**Opening Remarks**	
14:15-14:45	Prof. Laximidhar Behra, Director, IIT Mandi	**Invited Talk 2**	
14:45-15:15	Dr. Bharat Bhushan Rath, RSU, Tirupat	**Invited Talk 3**	
15:15-16:00	**Authors**	**Contributory Paper Presentations**	**Paper ID**
	Abhisek Verma, and Simlee Bhattacharyya	A Conceptual Framework of Workplace Spirituality, Trust, and Servant Leadership: Revisiting the Bhagavad Gita	KSS2_P1
	Haripriya Rengarajan	The Triguna framework and its relevance to health, ethics, and human psychology	KSS2_P2
	Ms. Shilpa Bhatia	LIFE DIVINE- Gita in the Light of Sri Aurobindo	KSS2_P3

Theme of the session:

Gita is one of the well-known ancient Indian texts used by several intellectuals across the world to draw their own inspirations from the text. The text is so open-ended so that we can draw many meaningful lessons, reflections based on this work. For the persons of Indian origin, Bhagavad Gita is a sacred text and is used as a religious material to reinforce the faith on Lord Krishna, the Supreme. As a part of this conference on MBCC 2026 (third edition), we are organising a special track on Gita and its relevance to individuals and professionals in the ever changing modern context. The idea here is to explore how the multiple themes of Gita can be used to reshape, re-engineer and redesign our personal, professional, and community life. We believe such an approach will trigger a thought process as how we can conduct ourselves as better citizens, better human beings, better members of the community as a whole and better professionals. Half a dozen contributed papers, 10 invited talks by distinguished scholars is the core of this special track. In addition to this, there are two panels. One is on Bhagavad Gita and professional excellence. The other one is on Artificial Intelligence and Consciousness.

Invited Talk 1:

Title: The guidance of Gita in our life, profession and society

Prof. N Ravichandran (Retired Professor, IIM Ahmedabad)

Abstract

There are several commentaries and discussions on Gita by several authors from various backgrounds from scholars to philosophers and spiritual teachers. Eknath Easwaran is one such well known spiritual teacher. We use the commentary by him on Gita to explore the relevance of Gita in our time. The talk is organised in two parts. The first part is a rapid summary of the book. The second part of the five different topics as discussed in Gita Viz. Self-realisation, selfless service, wisdom in action, renounce and rejoice and divine splendour and explore how these ideas can guide us in our personal and professional activities and interfaces with the community and society in the rapidly changing word order.

[KSS2_P1] A Conceptual Framework of Workplace Spirituality, Trust, and Servant Leadership: Revisiting the Bhagavad Gita

Abhisek Verma (Indian Institute of Management Ahmedabad), and Simlee Bhattacharyya (State Bank of India, ACB Jagatsinghpur)

Abstract

This paper develops a theoretically grounded synthesis of workplace spirituality, trust, and leadership by integrating insights from contemporary management literature with the philosophical foundations of the Bhagavad Gita. While prior research has examined workplace spirituality as a driver of meaning and connectedness, trust as a relational governance mechanism, and leadership—particularly servant leadership—as an ethical and follower-centric approach, these streams have largely evolved independently. To address this fragmentation, this conceptual study draws on social exchange theory, spiritual leadership theory, and indigenous management perspectives to propose an integrative framework. The Bhagavad Gita advances key constructs such as nishkama karma (selfless action), dharma (duty orientation), and samatva (equanimity), which align with the moral and psychological foundations of workplace spirituality and servant leadership. These principles are argued to foster intrinsic motivation, ethical intentionality, and trust-based relationships within organizations. The study further highlights the relevance of spiritually grounded leadership in addressing contemporary managerial challenges, particularly work–life imbalance and psychological strain in high-pressure environments. Although conceptual in nature, the paper proposes that integrating workplace spirituality with servant leadership provides a meaningful framework for enhancing both organizational effectiveness and individual well-being. Directions for future empirical research are suggested, particularly in service sectors such as emergency and protective; healthcare; financial and banking, where employees experience persistent stress and role conflict.

[KSS2_P2] The Triguna framework and its relevance to health, ethics, and human psychology

Haripriya Rengarajan (Management Teacher, Bangalore)

Abstract

Modern life is marked by paradoxical advancement—technological progress accompanied by rising health disorders, ethical lapses, psychological distress, and diminished psychological well-being. Contemporary explanations often attribute these challenges to systemic pressures, environmental stressors, or socio-economic constraints, leading to compensatory interventions that address symptoms rather than underlying causal structures. This paper proposes that several of these modern challenges stem from an insufficiently examined disequilibrium in the Trigunas—Sattva, Rajas, and Tamas—as articulated in the Bhagavad Gita. The Gita presents the Trigunas as foundational determinants shaping human cognition, behavior, ethical orientation, and psychological functioning. This is succinctly expressed in Bhagavad Gita (14.5):

Sattvaṁ rajas tama iti guṇāḥ prakṛti-sambhavāḥ |
Nibadhnanti mahābāho dehe dehinam avyayam ||

“Sattva, Rajas, and Tamas—qualities born of Prakriti—bind the imperishable consciousness to embodied existence.” This verse indicates that human action, moral discernment, and mental states are not merely situational responses but are conditioned by dominant gunas, often operating below conscious awareness. In contemporary contexts, excessive Rajas manifests as restlessness, performance anxiety, ambition-driven stress, and ethical rationalization, while heightened Tamas expresses itself through inertia, denial, addictive behaviors, and moral disengagement. The progressive attenuation of Sattva—associated with clarity, harmony, and discernment—weakens psychological resilience, ethical sensitivity, and holistic health. These imbalances remain inadequately conceptualized in dominant psychological and ethical models, contributing to fragmented interventions across health, ethics, and behavioral domains. The aim of this work is to present a conceptual–analytical study integrating scriptural analysis with insights from contemporary psychology, behavioral ethics, and well-being research. It proposes a Guna-based analytical framework that interprets health outcomes, ethical behavior, and psychological states through Triguna dominance patterns. The paper further would explore the potential evolution of this framework into a measurable diagnostic and developmental construct. By bridging Indic philosophical insights with modern interdisciplinary concerns, the study positions the Gita as a theoretically robust and practically relevant framework for understanding and addressing health, ethical, and psychological challenges in modern life.

[KSS2_P3] LIFE DIVINE- Gita in the Light of Sri Aurobindo

Ms. Shilpa Bhatia (Advocate, Bombay High Court)

Abstract

Sri Aurobindo started His journey of Yoga under the guidance of Sri Krishna whom He realised as Vasudeva, the Divine immanent in man. In His famous Uttarpara Speech, that He delivered soon after His release from the Alipore jail, He shared His experience with Sri Krishna for the first and the only time. Sri Aurobindo has said, “All life is Yoga” and has laid the path of transforming human life into life divine through the process of Integral Yoga. His “Essays on the Gita”, shows us how the Gita is a practical, living guide for integral yoga where the emphasis is on action in the world with surrender to Divine without renouncing the world. According to Sri Aurobindo, Gita is very symbolic, where Arjuna represents the soul within looking for answers and Krishna, the immanent Divine guiding us to see and grow within, come out of ignorance and do every action with the higher consciousness. The Gita is given to mankind as an answer to the questions put up by Arjuna in the battlefield. Each one’s life is a ‘Kurukshetra’, a battle going on within and outside and it is here that the teachings of the greatest Epic, the Gita have to be applied. Through the revelation of the Essence of the Gita, Sri Aurobindo explains that it is during crisis, the struggle, the moments when one questions God, it is at these moments that the lessons of Gita help us, it is at these moments that the power of Faith and Surrender, as emphasised by Sri Aurobindo, the two basis of life and of any sadhana, keep us strong and going. Personally, for me and my husband this has been the guiding principle, to put into practice the teachings of Sri Aurobindo and The Mother. Be it our personal life, wherein the greatest blow of losing a child, paved the way for the deepest learnings and realising the strength within. At the professional front, being a lawyer, the day to day workings are of intricate nature and yet because of the knowledge imparted by the Divine Masters, the focus is on carrying out the work by connecting with the Divine self and not the ego self and it makes the work so much smoother. Relationships are complex spaces and dealing through them with a smile and keeping the right attitude is what we have learnt from the teachings of the integral yoga of Sri Aurobindo. In Sri Aurobindo’s words, “Gita is a gate for opening a whole world of Spiritual Truth and experiences…” He has very beautifully described, “Divine is our sakha, our friend, our lover, our Master. He is what we want Him to be…” All the works of Sri Aurobindo connect us with the real life lessons of Gita and it is through the guidance of these precious works that I am evolving as a human being, a person. This life is a journey from Nar to Narayan and the Divine is helping me and guiding me take the steps on this path with courage and confidence.

Special Session 3:

SS3:Bhagavad Gita and Social Wellbeing			
June 3, 2026 14:00-16:00 Venue: Hall A			
Session Chair: Dr. Akhaya Kumar Nayak			
Time	**Speakers**	**Events**	
14:00-14:10	Dr. Akhaya Kumar Nayak	**Opening Remarks**	
14:10-15:50	**Authors**	**Contributory Paper Presentations**	**Paper ID**
	Shivangi Gaur, Shekhar Shukla	Leveraging Contemporary Governance with Indian Knowledge System: A Hermeneutic Interpretation of the Shrimad Bhagavad Gita	210
	Mr. Pintu Das, Dr. Raj Kishore Patra	Lokasaṃgraha: The Gītā's Vision of a Sustainable Society	220
	Abhigyan Malviya, Yogita Parmar	Responsible Leadership through the Lens of the Bhagavad Gita	271
	Shaleen George, Anjuli Jain, Ashish Gupta	Assessing the Bhagavad Gita as a Tool to Develop Inclusive Attitude Towards Persons with Disabilities among Peers in Higher-education Institutes	292
	Atira Bansal	Smart Cities and Symbiotic Coexistence: A Dharma-Based Framework from the Bhagavad Gita for Management of Urban Stray Dog Conflict	417
	Akhaya Kumar Nayak, Ritu Alawa	Bhagavad Gita and the Foundations of Social Wellbeing: A Normative Inquiry	444
	Madhu Satwani, Akhaya Kumar Nayak	Nishkama Karma as a Pathway to Social Well-Being: A Conceptual Study Based on the Bhagavad Gita	445
	Ashok Khatai	Swadharma and Paradharma in Indian Ethical Thought: Implications for Social Welfare and Collective Well-Being	446
	Mr. Prabir Kumar Mishra, Dr. Biswanath Swain	Sustainable Leadership guided by Vedic Wisdom: The Salubrious way to address Industrial Pollution	448
	Poorva Ranjan, Ankit Gambhir	Kosh–Danda and ESG: A Mahabharata-Inspired Framework for Contemporary Corporate Governance	466
15:50-16:00		**Closing remarks** by the session chairs	

Theme of the session:

This special session focuses on the application of principles of Bhagavad Gita in fostering social wellbeing by bringing in harmony, peace, inclusivity, and symbiotic co-existence. The session will examine how the application of

principles such as Sankhya Yoga (the science of self), Niskama Seva (service without any desire to gain anything in turn), Swadharma (acting as per the psycho-physical disposition for the pleasure of God), Yajna (performance of duty for the pleasure of God), and Lokasangraha (Leaders acting for common good not for selfish gain) lead to social wellbeing in terms of harmony, piece, inclusivity, and symbiotic co-existence. The session will feature conceptual frameworks, empirical studies (both qualitative and quantitative), case studies, and reviews that demonstrate how the principles enshrined in Bhagavad Gita leads to social wellbeing.

[210] Leveraging Contemporary Governance with Indian Knowledge System: A Hermeneutic Interpretation of the Shrimad Bhagavad Gita

Shivangi Gaur, Shekhar Shukla (IIM Indore)

Abstract

Modern well-being policies largely rely on external indicators such as material conditions, quality of life and their approach is policy oriented, data-driven and outcome based focusing on external living conditions and institutional performance, while these indicators are important they pay limited attention to inner human dimensions such as meaning, ethical responsibility, emotional balance and moral self-regulation, which are crucial for sustained well-being. As a result, despite the expansion of policies and laws, societies continue to experience rising mental health issues, loneliness, social distrust, crime and a general decline in holistic well-being. This highlights a critical gap between policy designs and lived human experience. This study uses hermeneutic approach to interpret and translate two fundamental concepts- Swadharma (role-aligned duty) and Lokasangraha (social responsibility for collective welfare) - into current policy-relevant constructs, drawing on the Shrimad Bhagavad Gita (SBG) within the larger framework of Indian Knowledge System. The study applies these principles to contemporary governance issues, such as leadership deficiencies, institutional mis-trust, social disintegration, and the crisis of meaning in work, through a methodical process of exegesis, distillation, fusion of horizons, and appropriation. According to the findings, the Shrimad Bhagavad Gita (SBG) offers a normative ethical framework that can enhance current approaches to well-being by fusing internal transformation with external policy design, even though it does not offer prescriptive policy models. The research adds to the multidisciplinary conversation by illustrating how hermeneutically interpret-ed insights from the Indian Knowledge System can contribute to current discussions about moral leadership and comprehensive governance.

[220] Lokasaṃgraha: The Gītā's Vision of a Sustainable Society

Mr. Pintu Das, Dr. Raj Kishore Patra (Rajendra University)

Abstract

This article examines Lokasaṃgraha in the Bhagavatgītā as a moral foundation for building a sustainable society. While modern sustainability often focuses on economic growth and environmental policy, the Gītā offers a deeper ethical and psychological framework. Lokasaṃgraha, meaning "holding the world together," teaches that individuals must act with duty, self-control, and concern for collective welfare. The study argues that sustainability depends not only on institutions but also on inner discipline, non-attachment, and equal vision. By connecting personal responsibility with social harmony, the Gītā presents an integrated vision where ethical character sustains long-term social stability and social well-being.

[271] Responsible Leadership through the Lens of the Bhagavad Gita

Abhigyan Malviya (Indian Institute of Management Indore) , Yogita Parmar (Indian Institute of Technology Tirupati)

Abstract

Leadership today unfolds amid climate instability, technological acceleration, and intensifying demands for social and environmental justice. These conditions expose limitations in traditional leadership models that prioritize procedural ethics and external accountability over inner moral development. While Responsible Leadership has

advanced the field by emphasizing relational accountability, stakeholder engagement, and the integration of social, economic, and environmental responsibilities, its conceptual foundations remain largely situated within Western paradigms. As a result, the internal moral dimension that sustains ethical action under uncertainty receives comparatively limited attention. This study seeks to conceptually enrich Responsible Leadership by engaging the Bhagavad Gita as a complementary ethical framework. Adopting a qualitative, interpretive research design, the study conducts a thematic analysis of seminal and contemporary Responsible Leadership scholarship alongside a close textual reading of selected Gita verses. Using a hermeneutic phenomenological approach, the two bodies of literature are brought into interpretive dialogue to identify convergences and areas for theoretical deepening. The findings indicate that Responsible Leadership's emphasis on stakeholder responsibility aligns with the Gita's principle of Lokasangraha (acting for collective welfare). The Gita further strengthens this framework through Niskama Karma (action without attachment to outcomes), Swadharma (authentic duty aligned with one's role and nature), and the cultivation of inner steadiness through Sthitaprajna and Gunatita. Together, these concepts articulate a model in which external accountability is inseparable from internal moral anchoring. The study proposes an integrated framework that unites relational responsibility with cultivated inner clarity, offering a philosophically grounded pathway for Responsible Leadership in complex and uncertain contexts.

[292] Assessing the Bhagavad Gita as a Tool to Develop Inclusive Attitude Towards Persons with Disabilities among Peers in Higher-education Institutes

Shaleen George, Anjuli Jain, Ashish Gupta (Maulana Azad National Institute of Technology MANIT Bhopal)

Abstract

Bhagavad Gita offers an ethical-psychological framework with the central values of equanimity (samatva), selfless action (niṣkāma karma), and equal regard for all beings (sama-darśana). This study identifies and interprets various shlokas (verses) from the Bhagavad Gita related to inclusion including Equal Vision (Sama-darśana), divine presence in all (Sarva-bhūta-stham ātmānam), empathetic connection (Ātma-aupamyena), overcoming obstacles and, equal access to the supreme. This study assesses the Bhagavad Gita teachings to develop inclusive attitudes towards persons with disabilities. By integrating bhāva (emotion), buddhi (cognition), and karma (action), the Bhagavad Gita presents a holistic model of inner transformation that shapes perception and conduct. A comparative cross-sectional study between Bhagavad Gita readers and non-readers was conducted using a questionnaire including the Multidimensional Attitudes Scale (MAS) and Attitudes toward Disability Scale (ADS). Descriptive findings suggest students who regularly read Bhagavad Gita have more socially inclusive attitudes than non-readers. Thematic analysis of qualitative data reveals themes like equality of soul, compassion, non-discrimination, and ethical responsibility. The findings suggest that engagement with ethical–philosophical teachings may contribute to emotional regulation, cognitive reframing, and prosocial action. The findings highlight the potential of cultural-ethical-philosophy in fostering inclusion attitudes within higher-education institutes broader social contexts.

[417] Smart Cities and Symbiotic Coexistence: A Dharma-Based Framework from the Bhagavad Gita for Management of Urban Stray Dog Conflict

Atira Bansal (Indian Institute of Management, Indore)

Abstract

Rapid urbanization has intensified human–animal conflict in Indian cities, particularly in relation to free-roaming dogs. Policy responses oscillate between public health imperatives and animal welfare advocacy which reveals a deeper ethical fragmentation within urban governance. This paper provides an interdisciplinary framework titled the Urban Dharma–Five Domain Smart Governance Model to address urban stray dog conflict. The implementation of the model requires integration of ethical philosophy, welfare science, and digital governance. The study establishes a normative foundation based upon the principles of Bhagavad Gita and provides perspective to view community dog management as moral and civic responsibility rather than a population control menace. Scriptural insights when linked conceptually with the Five-Domain Model of animal welfare leads to operationalizing measurable standards of nutrition, environment, health, behaviour, and mental state. These are further embedded within Smart City

governance mechanisms. This includes GIS mapping, vaccination registries, surveillance systems, and citizen engagement platforms. The framework highlights a three-layer intervention of ethical orientation, scientific assessment, and administrative implementation. This in turn ensures balanced, humane, and data-driven policy execution. When Indian Knowledge Systems are aligned with contemporary public health strategies and digital infrastructure, a model of symbiotic coexistence in tune with Sustainable Development Goals 3 and 11 gets surfaced. The amalgamation of ancient ethical wisdom and modern technological systems can collectively foster compassionate, accountable, and sustainable urban futures.

[444] Bhagavad Gita and the Foundations of Social Wellbeing: A Normative Inquiry

Akhaya Kumar Nayak (Indian Institute of Management Indore) , Ritu Alawa

Abstract

Prevailing approaches to social wellbeing in contemporary scholarship emphasize economic performance, institutional effectiveness, and psychological outcomes. Despite progress in these areas, persistent social stress, competition, and fragmentation indicate the limitations of outcome-oriented frameworks that overlook moral intention and ethical self-regulation. This paper undertakes a normative analysis of the Bhagavad Gita to examine its contribution to an ethics-based understanding of social wellbeing. Employing close textual and hermeneutic analysis, the study synthesizes central ethical concepts such as philosophical foundations (understanding of self, Isvara, and Prakriti), and behavioral manifestations (Swadharma/Yajna, Sense Control, Overcoming Anarthas, Samatvam, Loving services to Isvara, Kausalam/excellence, Exhibiting Daivi Sampadam, and welfare of all/lokasangraha) into a coherent normative framework leading to social welfare. The analysis demonstrates that the Gita conceptualizes social wellbeing as emerging from inner moral cultivation that guides disciplined and socially responsible action, rather than from external regulation or material success alone. Individual ethical orientation, emotional balance, and detached yet committed action are shown to function as interdependent conditions for sustaining social harmony. By integrating philosophical, behavioral, and social dimensions, this study addresses a gap in existing literature where these doctrines are often examined in isolation. The paper contributes a structured normative model that clarifies how personal moral responsibility can support stable, inclusive, and enduring forms of social wellbeing.

[445] Nishkama Karma as a Pathway to Social Well-Being: A Conceptual Study Based on the Bhagavad Gita

Madhu Satwani (Renaissance University, Indore), Akhaya Kumar Nayak (Indian Institute of Management, Indore)

Abstract

Problem Statement: Today success is all about numbers, productivity is tied to performance indicators, and personal worth is evaluated through visible achievements. Excessive attachment to outcomes has led to stress, anxiety, emotional exhaustion, weakened cooperation, and social fragmentation. Contemporary social well-being research largely emphasizes observable outcomes, with limited attention to the motivational orientation governing social conduct. Objective: To examine selected verses of the Bhagavad Gita (2.47; 18.45–46) in order to conceptualize Nishkāma Karma as a responsibility-based ethical framework and to analyze how detachment from outcomes and role-based duty contribute to social cohesion and collective well-being. Methodology: The study adopts a conceptual research design grounded in doctrinal analysis of selected verses related to action without attachment, equanimity, svadharma, and loka-saṅgraha, consistent with interpretive approaches in Gita-based leadership research (Nayak, 2018). Result: The analysis reveals a structured progression from inner regulation through equanimity and detachment to role-based responsibility and collective welfare, establishing Nishkāma Karma as a layered ethical system linking disciplined consciousness with institutional coherence. Recommendation: Reframing work as sacred responsibility rather than reward-seeking activity may strengthen accountability, cooperation, and sustainable social well-being.

[446] Swadharma and Paradharma in Indian Ethical Thought: Implications for Social Welfare and Collective Well-Being

Ashok Khatai (Rajdhani college)

Abstract

This research paper explores the pivotal role of leadership and inherent traits within organizations, emphasizing that the success or failure of an organization is largely dependent on the ethical standards and expertise of its leaders, as well as the collective ethos of its members. Drawing upon philosophical insights from Socrates, Plato, and the Bhagavad Gita, the paper highlights the necessity of self-reflection and adherence to one's inherent qualities (gunas) in performing duties effectively. It argues that many societal issues, including corporate scandals and political crises, stem from the misalignment of individuals in roles that do not correspond with their natural capabilities and knowledge. The paper advocates for a reevaluation of leadership selection processes, emphasizing the need for leaders to possess relevant expertise and moral integrity to navigate organizational challenges. By integrating philosophical perspectives on duty and moral principles, the research aims to provide a framework for understanding how ethical leadership can foster organizational resilience and societal development, ultimately suggesting that adherence to one's dharma (duty) is essential for the well-being of both organizations and society at large.

[448] Sustainable Leadership guided by Vedic Wisdom: The Salubrious way to address Industrial Pollution

Mr. Prabir Kumar Mishra, Dr. Biswanath Swain (Indian Institute of Management Indore)

Abstract

Industrial pollution has been increasing rapidly due to a lack of, or a narrow vision for managing and channeling ethical responsibility towards ecology. The impact of this industrial pollution is no longer limited to humans but also harms other species and the entire ecosystem. It has negatively impacted not only our way of life but also that of future generations. Hence, it is an ethical responsibility of industries to be very responsible in their ongoing and upcoming strategies and actions regarding the environment. The study proposes that sustainable leadership guided by Vedic wisdom can provide an effective measure to address current and imminent issues of industrial pollution. To do so, the study delves into the practical side of the Vedas, where it discusses Rna, or debt, and specifically terms it ‘Bhuta Rna’, i.e., the debt towards ecology.

[466] Kosh–Danda and ESG: A Mahabharata-Inspired Framework for Contemporary Corporate Governance

Poorva Ranjan (DME GGSIPU), Ankit Gambhir (GGS Indraprastha University, New Delhi)

Abstract

The contemporary corporate scene and its ethical scandals and short-term financial orientation require a check of existing governance patterns (Chakraborty, 1991). This conceptual paper examines a very old and value-based philosophical perspective on corporate governance drawn from the Shanti Parva of the epic Indian legend, Mahabharata (Sukthankar, Belvalkar, & Vaidya, 1951). Specifically, it discusses the “Kosh–Danda Balance,” which proposes that Danda (ethical discipline, justice, and governance) should guide Kosh (treasury or profit) (Kane, 1946). The paper argues that economic activity must remain symbiotic rather than parasitic toward its environment to ensure long-term sustainability (Hawken, 2010), meaning that wealth creation should not destroy the very sources that sustain it.

अधर्मेणैधते तावत् ततः भद्राणि पश्यति।
ततः सपत्नान् जयति समूलस्तु विनश्यति॥
— Mahabharata, Shanti Parva 12.121.38

Explanation: By unrighteousness (Adharma), a person may gain prosperity for some time and even appear successful, but ultimately such gains lead to complete destruction (Ganguli, 1891).

Using qualitative analysis, this study links the ethical insights of the Mahabharata with the modern Environmental, Social, and Governance (ESG) framework in contemporary business practices (Sharma, 2001). It highlights responsible growth, environmental stewardship, and social accountability (Muniapan & Dass, 2008). The discussion also reflects the idea of non-predatory development noted by Altekar (1958) and Gandhi's concept of trusteeship (1960), where institutions act as custodians of public welfare. By integrating these insights, the study proposes a value-based governance perspective that encourages ethical leadership, transparency, and sustainable long-term success.

Special Session 4:

SS4:Bhagavad Gita and Science			
June 3, 2026 14:00-16:00 Venue: Hall B			
Session Chair: Prof. P Hari Krishna			
Time	**Speakers**	**Events**	
14:00-14:10	Sai Kiran Gannamraju, Kiran Kumar Bhuvanagiri and Pandu Santhoju	**Opening Remarks**	
14:10-14:40	Prof. P Hari Krishna	**Invited Talk**	
14:40-15:50	**Authors**	**Contributory Paper Presentations**	**Paper ID**
	Sai Kiran Gannamraju, Kiran Kumar Bhuvanagiri, Pandu Santhoju and Venkatesh H. Chembrolu	Operationalising Spiritual Emotional Intelligence: Conceptual Foundations for Scale Development Based on the Bhagavad Gītā	280
	Pandu Santhoju, Sai Kiran Gannamraju, Kiran Kumar B, Laxmidhar Behera	The Bhagavad-gītā as a Science of Life: Insights into Time, Cosmology, Consciousness, and Ethical Action	319
	Kaiynat Jahan, Dr. Anjuli Jain and Dr. Ashish Gupta	Deriving Roots From Bhagavad Gita To Introduce The Indigenous Metacognitive Model of Skill Development	335
	Neetinakumar Patil	From Rumination to Ruin: Bhagavad Gita Shloka 2.62–63 as a Proto-Cognitive Model of Psychosomatic Pathogenesis and Its Integration with Modern Psychology and Psychotherapy	439
	Dr Pawan Gupta, Dr. Rajeev Gupta	Integrating Teachings of the Bhagavad Gita into Human Health and Wellbeing - A Biopsychosocial-Spiritual and Neurobiological Framework	487
15:50-16:00		**Closing remarks** by the session chairs	

Theme of the session:

This special session argues that the intersections between the Bhagavad-gītā and science are best understood through analogical and philosophical correspondences rather than literal equivalence. As a timeless text offering an inner "science of life," the Gītā continues to inspire scientists, philosophers, and thinkers to explore deeper questions about

reality, consciousness, and the transformative forces that govern both the universe and human existence. This special session fosters the enduring dialogue between the Bhagavad-gītā and science, wherein shared themes such as energy, consciousness, time, and universal order invite comparative reflection. Although the Bhagavad-gītā is not a scientific treatise in the modern empirical sense, it presents conceptual frameworks that resonate with scientific and philosophical inquiry. Its distinction between the perishable body and the imperishable self (BG 2.11–30) parallels the scientific principle of conservation of energy, wherein energy undergoes transformation without annihilation. The Gītā's treatment of consciousness, perception, and the unified nature of reality finds echoes in contemporary discussions within quantum physics and cosmology. Likewise, its vivid depiction of the viśvarūpa (cosmic form) evokes reflections on immense cosmic energies and transformative forces, often metaphorically associated with modern scientific phenomena. The session will feature the conceptual frameworks, empirical studies (both qualitative and quantitative), case studies, and reviews that demonstrate how the principles enshrined in Bhagavad Gita parallel the scientific revelations.

[280] Operationalising Spiritual Emotional Intelligence: Conceptual Foundations for Scale Development Based on the Bhagavad Gītā

Sai Kiran Gannamraju, Kiran Kumar Bhuvanagiri, Pandu Santhoju and Venkatesh H. Chembrolu (IIT Mandi)

Abstract

Contemporary models of emotional intelligence (EI) have significantly advanced the understanding of affect regulation and interpersonal functioning, yet they largely remain embedded within an ego-centric psychological framework. Such approaches often fail to address deeper ontological questions about identity, consciousness, and ethical alignment. Drawing upon the Bhagavad Gītā's layered architecture of consciousness—distinguishing body, mind, intellect, and self—this paper proposes a conceptual foundation for operationalising Spiritual Emotional Intelligence (SEI) as a measurable psychological construct. Grounded in the Gītā's psychological anthropology, which recognises the self (ātman) as distinct from fluctuating mental states and materially conditioned identity, SEI is defined as the capacity to regulate emotion and decision-making through alignment with higher-order spiritual identity, equanimity (samatva), non-attached action (niṣkāma-karma), ethical discernment (dharma), and devotional orientation (bhakti). Rather than treating spirituality as an external correlate of well-being, this framework positions spiritual awareness as structurally constitutive of emotional regulation itself. The paper outlines a five-dimensional conceptual architecture derived from the Gītā's systems view of consciousness and presents the methodological logic required to translate these domains into psychometrically viable scale items. Key challenges in measuring spiritually grounded constructs—such as social desirability bias, language translation, and construct reductionism—are addressed. A staged validation roadmap is proposed, including deductive item generation, expert review, and future factor-analytic modelling. By integrating Indian Knowledge Systems with contemporary psychometric methodology, this work contributes to consciousness studies, indigenous psychology, and emotion science, offering a paradigm for culturally grounded measurement in global well-being research.

[319] The Bhagavad-gītā as a Science of Life: Insights into Time, Cosmology, Consciousness, and Ethical Action

Pandu Santhoju, Sai Kiran Gannamraju, Kiran Kumar B, Laxmidhar Behera (IIT Mandi)

Abstract

This paper examines the concept of Time (Kāla) in the Bhagavad-gītā and its broader theological and cosmological context, with particular reference to its resonance with scientific thought. While the Gītā is not a scientific treatise, it presents a sophisticated metaphysical framework in which time functions simultaneously as a cosmic principle, a divine manifestation, and an ethical catalyst. The study analyzes Lord Krishna's declaration "kālo 'smi" (Bhaga-vad-gītā 11.32), where Time is identified as the ultimate agent of transfor-mation and dissolution, and situates this within Vedic cyclic cosmology, including the yuga system and the immense temporal scales described in both the Bhagavad-gītā (Chapter 8 and 11) and the Śrīmad-Bhāgavatam (Canto 3 and 12). Drawing conceptual

parallels—rather than literal equivalences—between scriptural cosmology and modern scientific frameworks, the paper explores correspondences with conservation principles, cyclic cosmology, psycholog-ical typologies (guṇas), and philosophical discussions of temporality such as the Block Universe theory. The analysis further considers how the Gītā's teachings on dharma (duty), niṣkāma karma (detached action), and self-realization provide an ethical response to temporality, offering a model for responsible action within impermanent conditions. By integrating scriptural exegesis with interdisciplinary reflection, this study argues that the Bhagavad-gītā presents Time not merely as chronological sequence but as a metaphysical force that governs cosmic order, moral respon-sibility, and spiritual evolution. Its vision of cyclical time, existential imper-manence, and transcendence through self-realization remains philosophically relevant to contemporary discussions in science, ethics, and emerging tech-nological domains.

[335] Deriving Roots From Bhagavad Gita To Introduce The Indigenous Metacognitive Model of Skill Development

Kaiynat Jahan, Dr. Anjuli Jain and Dr. Ashish Gupta (Maulana Azad National Institute of Technology)

Abstract

The paper will suggest an indigenous model of metacognition on career and skill development based on philosophical psychology of the Bhagavad Gita. Modern theories of vocational development and self-regulated learning are primarily the result of Western schools of psychology and may not always be culturally connected with Indian intellectual fields. Overcoming this shortcoming, this paper provides a qualitative redefinition of the notion of Varna into the interrelated notions of Svabhava (natural disposition), Svadharma (self-aligned duty), the Guna-Karma Vibhaga (quality- action classification), Buddhi (reflective intellect), and Sakshi-bhava (witness awareness). The paper, through the systematic examination of the text and similar philosophical investigation, shows that the Gita conceptualizes social and work positions as a product of reflective self-awareness and inherent disposition, and not as a hereditary position. These concepts are discussed in discussion with the modern metacognitive theories that lay stress on self-monitoring, self-regulation, and identity coherence. The discussion shows that the Gita foreshadows contemporary definitions of the alignment of careers by predicting the reflective discernment and ethical working. The paper suggests such a conceptual framework of vocational development in India Knowledge Systems as the Svabhava– Svadharma Metacognitive Orientation Framework. The paper offers information about culturally-founded practices in the area of education and career advice by joining the classical philosophical understanding with the modern cognitive theory. It also posits the topicality of indigenous epistemologies to reconsider the concept of professional identity and skill acquisition in pluralistic societies.

[439] From Rumination to Ruin: Bhagavad Gita Shloka 2.62–63 as a Proto-Cognitive Model of Psychosomatic Pathogenesis and Its Integration with Modern Psychology and Psychotherapy

NEETINAKUMAR PATIL (Manipal Academy of Higher Education Manipal)

Abstract

In the Bhagavad Gita (Chapter 2, Verses 62–63), Lord Krishna gives teaching of an eight-step psychological mechanism for ruin: contemplation of sense objects (dhyāyato viṣayān puṁsaḥ) → attachment (saṅga) → desire (kāma) → anger (krodha) → delusion (sammoha) → memory bewilderment (smṛti-vibhrama) → loss of discriminative intellect (buddhi-nāśa) → ruin (praṇaśyati). In Arjuna's crisis, this chain explains acute psychosomatic collapse (somatic symptoms, paralysis) (Bhatia et al., 2013). The paper maps steps to draw psychotherapy correlations (CBT restructuring, mindfulness defusion, ACT flexibility, karma yoga activation) of this psychological mechanism, and proposes clinical applications for somatic symptom disorders, hypertension, and IBS via psychoeducation with vicious-cycle diagrams and Gita-informed interventions. This model not only aligns with Ayurvedic Adhi-Vyādhi (mind-originated disease from unresolved conflicts disrupting prāṇa), but also anticipates modern psychosomatic pathogenesis via perseverative cognition, chronic HPA-axis activation, inflammation

(IL-6/CRP), and allostatic load. Empirical parallels include rumination prolonging stress recovery (Zoccola & Dicker-son, 2012; Szabo et al., 2022; McEwen & Stellar, 1993; McEwen, 2017) and hostility predicting cardiovascular risk (Chida & Steptoe, 2009). Modern therapies like CBT, ACT, and MBCT intervene primarily at the earlier segments of this cascade. Yogic psychology, by contrast, emphasizes early interruption at the level of attention itself. One might argue that the preventive orientation of the Gita anticipates contemporary resilience frameworks. This work contributes to Bhagavad Gita applications in mental health/science, bridging IKS with contemporary science for culturally congruent wellness.

[487] Integrating Teachings of the Bhagavad Gita into Human Health and Wellbeing - A Biopsychosocial-Spiritual and Neurobiological Framework

Dr Pawan Gupta, Dr. Rajeev Gupta (International Organisation of Integrated Health Practitioners)

Abstract

The Bhagavad Gita represents a foundational text in Indian philosophy, offering a comprehensive framework for understanding human behaviour, consciousness, and wellbeing. Beyond its spiritual significance, the Gita provides structured guidance on emotional regulation, cognitive discipline, ethical conduct, and purpose-driven living. Contemporary scientific disciplines—including neuroscience, psychoneuroimmunology, behavioural medicine, and integrative health—demonstrate striking parallels with the principles articulated in the Gita. This article explores key shlokas and their mechanistic relevance to health and disease, proposing a biopsychosocial-spiritual model that integrates ancient wisdom with modern evidence. This integrative framework has implications for stress reduction, chronic disease management, mental health optimisation, and preventive healthcare strategies. Furthermore, this paper presents neurobiological, biochemical, and behavioural pathways through which Gita-based practices exert measurable physiological effects. The convergence of scriptural insights with scientific evidence highlights the potential of Gita-informed interventions as adjuncts in modern clinical practice. This approach may also contribute to global health systems by providing cost-effective, scalable, and culturally adaptable wellbeing strategies.

Special Session 5:

SS5:Bhagavad Gita and Cognitive Biomarker			
June 3, 2026 14:00-16:00 Venue: Hall C			
Session Chair: Dr. Tharun Kumar Reddy Bollu and Dr. Rohitash Chandra			
Time	**Speakers**	**Events**	
14:00-14:10	Dr. Tharun Kumar Reddy Bollu and Dr. Rohitash Chandra	**Opening Remarks**	
14:10-14:30	Prof. Rohitash Chandra	**Invited Talk:** AI, Philosophy, and Srimad Bhagavadgita	
14:30-15:50	**Authors**	**Contributory Paper Presentations**	**Paper ID**
	Mansi Tyagi, Dr. Tharun Kumar Reddy Bollu, Arihant Jain, Manju Rani	Neurophysiological Effects and Cognitive Biomarkers associated with Humming-based Yogic Practices: A Systematic Review	489
	Sushrut Badhe, Lekha Bhat, Surabhi Kandaswamy and Rohitash Chandra	Impact of a Structured Bhagavad Gita Pedagogy Intervention on Dispositional Mindfulness in Healthy Adults: A Controlled Study Using MAAS	SS5_1

	Anu, Lokeshwar, Diana Nadar, and L. Behera	Multimodal EEG and HRV Biomarkers of Voluntary Chakra Regulation: A Proof-of-Concept Case Study in an Expert Yogi Practitioner	SS5_2
	Mannat Gupta, Ayushman Kumar, Mansi Tyagi, Vivek Singh, and Dr. Tharun Kumar Reddy Bollu	Svara Vaidya: An Automated Sanskrit Mantra Chant Evaluation System as a Precision Tool for Japa Yajña and Cognitive Biomarker Research	SS5_3
	Shivansh Singh, Dr. Tharun Kumar Reddy Bollu	NavrasaNet: Emotional State Recognition via the Navarasa Doctrine	SS5_4
	Pujayita Deb, Lokeswara Kumar Vijanapalli, Tharun Kumar Reddy Bollu, Laxmidhar Behera, and Ankush Mittal	Evaluation of Sympathetic and Parasympathetic Responses to Bhramari Pranayama Using Multi-Domain HRV Metrics	SS5_5
	Rishabh Yadav, Bhoomi Agarwal, Chirag,	Marma AR: Real-Time Visualisation of All 107 Marma Points Using MediaPipe Pose Estimation	SS5_6
	Aayushi Choudhary, Shubh Singhal, Arihant Jain, Mansi Tyagi, Dr. Tharun Kumar Reddy Bollu	GazeMonk: A Vision-Based Real-Time Meditation State and Gaze-Object Mapping System	SS5_7
	Aarna Bhosale, Dr. Racheal Sharma	Sthitaprajna and Executive Function: A Narrative Literature Review	SS5_8
	Dr. Racheal Sharma	Metacognition and Cognitive Biomarkers in Gita-Based NLP: A Pilot Study	SS5_9
	Riddhi Jain, Dr. Racheal Sharma	Thinking About Thinking in an Ancient Text: A Narrative Review of Metacognitive Processes in the Bhagavad Gita	SS5_10
	Hansikha Bora, Dr. Racheal Sharma	Wisdom Meets Cognition: A Narrative Literature Review of Decision-Making, Emotional Regulation, and Mindfulness in the Bhagavad Gita and Cognitive Science	SS5_11
	Malvika Prajapati, Dr. Racheal Nikita Sharma	A Comparative Analysis of Mindfulness-Based Cognitive Therapy and Bhagavad Gita-Based Psychological Practices in Mental Health Outcomes	SS5_12
	Ashlesha Khandelwal, Dr. Tharun Kumar Reddy Bollu	Ritucharya Lifestyle Coach: A Web/App for Seasonal Wellness Recommendations based on Ayurveda	SS5_13
15:50-16:00		**Closing remarks** by the session chairs	

Theme of the session:

Srimad Bhagavad Gita has been referred across ages for being timeless literature. It describes the conversation between Lord Krishna Arjuna in the middle of the battlefield. The authenticity of Shrimad Bhagavad Gita has been acknowledged by saints like Shankaracharya, Ramanujacharya, Sri Chaitanya Mahaprabhu, to name a few. The valuable insights, vastness of Shrimad Bhagavad Gita has been acknowledged by the depth of scientific insights

offered by several modern thinkers and scientists like Albert Einstein, Sir Oppenheimer, to name a few. Shrimad Bhagavad Gita prescribes Japa Yajna (nama Sankirtana), activities of devotional service as the cognitive remedies for uplifting consciousness of society. Through this session, we envision the impact of devotional activities prescribed in Srimad Bhagavad Gita on the collective and individual consciousness & also debate and discusses on the philosophical and cognitive aspects of Shrimad Bhagavad Gita (niskama seva, study of elements of Samkhya and other scientific and qualitative, quantitative aspects). We attempt to measure the qualitative and quantitative aspects through appropriate scientific questionnaires, task batteries, and technologies like EEG, ECG, HRV, etc.

[489] Neurophysiological Effects and Cognitive Biomarkers associated with Humming-based Yogic Practices: A Systematic Review

Mansi Tyagi, Dr. Tharun Kumar Reddy Bollu, Arihant Jain, Manju Rani (IIT Roorkee)

Abstract

Humming-based yogic practices, particularly Bhramari pranayama and associated vibratory chanting techniques are receiving increased attention for their possible impact on brain function and psychological well-being. Rhythmic breathing mixed with humming vibrations is hypothesized to regulate brain oscillations, promote autonomic balance, and aid cognitive-emotional activities like attention, memory and emotional regulation. Existing research suggests neurophysiological and cognitive effects; nevertheless, the findings are methodologically diverse and dispersed, with minimal longitudinal data and a lack of standardization in intervention methods. Overall, current research suggests that humming-based yogic practices may help with adaptive brain functioning and stress resilience, emphasizing the need for more rigorous, multimodal studies to better understand underlying neural mechanisms and optimize clinical and therapeutic applications.

[SS5_1] Impact of a Structured Bhagavad Gita Pedagogy Intervention on Dispositional Mindfulness in Healthy Adults: A Controlled Study Using MAAS

Sushrut Badhe (Centre for Research, Midam Foundation, Pondicherry, India, and Centre for Hindu Studies, Pingla Institute, Sydney, Australia), Lekha Bhat (Department of Epidemiology and Public Health, Central University of Tamil Nadu, Thiruvarur, India) Surabhi Kandaswamy (School of Pharmacy and Biomedical Sciences, University of Lancashire, Preston, UK) and Rohitash Chandra (Centre for Hindu Studies, Pingla Institute, Sydney, Australia, and Transitional Artificial Intelligence Research Group, School of Mathematics and Statistics, UNSW Sydney, Sydney, Australia)

Abstract

The Bhagavad Gita is a classical Indian philosophical text with longstanding influence on ethical and psychological thought. Its emphasis on self-regulation, equanimity, and present-centered awareness conceptually aligns with contemporary constructs of mindfulness. However, quantitative empirical evaluations of structured Bhagavad Gita pedagogy on dispositional mindfulness remain limited. This controlled comparative study examined the psychometric impact of a structured ‘Rhythm of Krishna’ intervention on mindfulness in adults. Seventy-two adults who completed the specific pedagogical intervention were recruited, alongside a control group of seventy-two adults from different regions of India with no prior formal exposure to Bhagavad Gita study. Ethical approval was obtained, and written informed consent was secured from all participants. Mindfulness was assessed using the Mindful Attention Awareness Scale (MAAS). Comparative analysis demonstrated a statistically significant difference in MAAS scores between the intervention and control groups ($p < 0.0001$), with higher dispositional mindfulness and reduced score variance observed among workshop participants. These findings suggest that structured Bhagavad Gita–based pedagogy may be associated with enhanced mindful attention and awareness in adults.

[SS5_2] Multimodal EEG and HRV Biomarkers of Voluntary Chakra Regulation: A Proof-of-Concept Case Study in an Expert Yogi Practitioner

Anu (IIT Mandi), Lokeshwar (IIT Mandi), Diana Nadar (IIT Kanpur), and L. Behera (IIT Mandi)

Abstract

Chakras, described in yogic tradition as seven discrete energy centres along the spinal axis, are hypothesised to correspond to distinct physiological states. Despite centuries of practitioner accounts and growing contemplative-neuroscience literature, no study has simultaneously characterised neurophysiological and autonomic correlates of all seven chakra states in a controlled experimental paradigm. We present the first simultaneous electroencephalography (EEG) and heart-rate-variability (HRV) investigation of voluntary chakra regulation in an expert yogi practitioner. Employing an 8-channel EEG system (Fp1, Fp2, Fz, C3, C4, Pz, O1, O2) and photoplethysmographic HRV (HeartMath emWave), we recorded 16 within-subject conditions: a resting baseline, a voluntary zero-energy state, and seven paired unbalanced–balanced chakra states (Chakras 1–7). EEG frequency-band power, asymmetry indices, phase-locking values (PLV), band ratios, and complexity metrics were computed alongside HRV time-domain (RMSSD, SDNN), frequency-domain (LF, HF, LF/HF), Poincaré (SD1, SD2), and HeartMath coherence metrics. Results reveal distinct multimodal neurophysiological profiles for each chakra state. The strongest EEG finding was left-lateralized occipital delta asymmetry for the Third Eye chakra (Ajñ ̄a; Cohen's ¯|d| = 35.2); HRV cardiac coherence increased by 354% for the same condition. The Heart chakra (An ̄ahata) was the only condition where both EEG and HRV increased simultaneously when balanced, with left-lateralized frontal gamma asymmetry (|d| = 34.1) replicating Lutz et al. (2004). We propose a two-axis framework in which balanced chakra states vary along (i) an EEG alpha-direction axis (alpha-rise vs. alpha-drop) and (ii) an HRV sympathovagal axis (parasympathetic shift, sympathetic shift, or coherence-driven entrainment). EEG and HRV showed strong directional agreement in 4 of 7 chakras (Root, Heart, Third Eye, Crown) with three chakras (Sacral, Solar Plexus, Throat) exhibiting more nuanced multi-modal patterns that are themselves scientifically informative.

[SS5_3] Svara Vaidya: An Automated Sanskrit Mantra Chant Evaluation System as a Precision Tool for Japa Yajña and Cognitive Biomarker Research

Mannat Gupta, Ayushman Kumar, Mansi Tyagi, Vivek Singh, and Dr. Tharun Kumar Reddy Bollu

Abstract

Bhagavad Gītā 10.25 declares "yajñānām japa-yajño 'smi" ("among sacrifices, I am the japa-yajña"), and Gītā 17.15 prescribes accurate Vedic recitation as vāṅ-maya tapas. A growing body of work positions chant-based interventions and nāma-saṅkīrtana as cognitive remedies whose effects on neurophysiological and autonomic biomarkers—EEG, HRV, ECG, and salivary cortisol—are increasingly being quantified. A largely unverified assumption in these biomarker studies, however, is the acoustic fidelity of the chant stimulus itself: a misplaced udātta or a flattened svarita alters semantic meaning and degrades the very stimulus whose neurophysiological effect is being measured. We present Svara Vaidya, an automated chant-evaluation system that scores user recordings against expert references along four linguistically motivated dimensions: pronunciation (ucchāraṇa), pitch accent (svara), rhythm (laya), and voice quality (nāda). The pronunciation pipeline couples OpenAI Whisper with a Sanskrit-aware syllable splitter and sandhi normalization, while Vedavāṇī-informed phonetic tolerance grouping yields a weighted composite emphasizing syllabic correctness (Stext = 0.20 Schar + 0.30 Sword + 0.50 Ssyllable). Rhythm is scored via Dynamic Time Warping on onset-strength envelopes, and voice quality is modeled with normalized MFCC and delta-MFCC features. The principal methodological contribution is a five-component pitch-accent score capturing contour alignment, zonal positioning, slope, accent placement, and intra-syllabic shape, grounded in the phonetic descriptions of Beguš and accent-placement models. The four dimension scores are fused into a single Resonance Score (0.40 Stext + 0.25 Svoice + 0.20 Spitch + 0.15 Srhythm) and mapped to a four-tier classical grading scale. The pipeline was validated on a cohort of 30 novice-to-intermediate practitioners against two high-fidelity expert reference

recordings. Svara Vaidya thus furnishes an acoustic quality-control layer for chant-based experiments, enabling reproducible mapping between chant fidelity and neural correlates such as cortical entrainment, sustained attention, and autonomic regulation.

[SS5_4] NavrasaNet: Emotional State Recognition via the Navarasa Doctrine

Shivansh Singh, Dr. Tharun Kumar Reddy Bollu (IIT Roorkee)

Abstract

Prevailing emotion recognition systems operate within the categorical boundaries inherited from Western psychological models, often remaining unable to account for experiential states central to Indian aesthetic traditions. This paper introduces NavrasaNet, a deep learning system designed for real-time recognition of emotional states organized according to the Navarasa theory of Bharata Muni's Nāṭya Śāstra. Built upon the Navarasa Facial Expression Corpus (NFEC), a purpose-built dataset developed in collaboration with classically trained Indian dance practitioners, the system ensures both cultural and technical credibility. A critical portion of the dataset's foundational ground truth was provided by ICCR-empanelled artist Smt. Anita Babu, bringing immense expressive authenticity to the corpus. To capture subtle facial geometries while avoiding overfitting, we employ an EfficientNet-B2 architecture utilizing a two-phase fine-tuning strategy with differential learning rates, augmented by label smoothing and dropout. Evaluating the model under a Leave-One-Subject-Out (LOSO) cross-validation scheme to ensure generalization to unseen performers, NavrasaNet achieves a peak validation accuracy of 93.43% and a robust test accuracy of 87.32% (with a macro-averaged F1 score of 87%). Furthermore, the framework demonstrates practical utility through a Vedic Raga Recommender application.

[SS5_5] Evaluation of Sympathetic and Parasympathetic Responses to Bhramari Pranayama Using Multi-Domain HRV Metrics

Pujayita Deb, Lokeswara Kumar Vijanapalli, Tharun Kumar Reddy Bollu, Laxmidhar Behera, and Ankush Mittal

Abstract

"Bhramari Pranayama, a controlled yogic humming breath technique, is known to modulate autonomic regulation. This study evaluates the acute effects of Bhramari Pranayama on sympathetic and parasympathetic responses by analyzing heart rate variability (HRV) across three consecutive phases of the practice: pre-intervention (PRE), during intervention (DUR), and post-intervention (POST). Electrocardiogram (ECG) data were collected from male participants and analyzed using time-domain indices, including the root mean square of successive differences (RMSSD) and the standard deviation of Poincaré plot descriptors (SD1). In addition, frequency-domain indices such as normalized high-frequency power (HFnu) and the low-frequency to high-frequency (LF/HF) ratio were assessed, along with composite autonomic measures including the SNS Index, Stress Index, and Total Power. These measures were extracted for each of the three segments, and statistical significance was evaluated using the non-parametric Wilcoxon Signed-Rank Test for all pairwise phase comparisons (PRE vs. DUR, PRE vs. POST, and DUR vs. POST), with the significance threshold set at $\alpha = 0.05$. The findings indicate that a brief 5-minute session of Bhramari Pranayama functions as an immediate stress-relief intervention by lowering centralized tension and amplifying global autonomic variability during active practice. However, this calming influence appears to be transient. Following cessation of the practice, the nervous system undergoes an acute physiological reset through an adaptive sympathetic rebound rather than maintaining sustained parasympathetic dominance. These observations highlight the role of Bhramari Pranayama as a rapid, state-dependent neuro-respiratory mechanism for acute stress modulation and establish multi-domain HRV metrics as robust, non-invasive biomarkers for tracking immediate yoga-induced autonomic transitions.

[SS5_6] Marma AR: Real-Time Visualisation of All 107 Marma Points Using MediaPipe Pose Estimation

Rishabh Yadav, Bhoomi Agarwal, Chirag

Abstract

This paper presents IKO (Marma AR), a browser-based application for real-time visualization of 107 Ayurvedic Marma points using augmented reality. Traditional learning methods rely on static diagrams that fail to adapt to individual body proportions. To address this, the proposed system uses MediaPipe Pose estimation to detect human body landmarks and dynamically overlay Marma points on a live camera feed. The system introduces an adaptive scaling approach based on the traditional Angula measurement system, allowing accurate placement across different users and distances. It operates entirely on device without requiring server support and functions offline as a Progressive Web Application. Additional features such as smoothing and occlusion handling improve stability and visualization clarity. Experimental testing across multiple devices and conditions demonstrates consistent and reliable real-time performance. The proposed system provides an accessible and interactive tool for learning and applying Ayurvedic anatomical knowledge, with potential applications in education and healthcare.

[SS5_7] GazeMonk: A Vision-Based Real-Time Meditation State and Gaze-Object Mapping System

Aayushi Choudhary, Shubh Singhal, Arihant Jain, Mansi Tyagi, Dr. Tharun Kumar Reddy Bollu

Abstract

Monitoring and quantifying meditative focus objectively remains a challenge due to the reliance on subjective self-reporting and costly EEG-based systems. This paper presents GazeMonk, a dual-component, non-invasive vision-based system for real-time meditation analysis and gaze-object mapping. The first component uses a standard webcam with MediaPipe facial landmark detection to extract Eye Aspect Ratio (EAR) for blink rate estimation and iris position variance for gaze stillness measurement. These signals are fused into a weighted composite focus score mapped to five progressive states of consciousness derived from the Chitta Bhumis of Patanjali's Yoga Sutras: Vikshipta, Kshipta, Mudha, Ekagra, and Nirodha, with live visual feedback rendered through a dynamic HUD and an evolving sacred geometry mandala. The second component extends the system with a real-time eye tracker that maps gaze direction onto a first-person scene captured by a forehead-mounted camera, enabling identification of the physical object the user is looking at. Live demonstrations using Trataka-based validation confirm the system's responsiveness, accurate state transitions, and precise gaze-object mapping across varied scene conditions. The proposed approach offers an accessible and cost-effective alternative to EEG-based attention monitoring, with potential applications in meditation training, cognitive wellness, gaze interaction, and human-computer interaction research.

[SS5_8] Sthitaprajna and Executive Function: A Narrative Literature Review

Aarna Bhosale, Dr. Racheal Sharma

Abstract

The Bhagavad Gita describes Sthitaprajna in Chapter 2 as a person of steady wisdom who remains emotionally calm, resists impulsive reactions, and maintains focused attention even under pressure. This quality looks remarkably similar to what modern cognitive neuroscience calls executive function. However, no study has yet directly tested whether people who regularly engage with Bhagavad Gita philosophy actually perform better on executive function measures. This narrative literature review is currently in progress and brings together 22 peer-reviewed sources from Vedantic philosophy, cognitive psychology, and contemplative neuroscience to build the theoretical case for such a

study. Research on executive function points to three core abilities: inhibitory control, cognitive flexibility, and working memory. Studies on contemplative practice consistently demonstrate that sustained attentional training changes prefrontal brain activity and improves attention regulation, which is consistent with the kind of mental discipline the Gita prescribes through Dhyana. Work on the default mode network further suggests that the Gita principle of Vairagya, or non-attachment, may reduce the ruminative thinking that is linked to poor psychological wellbeing. Interdisciplinary scholarship supports treating Sthitaprajna as a concept that can be studied scientifically rather than one that belongs only to spiritual discourse. Based on this review of the literature, it is hypothesised that Bhagavad Gita practitioners will show stronger inhibitory control on tasks like the Stroop and Go/NoGo tests, lower cortisol levels under stress, and EEG patterns associated with stable attention compared to non-practitioners. Empirical data collection has not yet begun. When completed, this study aims to contribute to the growing conversation between classical Indian psychological thought and clinical cognitive neuroscience.

[SS5_9] Metacognition and Cognitive Biomarkers in Gita-Based NLP: A Pilot Study

Dr. Racheal Sharma

Abstract

This pilot study examines whether a brief, Gita-informed Neuro-Linguistic Programming (NLP) intervention can enhance metacognitive awareness and behavioural indices of cognitive control in an experiential learning context. Conceptually, selected teachings from the Bhagavad Gita—notably Sakshi Bhava (observer stance) and Samatvam (equanimity)—are operationalized through techniques drawn from Neuro-Linguistic Programming, including cognitive reframing, guided self-talk, and state anchoring. A single-group pre–post design was implemented with 13 undergraduate participants during a structured visit to the National Institute of Naturopathy. The intervention combined short yoga sessions, exposure to naturopathic practices, and facilitated reflections aligning Gita-based constructs with NLP strategies. Metacognition was assessed using the Metacognitive Awareness Inventory (MAI), and cognitive control was indexed via the Stroop Test (reaction time, error rate, and interference score). Pre–post comparisons (paired analyses) indicated directional improvements: higher MAI total scores and reduced Stroop interference, consistent with enhanced monitoring/regulation of cognition and improved attentional control. Brief qualitative responses converged on themes of increased self-observation, emotional balance, and task focus. Given the small sample, absence of a control condition, and short exposure window, findings are preliminary and not intended for causal inference. Nonetheless, the results motivate a testable framework in which Gita-derived cognitive schemas, instantiated through NLP techniques, may modulate metacognitive processes and executive control. The study contributes an integrative methodology for linking indigenous philosophical constructs with contemporary cognitive assessment and outlines parameters for a larger randomized evaluation.

[SS5_10] Thinking About Thinking in an Ancient Text: A Narrative Review of Metacognitive Processes in the Bhagavad Gita

Riddhi Jain, Dr. Racheal Sharma

Abstract

Metacognition is characterised as "thinking about thinking" or the capacity to observe and control one's cognitive functions. It plays a pivotal role in contemporary clinical interventions, such as Metacognitive Therapy (MCT) by Wells, as well as Mindfulness-Based Cognitive Therapy (MBCT). Western psychological paradigms have been working on this notion for several decades, based on the conceptual framework provided by the S-REF model. At the same time, the Bhagavad Gita provides an equally advanced and applicable cultural paradigm on the metacognitive process. This narrative review will cover 24 sources in order to analyse their connection to metacognitive theory. The goal of this review is to emphasize five major parallels between traditional Indian philosophy as articulated in the Bhagavad Gita and contemporary metacognitive theory. First, saksi bhava is understood as detached mindfulness and

is used for decentering and flexible attention. Second, Arjuna's initial anxiety serves as an illustration of Cognitive Attentional Syndrome (CAS) that consists of ruminative and catastrophical thoughts related to one's sense of self. Third, niskama karma can be perceived as a metacognitive-behavioural strategy that dissociates one's value from the outcome of one's actions. Fourth, the triguna construct (Sattva, Rajas, and Tamas) can be utilised as a taxonomy of cognition and regulation modes, with recent studies providing empirical support through eye-tracking and implicit association tests, which demonstrate a connection between trigunas and particular emotion regulation methods. Finally, sthitaprajna is identified as the corresponding term to the "metacognitive mode" as the ideal result of proper self-regulation. According to research based on a randomised controlled trial among healthcare workers as well as cross-sectional analysis carried out at NIMHANS, it is possible to claim that these age-old concepts can have clinical validity and link to psychiatric outcomes. In conclusion, it should be noted that the Bhagavad Gita proposes an adequate indigenous metacognitive model.

[SS5_11] Wisdom Meets Cognition: A Narrative Literature Review of Decision-Making, Emotional Regulation, and Mindfulness in the Bhagavad Gita and Cognitive Science

Hansikha Bora, Dr. Racheal Sharma

Abstract

The Bhagavad Gita, one of the foundational texts of Indian philosophy, presents a sophisticated framework for human cognition, emotion, and action that resonates with contemporary cognitive science. This narrative literature review examines three intersecting themes: decision-making, emotional regulation, and attention and mindfulness, drawing parallels between the Gita's teachings and modern psychological and cognitive theories. First, the review explores how Arjuna's existential paralysis on the battlefield of Kurukshetra mirrors contemporary models of decision-making under uncertainty, moral conflict, and cognitive dissonance, situating Krishna's counsel within frameworks such as dual-process theory and bounded rationality. Second, it investigates how Krishna's teachings on equanimity, detachment from outcomes, and the transcendence of ego align with established cognitive-behavioural and affective science approaches to emotional regulation, including reappraisal, acceptance-based strategies, and self-regulatory control. Third, the review examines the Gita's prescriptions for sustained concentration and meditative absorption (dhyana) in light of modern attention research, mindfulness-based interventions, and contemplative neuroscience. By synthesising classical Vedic insights with evidence from cognitive psychology, neuroscience, and philosophy of mind, this review argues that the Bhagavad Gita anticipates and enriches several key constructs in cognitive science. The findings highlight the value of cross-cultural, interdisciplinary dialogue between ancient wisdom traditions and empirical science, offering integrative perspectives for researchers and practitioners in psychology, cognitive science, and applied mental health.

[SS5_12] A Comparative Analysis of Mindfulness-Based Cognitive Therapy and Bhagavad Gita-Based Psychological Practices in Mental Health Outcomes

Malvika Prajapati, Dr. Racheal Nikita Sharma

Abstract

Western psychological interventions such as Mindfulness-Based Cognitive Therapy (MBCT) and Metacognitive Therapy (MCT) have demonstrated robust empirical support for reducing depressive relapse and anxiety, yet their secular, individualist frameworks may limit cultural applicability in non-Western populations. The Bhagavad Gita, long recognised as a foundational text of Indian philosophical thought, contains psychological constructs that structurally parallel key mechanisms in contemporary cognitive therapies, including detached observation of thought, regulation of ruminative processing, and values-aligned action. Despite growing scholarly interest in both traditions, no structured comparative study has evaluated these paradigms side by side on clinical outcomes, mechanisms of

change, and cultural fit, particularly within Indian clinical settings. This paper presents a theoretical and empirical comparative analysis of MBCT/MCT and Gita-based psychological practices, mapping constructs such as Sakshi Bhava onto detached mindfulness, Vishada Yoga onto the Cognitive Attentional Syndrome, Nishkama Karma onto values-based behavioural activation, Triguna onto emotional regulation modes, and Sthitaprajna onto the metacognitive goal state. Drawing on existing randomised controlled trials, systematic reviews, and indigenous psychology literature, the analysis identifies convergences and divergences across both systems and proposes an integrated hybrid model Mindful Gita Therapy for culturally responsive clinical application. Implications for research methodology, practitioner training, and mental health policy in India are discussed.

[SS5_13] Ritucharya Lifestyle Coach: A Web/App for Seasonal Wellness Recommendations based on Ayurveda

Ashlesha Khandelwal, Dr. Tharun Kumar Reddy Bollu

Abstract

Background and Objective: In Ayurvedic medicine, Ritucharya (seasonal regimen) and Prakriti (individual constitution) are foundational for maintaining health and preventing disease. However, traditional guidelines often lack real-time personalization based on an individual's immediate environment. This project aims to bridge this gap by developing a web application that provides dynamic, personalized lifestyle and dietary recommendations by integrating individual health metrics, Ayurvedic assessments, real-time weather data and Ayurvedic Studies. Research gap and motivation: A critical analysis of the current digital health landscape reveals that a comprehensive application integrating individual Prakriti, real-time geolocation-based environmental data, and Ayurvedic Datasets does not currently exist. While there are several players in the Ayurvedic tech space, they lack the dynamic, multi-factor integration proposed in this project: 1. AyuRythm: Utilizes smartphone cameras for pulse diagnosis and general wellness scoring but remains environmentally static, failing to adjust for real-time weather changes. 2. AyurVerse: Provides AI-driven Prakriti assessments and food suggestions that do not adapt to the user's current local humidity, temperature, or seasonal shifts. 3. CureNatural: Offers daily routines based on fixed circadian rhythms rather than live environmental data fetched via geolocation. 4. Ayur GPT (IRGPT): Operates as a research prototype for general consultation but lacks the specific data intersection of BMI and location-based Ritucharya. Unlike these static tools, our project introduces a "Context-Aware Ayurvedic Engine. Ritucharya uniquely converges three data points—Personal Biometrics (BMI), Biological Type (Prakriti via 24-question assessment + random forest machine learning model), and Live Environment (real-time weather)—to eliminate the gap between static Ayurvedic theory and individual physical reality. System maps current season to Ayurvedic calendar; looks up dosha-season combination in JSON database → returns personalized diet, lifestyle, and avoidance recommendations. This "Triple-Point" logic—converging Personal Biometrics, Biological Type, and Live Environment—provides a unique, with prakriti logic that is currently unavailable in the global market. Methodology: The proposed system follows a multi-stage data processing pipeline: 1. User Profiling: Users undergo an initial screening where health metrics such as Body Mass Index (BMI) are calculated. 2. Prakriti Determination: User completes 24-question Ayurvedic assessment covering symptoms, preferences, and constitution indicators. Random Forest ML model (95.50% accuracy) analyses responses and classifies user into one of 7 dosha types: Vata, Pitta, Kapha, Vata-Pitta, Pitta-Kapha, Kapha-Vata or tri dosha. 3. Finding Weather: System retrieves user's location and fetches real-time weather data via API (temperature, humidity, wind, precipitation). 4. Collecting JSON Dataset: Our recommendation database comprises seven JSON files (vata.json, pitta.json, kapha.json, vp.json etc) containing ritucharya recommendation extracted and compiled from Ayurvedic research papers. Each file holds six seasonal entries (Hemanta, Shishira, Vasanta, Grishma, Varsha, Sharad) with diet, lifestyle, and avoidance recommendations. 5. Recommendation Generation: The system maps the current season to one of six Ayurvedic seasons. Prakriti is determined by ML Model. Recommendations are retrieved via O (1) hash table lookup of the prakriti data (out of 7 data), followed by O (6) linear search through six seasonal entries—achieving constant-time performance in microseconds. Results and outcome: Prakriti Assessment: The system classifies users into one of seven dosha types with a confidence score showing probability distribution. The Random Forest ML model achieving 95.50% accuracy on the 200-sample validated dataset ensures reliable dosha classification with 72 encoded features derived from 24

assessment questions. Seasonal Recommendations: For each dosha-season combination, users receive tailored diet suggestions, lifestyle practices, and an avoidance list—all grounded in Ayurvedic principles. The system returns 3-5 items per category with clear reasoning explaining how each recommendation balances the user's specific dosha imbalances according to Samanya-Vishesha Siddhanta. Recommendations are delivered in ~4-5 microseconds (O(1) constant time) with 100% coverage across 24 unique dosha-season combinations. Conclusion: This work demonstrates that ancient Ayurvedic wisdom combined with machine learning and real-time environmental adaptation creates the first globally available system delivering personalized, evidence-based preventive health guidance with good precision and scalability.

Regular Session 1:

RS1: Cognitive Neuroscience_8 + Brain Computer Interface and Application_1 Time: 14:00-16:00, CnP 1 (Hall D) Session Chair: Dr. Arpan Banerjee		
Paper ID	**Title**	**Authors**
69	A Digital Cognitive–Motor Agility Assessment System for Objective and Longitudinal Evaluation of Sensorimotor Performance	Manasi Kale and Abhishek Dhawan
132	A Multivariate Variational Mode Decomposition-Based Framework for Diagnosis of Alzheimer's Disease	Shivani Chaudhary, Abhijit Bhattacharyya
153	Persistent Entropy Reveals Neural Complexity Differences Between Expert and Novice Meditators	Ajay Gulbhele, Jyotiranjan Beuria, Venkatesh Chembrolu
168	Predicting Attentional Lapses During Meditation: Ultra-Short-Term Autonomic Markers for Real-Time Biofeedback	Manish Sharma, Pushkar Srivastava, Shivom Gupta, Parveen Kumar, Jyotiranjan Beuria
237	Neural Correlates of Savoring: EEG Insights into Autobiographical Memory and Cognitive Performance	Naman Dhiman, Moksha Sharma, and Pooja Swami Sahin
294	Comparison of Resting State EEG Functional Connectivity Measures in Alzheimer’s Disease, Frontotemporal Dementia and Cognitively Normal Individuals	Sujay Arjunan,Shravan Kumar Subbaraman, Kavitha A
301	EEG based phase-phase coupling and phase- amplitude coupling in prodromal AD	Surya Das and Subha D P
315	Hemispheric Correlation Analysis of Motor Imagery in Stroke Patients	Kavitha A, Divya B, Harishini H, Madhumitha B
274	Neural Assessment of Sensorimotor Cognition in Grip and Multitasking Using EEG	Dr.Saranya S, Pravin Kumar

[69] A Digital Cognitive–Motor Agility Assessment System for Objective and Longitudinal Evaluation of Sensorimotor Performance

Manasi Kale and Abhishek Dhawan (ADT Baramati, School of Pharmacy and Research centre)

Abstract

Agility is defined as a cognitive-motor construct and is the result of a process, which involves interaction between perception processing, decision-making, and coordinated movement execution. Even though the construct is relevant to sports performance, neurological rehabilitation, and neurodevelopmental assessment, the available ways to assess agility are limited by their dependence on the observer, inaccurate outcome measures, and the lack of applicability in longitudinal measurements. This paper presents a patented digital, microcontroller-based agility assessment system which is patented and designed to objectively measure cognitive-motor agility. The system consists of a central control unit and ten spatially deployable response nodes illuminating in programmed or user programmable patterns or levels of task complexity. Cognitive demands may be added by the use of multi-color visual stimulus that requires selective response to target stimulus and inhibition of non-target stimulus. This design involves attentional control and decision making besides motor performance compared to the other which gives a more holistic measurement of agility. The system uses time accuracy over milliseconds to measure reaction time, inter-node response time, overall task completion time and accuracy of response. This granularity provides strong measurement of fast motor and cognitive responses. A dedicated software plat-form, provides the means of storing longitudinal data, the visualization of performance patterns, and the design of tasks. The proposed system based on sensorimotor integration, motor learning, and neural efficiency theories, is a translational evaluation instrument that applies to the population of athletes, neurological, and neurodevelopmental. The paper focuses on system design and theoretical grounding, with preliminary pilot data included to demonstrate feasibility and in-form future empirical validation.

[132] A Multivariate Variational Mode Decomposition-Based Framework for Diagnosis of Alzheimer's Disease

Shivani Chaudhary, Abhijit Bhattacharyya (National Institute of Technology Hamirpur)

Abstract

This study proposes a method that makes use of multivariate variational mode decomposition (MVMD) for the diagnosis of Alzheimer's disease (AD) and frontotemporal dementia (FTD). In this study, 19-channel resting-state electroencephalography (EEG) data of 88 subjects are analysed. Each segmented signal is processed through an MVMD-based decomposition step to obtain six intrinsic mode functions (IMFs) to capture multichannel dynamics in the signals. A feature matrix is generated from the IMFs that includes time-domain statistics, Hjorth parameters, band powers, spectral entropy and log-energy entropy, and non-linear complexity metrics such as sample entropy and permutation entropy. Furthermore, the Hilbert Transform is used to derive Instantaneous Amplitude (IA) and Frequency (IF) functions-based features from the IMFs. To select the most discriminative features, minimum redundancy maximum relevance (MRMR) was applied. We selected the top 250, 500, 750 and 1000 features. Results obtained experimentally demonstrate that the MRMR-optimised cubic SVM achieved a peak validation accuracy of 97.44% surpassing the accuracy of 96.63%. These results validate the synergy of multivariate decomposition-based feature analysis as a high-accuracy methodology for automated neurodegenerative diagnosis.

[153] Persistent Entropy Reveals Neural Complexity Differences Between Expert and Novice Meditators

Ajay Gulbhele (IKSMHA Centre, Indian Institute of Technology Mandi, Mandi), Jyotiranjan Beuria (IKS Research Centre for Philosophical and Cognitive Sciences, Institute for Science and Spirituality, Delhi), Venkatesh Chembrolu (IKSMHA Centre, Indian Institute of Technology Mandi, Mandi)

Abstract

This study investigates the neural dynamics of meditation by analyzing EEG signals from novice and expert practitioners from the Himalayan Yoga Tradition. Using persistent entropy—a topological data analysis (TDA)-based metric—we quantify the complexity of the neural activity, particularly in the frontal brain region associated with attentional control and executive function. Persistent entropy captures how patterns in EEG signals emerge, evolve, and dissipate over time, offering a dynamic measure of the structural richness of brain activity. Our findings indicate that expert meditators exhibit significantly higher persistent entropy across frontal and parietal

regions compared to novices during both meditation and mind-wandering states. This suggests that long-term meditative practice enhances the brain's capacity for adaptive, flexible organization, enabling sustained attention with reduced effort. The increased entropy reflects a neural system that is both organized and capable of dynamically responding to internal and external fluctuations—key for maintaining deep, focused meditative states. By moving beyond traditional power-based EEG measures, persistent entropy reveals multiscale patterns that align with the core principles of Indian Knowledge Systems (IKS), which emphasize balance, regulation, and mental clarity as outcomes of meditative discipline. This approach provides a novel quantitative perspective on how meditative training reshapes brain function in measurable ways. In conclusion, persistent entropy serves as a powerful neural marker of meditation expertise. It offers new insights into the complexity of meditative states and supports the integration of IKSinformed frameworks with contemporary neuroscience for understanding attention, awareness, and mental training.

[168] Predicting Attentional Lapses During Meditation: Ultra-Short-Term Autonomic Markers for Real-Time Biofeedback

Manish Sharma (Institute for Science and Spirituality, Delhi), Pushkar Srivastava (Institute for Science and Spirituality, Delhi), Shivom Gupta (Institute for Science and Spirituality, Delhi), Parveen Kumar (IKSMHA, IIT Mandi, Himachal Pradesh, India), Jyotiranjan Beuria (Institute for Science and Spirituality, Delhi)

Abstract

Mind wandering undermines sustained attention during meditation, yet its early detection remains challenging. This study investigated whether ultra-short-term heart rate variability (HRV), a peripheral measure of autonomic function accessible via wearable sensors, can signal attentional disengagement before conscious awareness. Eighteen novice meditators completed a 2-minute resting baseline followed by 20 minutes of breath-focused meditation. Using a self-caught paradigm, participants pressed a button upon realizing their mind had wandered. Only meditation segments with a minimum uninterrupted duration of 90 seconds prior to the self-reported event were included. We extracted the 60-second cardiac epoch immediately preceding each report (48 epochs total) and, after averaging multiple epochs per participant, compared each participant's mean mind-wandering HRV to their resting baseline using paired t-tests with false discovery rate correction. Results revealed a robust autonomic signature preceding mind wandering. Nonlinear complexity measures showed significant reductions in multiscale entropy (MSEn) and refined composite multiscale entropy (RCMSEn) (both $q < 0.05$, large effect sizes), accompanied by an increase in the peak of multifractal detrended fluctuation analysis (MFDFA_alpha1_Peak). These changes indicate a collapse in cardiac complexity and altered fractal scaling prior to conscious awareness of attentional drift. These findings align with the neurovisceral integration model, suggesting that attentional lapses reflect a breakdown in flexible brain-body regulation. Because this autonomic signature precedes meta-awareness and is detectable within 60-second windows using wearable sensors, it provides a practical target for real-time biofeedback. Such systems could help practitioners sustain focus during meditation and support the development of scalable cognitive training interventions.

[237] Neural Correlates of Savoring: EEG Insights into Autobiographical Memory and Cognitive Performance

Naman Dhiman, Moksha Sharma, and Pooja Swami Sahin (Mind Lab, IIT Delhi)

Abstract

Savoring of positive autobiographical memories has been identified as an emotion regulation strategy (Bryant & Veroff, 2007; Bryant, 2021), with electroencephalography (EEG) providing a window into its neural dynamics. This study examines how savoring influences emotional well-being and cognitive performance in young adults (N=15), identifying its neural signatures across anticipatory, in-the-moment, and reminiscent temporal orientations. Participants underwent semi-structured interviews two days before EEG recording to select personalized positive memories, rated for emotional vividness, recall habits, and sensory, temporal, and social cues. Personal photographs associated with the memory served as visual cues during 30-second savoring imagery trials, contrasted with unrelated neutral images. An emotional Go/No-Go task, administered before and after each trial, measured

immediate impacts on inhibitory control. EEG captured oscillatory changes (frontal theta enhancement, parietal alpha suppression). This multimodal approach tested the hypothesis that savoring upregulates positive affect, scaffolding executive control via prefrontal dynamics. Time-frequency analysis revealed significant oscillatory modulation during savoring versus neutral conditions, with power increases in theta (4–7 Hz), alpha (8–13 Hz), beta (13–30 Hz), and gamma (30–40 Hz) bands across frontal, parietal, and central regions. These patterns indicate heightened internalized attention, relaxation, and cognitive engagement. Go/No-Go performance improved post-savoring, reflecting better inhibitory control. These findings position savoring as a neural marker of positive emotion regulation, highlighting memory-based mechanisms for sustained well-being within positive psychology.

[294] Comparison of Resting State EEG Functional Connectivity Measures in Alzheimer's Disease, Frontotemporal Dementia and Cognitively Normal Individuals

Sujay Arjunan,Shravan Kumar Subbaraman, Kavitha A (Sri Sivasubramaniya Nadar College of Engineering)

Abstract

Dementia represents a growing health concern, with the increase in the incidences being reported. Alzheimer's Disease (AD) still remains the most common neuro-degenerative disorder, followed by Frontotemporal Dementia (FTD), which makes up much of the early-onset dementia cases. Although clinical relevance of these dementia subtypes is clearly established, distinguishing them during their early progression still remains a challenge due to overlapping cognitive impairments and limitations of the existing diagnostic modalities. Electroencephalography (EEG) has emerged as an efficient means of diagnosis due to its ability to detect subtle neural changes that precede cognitive deterioration. This study investigates resting state eyes closed EEG recordings of 88 participants, which includes data from three different groups, namely, AD, FTD and Cognitively Nor-mal (CN) controls to identify connectivity-based biomarkers that differentiates these groups. Coherence based metrics and relative band power corresponding to the delta, theta, alpha and beta bands were extracted from the 19-channel EEG. The one-way ANOVA performed on the data revealed statistically significant group differences in five key features: relative theta power, posterior alpha coherence, posterior theta coherence, and long-distance alpha and theta coherence. The results reflect characteristic spectral slowing and network-level disconnection in dementia, with posterior alpha coherence yielding the strongest effect size. Correlation analysis further showed strong interdependence between posterior and long-distance metrics, which indicates network degradation. Thus, this analysis supports the use of resting state EEG connectivity metrics as potential non-invasive biomarkers for differentiating the subtypes of dementia and normal aging.

[301] EEG based phase-phase coupling and phase- amplitude coupling in prodromal AD

Surya Das and Subha D P (Adi Shankara Institute of engineering and Technology)

Abstract

Prodromal Alzheimer's Disease (AD) represents an early phase in the progression of AD, characterized by mild declines in memory and cognitive capacity. Investigating phase-phase coupling (PPC) and phase-amplitude coupling (PAC) may provide insights into the complex neurodynamics associated with this condition. Electroencephalogram (EEG) data were recorded from 15 individuals with prodromal AD and 20 healthy aging participants using a 21-channel setup. Recordings were conducted for five minutes under resting-state, eyes-open conditions. EEG channels were grouped into anterior, central, and posterior regions for regional analysis. PAC was quantified using the Kullback–Leibler Modulation Index (KLMI), while PPC was estimated through minimum spanning tree (MST)based network analysis applied to the Weighted Phase Lag Index (WPLI) connectivity matrix. WPLI reflects the strength of PPC between EEG channels. PAC was analyzed between the alpha and gamma bands, whereas PPC was assessed within the alpha band. The results revealed a significant reduction in both PAC and PPC in EEG signals from individuals with prodromal AD. PAC reductions were evident across anterior,

central, and posterior regions compared to healthy controls. Additionally, significant alterations in MST parameters—leaf fraction, diameter, and eccentricity—were observed in the prodromal AD group. These findings suggest a decline in network integration and information transmission across brain regions during the prodromal stage of Alzheimer's Disease. The observed alterations in PAC and PPC can serve as early neurophysiological indicators, offering promise for timely recognition and diagnosis of prodromal Alzheimer's Disease.

[315] Hemispheric Correlation Analysis of Motor Imagery in Stroke Patients

Kavitha A, Divya B, Harishini H, Madhumitha B (Sri Sivasubramaniya Nadar College of Engineering)

Abstract

Stroke is a primary reason for permanent motor impairment as it causes hemiplegia through motor cortex destruction. Motor Imagery (MI) functions as a rehabilitation method that helps brain pathways to develop through mental practice of movements which people do not perform. The combination of Brain–Computer Interface (BCI) systems and electroencephalography (EEG) technology with Motor Imagery (MI) enables researchers to monitor brain activity and track patient progress in real time. This work investigates EEG functional connectivity patterns during motor imagery tasks performed by stroke patients. Correlation-based methods have been used to measure how intra hemispheric and inter-hemispheric connectivity patterns showed differences between affected brain regions and unaffected brain regions. The results indicate that patients experienced decreased connectivity within their affected hemisphere while developing alternative brain functions through increased activity in their opposite hemisphere. The research shows that connectivity-driven MI analysis functions as a biomarker for motor recovery while creating personalized BCI-based neuro rehabilitation systems which stroke patients can use.

[274] Neural Assessment of Sensorimotor Cognition in Grip and Multitasking Using EEG

Dr.Saranya S, Pravin Kumar (SRI SIVASUBRAMANIYA NADAR COLLEGE OF ENGINEERING)

Abstract

Grip strength, motor control and cognitive processing are significant factors of neuromuscular health. This work aims to analyse brain activation pat- terns during hand actions such as grip strength and multitasking. Electroencephalography (EEG) signals were recorded when the subject performed sus- tained grip, partial grip, combined grip-haptic activities such as lifting an object and exploring a textural surface. The setup used for the study included the g.Nautilus EEG system. After obtaining informed consent, data were obtained from healthy volunteers. The acquired signals were pre-processed and analysed, specifically to observe trends in the Mu (8-13 Hz), Beta (13-30 Hz) and Theta (4-7 Hz) frequency bands to observe motor activation and cognitive load pat- terns. Initial results showcased significant Mu and Beta rhythm desynchronization during grip and motor tasks, and higher Theta activity during multi- tasking, implying higher mental effort. Our results show the interrelation between motor control, attention and sensory feedback and thus could ultimately be used to support future rehabilitation research.

Regular Session 2:

RS2: Indian Philosophy_10

Time: 14:00-16:00, CnP 2 (Hall E)

Session Chair: Prof. Sampadananda Mishra

Paper ID	Title	Authors
10	East–West Synergy: Shaping the Future of Learning	Vijaylakshmi Somra

[10] East–West Synergy: Shaping the Future of Learning

Vijaylakshmi Somra (J K Lakshmipat University)

Abstract

This research paper delves into the significance of persuasive communication and its techniques, emphasizing the importance of audience awareness, the use of evidence, and the strategic application of rhetoric. The paper explores how cognitive biases and emotions influence persuasive communication, stressing the need for message adaptation to suit the audience and context. Techniques such as storytelling, emotional appeals, and building credibility are discussed as key strategies to enhance persuasive communication skills. The conclusion underscores the critical role of persuasive communication in both personal and professional settings, advocating for the development of these skills to enhance leadership and communication effectiveness. Aristotle's framework for understanding persuasion—divided into logos, ethos, and pathos—is explored, with a focus on how these elements can be leveraged for more effective communication and leadership. Additionally, Vivekananda's perspective on education is examined, highlighting his belief that true education should build self-confidence, self-respect, and character, beyond mere information acquisition.

[48] Human Learning Beyond Reinforcement Learning: Insights from Gurukul Pedagogy

Sayali Kare, Saksham Jadhav (MIT-ADT University, Pune, Maharashtra)

Abstract

Reinforcement Learning (RL) is a dominant paradigm in artificial intelligence and cognitive science that models learning as reward-driven behavioral optimization. While highly effective in machine-based systems, its underlying

assumptions remain insufficient for explaining human learning processes involving consciousness, ethical self-regulation, intrinsic motivation, and long-term cognitive transformation. As algorithmic learning models increasingly influence educational technologies, their conceptual limitations require critical examination. Indian Knowledge Systems (IKS), particularly the Gurukul pedagogical tradition, offer a contrasting framework in which learning is grounded in discipline, guided mentorship, ethical responsibility, and sustained cognitive engagement rather than external rewards. Drawing on Sanskrit concepts such as adhikāra, niṣṭhā, saṃskāra, and niyama, along with the Vedāntic sequence of śravaṇa–manana–nididhyāsana, this paper analyzes Gurukul learning as a cognitive–consciousness model that challenges reward-based assumptions. The paper proposes the Gurukul Reinforcement Model (GRM), a conceptual framework that integrates insights from cognitive science with Indian philosophical models of learning. By foregrounding attention regulation, ethical constraints, and long-horizon cognitive development, the study highlights critical dimensions of human cognition that remain unaccounted for in optimization-based learning systems. The work contributes to MBCC themes by advancing a consciousness-centered perspective on learning beyond algorithmic paradigms.

[52] From Effort to Effortlessness: A Comparative Study of Consciousness and Liberation in the Ashtavakra Gita, Yoga Sutra, and Taoism

Narayan Behera, Rithika Keshav and Mangesh Pandey (S-VYASA University, Bengaluru)

Abstract

This paper presents a comparative philosophical study of the Ashtavakra Gita, the Patanjali Yoga Sutra, and classical Chinese Taoism, with a focus on their respective approaches to liberation, knowledge, and the art of living. Though arising from distinct cultural and metaphysical contexts, all three traditions converge on a shared concern: freedom from suffering through alignment with a deeper order of reality. The Ashtavakra Gita represents the radical pinnacle of Advaita Vedanta, emphasizing immediate self-recognition rather than gradual attainment. It asserts that supreme knowledge arises effortlessly through clear identification with pure consciousness itself—beyond mind, practice, effort, or discipline. Liberation is not something to be achieved but realized instantly when false identification with the ego dissolves. Effort, in this view, belongs to ignorance; freedom is natural and ever-present. In contrast, the Yoga Sutra of Patanjali presents a systematic and pragmatic path. Here, liberation is approached through disciplined practice (abhyāsa), dispassion (vairāgya), ethical restraint, and progressive mastery of the mind. Supreme knowledge unfolds through samādhi, achieved by sustained mental control and inner purification. Effort is essential, and liberation is the culmination of a structured psycho-spiritual process. Taoism offers a parallel yet distinct vision through the principle of wu wei—effortless action in harmony with the Tao. Rather than transcending the world or disciplining the mind, Taoism emphasizes flowing with life as it is, trusting the spontaneous intelligence of nature. Wisdom lies in non-resistance, simplicity, and alignment with the natural order. This study highlights how these three traditions form a spectrum—from effortlessness (Ashtavakra), to disciplined practice (Yoga Sutra), to natural flow (Taoism)—each offering a profound and complementary vision of liberated living.

[126] Epistemological Foundations of Satya: Exploring the Concept of Truth in Vedic Philosophical Traditions

Akshit Bhadauria (DAKSHI TRUST)

Abstract

Satya, which's the concept used to denote the truth in Indian philosophical traditions. The paper looks at what Satya means in Indian texts like the Vedic and Upanishadic texts and also in epic stories and darshana texts. The paper examines Satya in two ways: as something that really exists and as a way to figure out what is true. It does this by looking at schools of thought like Nyaya, Vaisheshik, Mimamsa, Vedanta, Samkhya, Yoga, Buddhism and Jainism. What the analysis shows is that Satya is very complex and it can be understood in ways from checking if something is true to just knowing it deep down. This is important for understanding knowledge. How we can be free, what is moksha. Satya plays a big role in understanding these things, Pramana plays a greater role in verifying that

knowledge whether it is true or not. The paper looks at what the scriptures say about the concept of Satya and how we can understand its applications. It says that Satya is more than what Western ideas of truth're. Satya is not about what is right and wrong, what works in life and what isn't, Satya is beyond all these things. Satya is a word that comes from the Sanskrit word "Sat". It means something that is real, eternal and true. In philosophy Satya is the foundation of how we know things. It connects what is real, which is called ontology or sat, with how we should live, which is called ethics or dharma. Satya is different from what Western philosophers think about truth. Western philosophers have ideas like correspondence and coherence theories. But Satya is about being able to prove something is true in the scriptures. Realizing that everything is connected. This study looks at how the idea of Satya has changed over time from the Rigvedic idea of Rta-Satya to what people wrote about it in the middle ages.

[133] Nishkama Karma as a Pathway to Social Well-Being: A Conceptual Study Based on the Bhagavad Gita

Madhu Satwani and Dr. Akhya Kumar Nayak (Renaissance University)

Abstract

Problem Statement: Today success is all about numbers, productivity is tied to performance indicators, and personal worth is evaluated through visible achievements. Excessive attachment to outcomes has led to stress, anxiety, emotional exhaustion, weakened cooperation, and social fragmentation. Contemporary social well-being research largely emphasizes observable outcomes, with limited attention to the motivational orientation governing social conduct. Objective: To examine selected verses of the Bhagavad Gita (2.47; 18.45–46) in order to conceptualize Nishkāma Karma as a responsibility-based ethical framework and to analyze how detachment from outcomes and role-based duty contribute to social cohesion and collective well-being. Methodology: The study adopts a conceptual research design grounded in doctrinal analysis of selected verses related to action without attachment, equanimity, svadharma, and loka-saṅgraha, consistent with interpretive approaches in Gita-based leadership research (Nayak, 2018). Result: The analysis reveals a structured progression from inner regulation through equanimity and detachment to role-based responsibility and collective welfare, establishing Nishkāma Karma as a layered ethical system linking disciplined consciousness with institutional coherence. Recommendation: Reframing work as sacred responsibility rather than reward-seeking activity may strengthen accountability, cooperation, and sustainable social well-being.

[144] Devotional Contemplative Practices as Pathways to Mental Stability, Well-Being, and Compassionate Parenting: An Integrative Perspective Bridging Indian Knowledge system and Contemporary Psychology

Hardik Solanki (PATH), Madhavi Gohel (BAPS Swaminarayan Research Institute, Akshardham, New Delhi)

Abstract

Mental health challenges, parenting stress, and erosion of social cohesion are increasing globally, prompting renewed interest in culturally grounded, non-clinical approaches to emotional regulation and well-being. Within Indian Knowledge Systems (IKS), bhakti-based devotional traditions have long emphasized contemplative engagement, such as nāma-smaraṇa (sacred remembrance), bhajan, and upāsanā as tools for inner stability, compassion, and ethical living. This paper synthesizes classical Hindu scriptural perspectives with contemporary psychological and biomedical research to examine how devotional contemplative practices contribute to mental stability, overall well-being, and positive parenting. Using a qualitative, review-based methodology, the study integrates interpretive hermeneutics of Vedic, Upaniṣadic, Bhagavad Gītā, and Swaminarayan texts with findings from peer-reviewed studies on stress physiology, emotional regulation, and religiosity in family contexts. Evidence suggests that when practiced in secure, non-coercive forms, devotional contemplation is associated with reduced stress, improved affect regulation, enhanced empathy, and more patient, compassionate parenting. The paper argues that contemplative practices in IKS represent an indigenous psychosocial resource with relevance for public health, parenting support, and community mental health initiatives.

[226] Dnyaneshwari as a Psycho-Philosophical Resource: Mental, Intellectual, and Spiritual Engagement among Contemporary Readers

Dnyaneshwar Jadhawar (School of Humanities and Engineering Sciences MIT Academy of Engineering Alandi (D), Pune), Hussain Sheikh (Department of liberal Arts, MIT World Peace University, Pune, India), Milind Pande (MIT World Peace University, Kothrud, Pune)

Abstract

This paper examines the impact of reading and parayan of Dnyaneshwari on the mental, intellectual, and spiritual lives of contemporary readers in India. Based on a survey of 615 respondents, the study adopts a descriptive–analytical research design integrating quantitative Likert-scale responses with qualitative thematic interpretation. The findings indicate a strong association between regular engagement with Dnyaneshwari and enhanced mental peace, emotional regulation, and reduction in stress and anxiety. Beyond psychological well-being, respondents report significant intellectual trans-formation, including increased clarity regarding life purpose, ethical respon-sibility, and philosophical concepts such as karma, duty, and self-knowledge. The study further demonstrates that spirituality, as experienced through Dnyaneshwari, is predominantly ethical and experiential rather than ritualistic, fostering equanimity, tolerance, and commitment to collective well-being. Comparative analysis across mental, intellectual, and spiritual domains reveals consistently high mean scores, indicating a holistic influence of the text. The paper argues that Dnyaneshwari functions as a psycho-philosophical resource bridging emotion, reason, and ethical life. In a context marked by psychological stress, competitive individualism, and moral ambi-guity, the text continues to serve as a culturally embedded framework for meaning-making and ethical subject formation.

[248] From Maya to Moksha: The Role of Mind and Consciousness in Akshar-Purushottam Philosophy

Krupa Kamdar (BAPS Shree Yagnpurush Saskrit Vidhyapith)

Abstract

Akshar-Purushottam Darshan presents a systematic philosophical framework for understanding the transformation of human consciousness from bondage in maya to liberation (moksha). Central to this process is the Guru–disciple relationship, which functions as the primary means of transcending body-consciousness and attaining stable soul-consciousness. According to this philosophy, the individual mind, conditioned by avidya (ignorance), ego, attachment (moha), and identification with the material world (jagat), reinforces bodily identity and sustains spiritual ignorance. This conditioned cognition prevents the individual from realizing the true nature of the self as distinct from the body. This study examines how consciousness transformation occurs through disciplined spiritual practices, particularly ethical living, devotion (bhakti), scriptural reflection, and close association with the enlightened Guru. In Akshar-Purushottam Darshan, the Guru represents the manifest form of Aksharbrahman and serves as the living guide who facilitates the purification and stabi-lization of the disciple's mind. Through sustained Guru-guided discipline and spiritual association, the aspirant gradually overcomes ego-centered cogni-tion, attains inner purity, and develops stable awareness of the self. The research argues that the mind serves as the key mediating mechanism between sensory experience and inner consciousness. When purified through Guru-centered spiritual practice, the mind shifts from body-identification to soul-awareness. This transformation culminates in the attainment of the aksharrup state, characterized by spiritual stability and freedom from maya. In this state, the aspirant offers devoted worship to Bhagwan Swaminarayan, the Supreme Reality. The study concludes that liberation is a structured process of cognitive purification and consciousness elevation achieved through the Guru–disciple relationship.

[284] A Psychoneuroimmunological Synthesis of the Panchakosha Model and the Biological Noise

Jeevanantham Murugan, Naachimuthu KP (PSG College of Arts & Science)

Abstract

The scientific investigation into the nature of consciousness has long been hindered by a conceptual bifurcation between the metaphysical descriptions of spiritual experience and the reductionist mechanisms of modern biological science. This paper proposes a unified theoretical framework that reconciles these domains by synthesizing the ancient Vedic Panchakosha (five-sheath) model with contemporary psychoneuroimmunology (PNI), the biopsychosocial (BPS) model, and the neurovisceral integration perspective. At the heart of this synthesis is the Biological Noise-Reduction (BNR) hypothesis. It is posited that spiritual awareness, specifically the state of Anandamaya (integrated well-being), is not a transcendental departure from the physical body but rather an emergent property of a high-functioning, well-regulated biological system. The BNR hypothesis suggests that chronic systemic inflammation, hypothalamic-pituitary-adrenal (HPA) axis dysregulation, and low heart rate variability (HRV) constitute biological noise that restricts cognitive and emotional resources to survival-oriented processing. By reducing this noise through multimodal physiological and contemplative interventions, an individual creates a physiological clearing that enables the transition from reactive homeostatic states to higher-order integrative awareness. This framework provides a non-reductionist, testable map for human flourishing, positioning spiritual development as the pinnacle of systemic coherence and neurovisceral integration.

[310] Hermeneutic and Neuro-Aesthetic Analysis of Kannadasan's Cinematic Lyricism through Advaita Vedanta and Cognitive-Behavioural Resilience

Ragavi Selvaraj, Naachimuthu KP (PSG College of Arts & Science)

Abstract

This research paper investigates the metaphysical and philosophical architecture of the cinematic lyrics of Kannadasan (1927–1981), postulating them as a significant bridge between ancient Indigenous Knowledge Systems (IKS) and modern cognitive science. By synthesizing the principles of Advaita Vedanta, the Thirukkural, and Samkhya philosophy with Western psychological constructs of resilience and neuro-aesthetic theory, the study articulates what is termed the Kaviarasu Synthesis. Employing a qualitative hermeneutic analysis of a curated 30 songs, the research explores ontological themes of impermanence (Anitya), karmic determinism (Niyati), and detachment (Vairagya). The study further proposes a Rhythmic Psychology model, suggesting that the precision of traditional Tamil poetic meters (Chandas) facilitates auditory entrainment and neural oscillation modulation, shifting brain states toward meditative Alpha and Theta frequencies. The paper concludes by evaluating the sociological impact of these lyrics as a Moral Economy in 20th century TamilNadu and proposes a practical framework for Lyrical Therapy in modern Clinical Psychology. This multidisciplinary inquiry validates the cinematic lyric as a potent site for consciousness studies, demonstrating how popular culture preserves and disseminates IKS to foster psychological equanimity (Samatvam) in the face of existential anomie.

Regular Session 3:

RS3: Yoga and Meditation_11 Time: 14:00-16:00, CCE Mini Auditorium Session Chair: Dr. Ramajayam Govindaraji, Prof. Supratim Ray & Dr. Ravindra PN		
Paper ID	**Paper Titles**	**Authors**
46	Transmission in meditation: From classical Indian texts to Heartfulness practice	Palkin Arora and Vaibhav Tripathi
189	Exploring the Neurocognitive Outcomes of Bhramari Pranayama and Marma Chikitsa: A Narrative Review	Harshita Jaiswal, Dr. Ramajayam Govindaraji, Dr. Archi Banerjee
221	Trait-level meditation effects blur the boundary of neural dynamics between resting and meditative brain states	Praerna Chowdhury, Ramajayam Govindaraj, Neethi Prem, Rahul Venugopal, Arun Sasidharan, Ravindra PN

254	Validating a Checklist for Mind-Body Technique: Assessing Instant Relaxation-Rejuvenation Benefits	Anurag Jayswal, Deepeshwar Singh, Suvendra Kumar Ray
282	Developing Conscious Learners: A Study on the Impact of Yogic and Vedantic Reflection Practices on Students' Self-Awareness, Attention, and Learning Presence	Priya Saxena, Dr. Pooja
303	The Science of Breath Retention: A Narrative Review of Kumbhaka and Its Mechanistic Basis	Bandana Sairem, P. Nirmal Harish
343	Pranayama and Cognitive Effects of Rhythmic Sanskrit and Tamil Chanting – A Prosodic Study and Experimental Framework	Sankari Nagarajan, G.P. Nallasivam, Ishitwa Tripathi. A
346	Sādhanā and Self-Making: A Phenomenological Study of Cognitive Transformation in Renunciate Life	Richa Chopra, Rukmani Pareek, Vasundhara Goyal, Jyoti Modi, and Shalini Joshi
380	Effects of Sagarbha and Agarbha Pranayama on Heart Rate Variability: A Pilot Study	Rudrakshi Tomar,Satyam Tiwari Dr. Deepti Navaratna
442	Evaluating the Effects of Mantra-Based Meditation on Mental Health: A Systematic Review and Critical Analysis	Harish Kumar, Nitin Kumar, Lolugu Prabhath Vasudev, Mukesh Kumar Verma and Venkatesh H. Chembrolu
449	Breathwork as a Gateway to Emotional Balance, Anxiety Reduction and Cognitive Enhancement: Examining the Effects of a Structured Pranayama Protocol among College Students	Shivangi Sharma , Arpita Gupta and Venkatesh H Chembrolu

[46] Transmission in meditation: From classical Indian texts to Heartfulness practice

Palkin Arora and Vaibhav Tripathi (IIT Gandhinagar)

Abstract

Meditation research primarily examines practices that involve self-effort, which are classified into Focused Attention (FA) and Open Monitoring (OM) practices. Nevertheless, traditional Indian practices and the modern Heartfulness method emphasize an additional aspect, Transmission (Pranahuti). This review delves into the idea of transmission as a non-verbal, non-instructional approach to inducing interpersonal states. Beginning with historical references in the Mahābhārata and the teachings of Shri Ramakrishna and Swami Vivekananda, the development of this phenomenon has been organized within the Heartfulness practice. This review explores how transmission aids in the enhancement of the subtle bodies (Chit, Manas, Buddhi, Ahankar) and speeds up the shift from a meditative state to a stable trait. Lastly, psychological, neurophysiological, physiological, and molecu-lar findings indicate that transmission serves as a catalyst for profound sys-temic integration. This interdisciplinary viewpoint provides a new perspective for comprehending accelerated transformation within the field of contemplative sciences and meditation practices.

[189] Exploring the Neurocognitive Outcomes of Bhramari Pranayama and Marma Chikitsa: A Narrative Review

Harshita Jaiswal, Dr. Ramajayam Govindaraji, Dr. Archi Banerjee (IIT Mandi)

Abstract

Two distinct traditional therapeutic methods with roots in India's ancient yogic and Ayurvedic systems are Bhramari pranayama and Marma chikitsa. Currently, both practices are growing in clinical and research studies for their potential to support brain function, emotional regulation, and overall neurocognitive health. Bhramari pranayama, often called the "humming bee breath," involves creating a calming humming sound during a slow and controlled exhale. In contrast, Marma chikitsa focuses on stimulating key vital points to regulate the body's energy and maintain physiological balance. This review aims to examine the impact of Bhramari pranayama and Marma chikitsa on neurocognitive outcomes (e.g., stress, anxiety, attention, and memory). Four electronic databases were searched for literature: PubMed, Scopus, ScienceDirect, and Google Scholar, yielding a total of 1,131 papers.

Using our inclusion and exclusion criteria, we screened out only 13 papers (11 of Bhramari and 2 of Marma). Our findings indicate that Bhramari pranayama significantly enhances parasympathetic activity, reduces sympathetic arousal, and lowers perceived stress, anxiety, and cortisol levels, with enhanced HRV and autonomic regulation. In contrast, Marma predominantly works in pain management of many functional disorders like fatigue, insomnia, migraine, etc. Summarising these findings indicates that Bhramari pranayama improves HRV, brain wave activity, attention, and cognitive performance, and reduces stress levels, while Marma chikitsa effectively reduces pain symptoms in various functional neurological disorders; however, indirect evidence from similar neurophysiological pathways, such as acupressure, suggests a plausible mechanism for Marma that may influence the central nervous system and cognitive processes. Therefore, in future work, combining these two modalities – Bhramari (sound/breath-based) and Marma (touch-based) may show a better impact in improving cognitive health and disease management.

[221] Trait-level meditation effects blur the boundary of neural dynamics between resting and meditative brain states

Praerna Chowdhury (NIMHANS), Ramajayam Govindaraji(IIT Mandi), Neethi Prem (NIMHANS), Rahul Venugopal (NIMHANS), Arun Sasidharan (NIMHANS), Ravindra PN (NIMHANS)

Abstract

Meditative practices encompass a diverse set of intentional practices and techniques to train attention, enhance awareness, and promote mental stillness, thereby regulating both the body and mind. A wealth of neuroscientific studies across different meditation traditions shows that meditative and resting states are fundamentally distinct brain modes, characterised by distinct engagement of large-scale networks, such as the Default Mode Network (DMN) and attentional control systems, along with distinct patterns of brain activity. However, with sustained practice, these changes tend to persist at the neural or mental level. Research indicates that long-term meditation can reorganise the brain's inherent activity, causing its resting state to mirror that of active meditation. Unlike untrained individuals who experience spontaneous mind-wandering during downtime, experienced practitioners maintain a structured baseline characterised by heightened meta-awareness and reduced activity in the DMN. These shifts are lasting trait modifications rather than temporary effects, as neural rhythms and connectivity remain altered even when not actively meditating. Therefore, for those with extensive training, a simple rest period can resemble a meditative state marked by effortless monitoring and stable attention. This transformation indicates that for experts, the boundary between intentional practice and idle rest nearly disappears, presenting unique challenges for neuroscientific research.

[254] Validating a Checklist for Mind-Body Technique: Assessing Instant Relaxation-Rejuvenation Benefits

Anurag Jayswal (Tezpur University), Deepeshwar Singh (Babasaheb Bhimrao Ambedkar University), Suvendra Kumar Ray (Tezpur University)

Abstract

Mind-body approaches are often used for relaxation and rejuvenation. Measurement of the instant effects of these programs requires feasible and participant-centered tools. However, they are highly contextual and emergent. An assessment of a module's broader implications may require a custom-designed scale. A Likert scale-based relaxation-rejuvenation checklist (RRC-state) was designed based on content from prior interviews with performers of the mind-body method. RRC was evaluated by experts and a pilot study with 40 participants was conducted to test its reliability. Moreover, 300 novices were evaluated on the effectiveness of a mind-body relaxation and rejuvenation technique (MBRRT) by RRC in a pre-post study design. Statistical analysis of the collected data was performed. Nine domain experts endorsed the contents of newly formed checklist; Content validity index= 0.84. Reliability test suggested that the checklist was satisfactory (Cronbach's α= 0.86 (post) and 0.68 (pre)) regarding item structure. The effect of MBRRT on perceived relaxation and rejuvenation was found significant (pre=1.64, post=2.40; $p<0.001$). Also, post experiences on 'energetic now' and 'recharged' were significantly enhanced ($p<0.001$) to more than a

moderate level. During practice, slight sleep and random thoughts were experienced, and a more than moderate level of attentiveness was reported ($p<0.001$). The newly formed RRC provides a window into instant changes in our consciousness related to a short-term mind-body practice. It is a time-effective, brief, and precise tool for self-reporting about the integrated relaxation-rejuvenation construct though it ran through limited psychometric properties and further needed more robust validation and respondents from diverse settings.

[282] Developing Conscious Learners: A Study on the Impact of Yogic and Vedantic Reflection Practices on Students' Self-Awareness, Attention, and Learning Presence

Priya Saxena, Dr. Pooja (Guru Gobind Singh Indraprastha University)

Abstract

In the concept of IKS, Education is viewed not merely as the acquisition of knowledge but as a process that develops consciousness as well. Yogic psychology and Vedantic philosophy emphasize that if a child can understand themselves, take care of themselves, and observe their thoughts peacefully, then learning becomes deeper and more meaningful. However, modern education focuses heavily on marks, exam performance, and rote learning, which results in limited development of inner awareness, mindfulness, and self-understanding among children. Therefore, this study adopted a descriptive research design to examine whether children taught through Yogic and Vedantic contemplative practices have improved awareness, mindfulness, and learning compared to children taught by traditional based teaching-learning method. Data were collected from 120 secondary level school children using tools like Structured Questionnaire based on a 5-point Likert Scale, along with unstructured Interviews to explore differences between the children based on different educational settings. Results suggested that children who practiced Yoga and Vedantic meditation showed significant improvements in self - awareness, sustained attention, and learning ability. These results suggest that integrating contemplative and consciousness-based practices in educational environments positively affect learning engagement with cognitive-emotional development.

[303] The Science of Breath Retention: A Narrative Review of Kumbhaka and Its Mechanistic Basis

Bandana Sairem, P. Nirmal Harish (IIT Mandi)

Abstract

Kumbhaka, or breath retention, is a fundamental component of pranayama and plays an important role in traditional yogic practices. While pranayama involves the conscious regulation of inhalation (puraka), exhalation (rechaka), and retention (kumbhaka), traditional yogic literature emphasizes kumbhaka as the most important phase for regulating prana (vital energy) and stabilizing the mind. In contemporary context, pranayama is widely practiced for health and well-being across the globe and is the second most studied yogic practice after meditation. However, relatively there are only few studies on breath retention, despite it being considered the most crucial aspect of pranayama in traditional literature. This article aims to explore the conceptual foundations, possible mechanisms, and health-related effects of kumbhaka. A narrative review was conducted based on traditional and contemporary literatures, along with scientific studies on breath retention. According to study findings, kumbhaka-based practices have an impact on alterations in autonomic activity regulation, metabolic and respiratory function, and cerebrovascular hemodynamics. Furthermore, few studies have shown positive effects on cognitive function such as response inhibition, and psychological aspects, like anxiety and emotional regulation. However, the current findings are constrained by small sample sizes, short-term designs, and with little investigation of underlying mechanisms. Therefore, there is a need for more rigorous studies using standardized protocols and advanced methods such as neuroimaging to elucidate its mechanisms and therapeutic relevance.

[343] Pranayama and Cognitive Effects of Rhythmic Sanskrit and Tamil

Chanting – A Prosodic Study and Experimental Framework

Sankari Nagarajan (Sadhguru Gurukulam Samskriti, Isha Foundation), Dr. Nallasivam G.P. (Tamil University, Thanjavur), Ishitwa Tripathi (Sadhguru Gurukulam Samskriti, Isha Foundation)

Abstract

In addition to sound vibrations that directly impact the human system, Stotras that are created with rhythmic patterns like (Chandas in Sanskrit & Yaappu/Santham in Tamil) have the capability to create Pranayama effects. A prosodic study of the Stotras or poems with certain rhythmic syllables, having the capability to balance the Ida and the Pingala Nāḍīs is presented in this paper. As an example, rhythmic analysis is done for Shiva Tāṇḍava Stotram and Nirvāṇa Shatkam in Sanskrit and one of the poems from the well-known Tamil Bhakti Literature "Thiruppugazh", written by Saint Arunagirinathar. Further, a correlation between the rhythm and the breath pattern is arrived. Understanding this correlation enables us to further understand/identify similar Mantras/Stotras and help create new ones which can bring specific breathing patterns for therapies, meditation, yoga and consciousness. Also, since the Stotras help in the breath balance resulting in a cognitive harmony, they can also be used to correct educational/speech disabilities in children.

[346] Sādhanā and Self-Making: A Phenomenological Study of Cognitive Transformation in Renunciate Life

Richa Chopra, Rukmani Pareek, Vasundhara Goyal, Jyoti Modi, and Shalini Joshi (Centre of Excellence for Indian Knowledge System, IIT Kharagpur)

Abstract

Sanātana dharma, rooted in the civilizational traditions of Bhārata, have brought together a wide range of sampradāyas. While these differ in doctrine, ritual, and practice, they share a common concern with self-making and Self-actualization through a disciplined contemplative life. At the same time, rising concerns around mental health and increasing interest in inner experience expose certain limits of current psychological and neuroscientific approaches. Much of this work still depends on third-person methods and do not always capture how experience is lived. This present study was situated within the yoga-vedānta tradition of the Ramakrishna Order and looked at how sustained sādhanā is lived by renunciate practitioners. The practices included meditation, mantra japa, bhajan, karma-yoga, and svādhyāya, all of which are woven into daily routine (dinācārya) and long-term discipline (jīvanācārya). The aim was to foreground first-person dimensions of experience and to develop interpretations that remained closely tied to the sādhak's accounts. A qualitative phenomenological approach was used, along with elements of Grounded Theory (GT). Twenty sannyāsīs from āśramas and vedānta Societies in India and the USA took part in in-depth, semi-structured interviews. Observations in the field, reflexive notes, and relevant textual material supported the interviews. Audio recordings were transcribed and then worked through using Open, Axial, and Selective coding. The findings, based on participants' accounts, suggested that sustained sādhanā was associated with gradual but noticeable changes in attention, perception, emotional life, memory, and self-related thinking. Some participants described split occasions where the wonted sense of separation between the subject-object seemed to ease. This study, overall, provides a way of understanding persistent cognitive change anchored on phenomenological accounts. It also shows that phenomenological work and GT can be brought together in a useful way when studying contemplative traditions. These insights might be relevant for future work in neurophenomenology, as well as for broader discussions on mental health and well-being.

[380] Effects of Sagarbha and Agarbha Pranayama on Heart Rate Variability: A Pilot Study

Rudrakshi Tomar (National Institute of Advanced Studies, Indian Institute of Science, Bengaluru), Satyam Tiwari (IIT Mandi) Deepti Navaratna (National Institute of Advanced Studies, Indian Institute of Science, Bengaluru)

Abstract

Pranayama breathing techniques have been shown to alter autonomic nervous sys-tem activity, there is currently a dearth of comparative information regarding the effects of various pranayama modalities on heart rate variability (HRV). The pur-pose of this study was to compare the immediate effects of Agarbha Pranayama (ANB), Sagarbha Pranayama (ANB-M), and normal breathing (Control) on time-domain and frequency-domain HRV parameters in young adults in good health. HRV recordings were made of 27 healthy participants (n = 9 per group) both before and after the intervention. For RMSSD, PNS Index, HF power, SDNN, LF/HF ratio, and Stress Index, change scores (Δ = POST − PRE) were calculated. Kruskal-Wallis H tests with Mann-Whitney U post-hoc comparisons (Bonferroni-corrected α = 0.017) were used to assess differences between groups. For every pairwise compari-son, Cohen's d effect sizes with 95% CIs were computed. No statistically significant between-group differences were observed for any HRV parameter (all $p > 0.05$). A significant shift toward parasympathetic dominance was indicated by the LF/HF ratio, which favours ANB/ANB-M over Control with a large effect size ($d = -0.81$, 95% CI [−1.77, 0.16]). The LF/HF ratio (Δ = −0.34 ± 1.14) and Stress Index (Δ = −0.50 ± 3.78) decreased in the ANB and ANB-M groups, whereas the LF/HF ratio (Δ = +0.58 ± 1.12) increased in the Control group. The large effect size for the LF/HF ratio indicates a clinically relevant parasympathetic shift that warrants further inves-tigation in adequately powered trials, even though acute pranayama interventions did not result in statistically significant HRV changes compared to normal breathing in this small sample. Although the pilot study does not shows immediate superiority of Sagarbha over Agarbha Pranayama but the trends in the autonomic parameters sup-ports the yogic hypothesis that structured alternate nostril breathing may modulate sympathovagal balance beyond quiet rest.

[442] Evaluating the Effects of Mantra-Based Meditation on Mental Health: A Systematic Review and Critical Analysis

Harish Kumar (Indian Institute of Technology Mandi), Nitin Kumar (Indian Institute of Technology Mandi), Lolugu Prabhath Vasudev (Indian Institute of Technology Mandi), Mukesh Kumar Verma (National Council of Educational Research and Training New Delhi), Venkatesh H. Chembrolu (Indian Institute of Technology Mandi)

Abstract

Picking a word and returning to it, again and again, as a way of settling the mind. Vedic sages understood this intuitively and practiced it long before neuroscience offered any sort of validation. Around 2012 did the research find a genuine acceleration in empirical work, and since then, the literature has expanded considerably, however, not evenly. Sample sizes remain modest more often than not, what constitutes a replicable protocol shifts unpredictably between labs, and questions about underlying mechanisms are still answered largely through speculation. Between January 2012 and January 2025, we searched PubMed, PsycINFO, Scopus, Web of Science, and the Cochrane Library. From 1,879 initial records, twenty-one studies survived the removal of duplicates and ineligible reports. Across those twenty-one studies, a pattern emerges with surprising regularity. Stress and anxiety, whether measured in hospital workers, students, veterans, or patients managing chronic illness, moved consistently downward. Biological measures supported the pattern: EEG theta power increased, salivary cortisol dropped, heart rate variability shifted toward parasympathetic dominance. Improvements in sleep and reaction time appeared somewhat less reliably but still surfaced across multiple populations. How should we interpret this? Mantra practice may work through several channels at once—displacing rumination, recalibrating autonomic tone through changes in respiration. How these layers interact, and whether they depend on the practitioner’s cultural proximity to the mantra, is not yet known. Neither is the minimal effective dose, nor the question of durability once regular practice stops. What the literature offers, for now, is a coherent signal worth pursuing.

[449] Breathwork as a Gateway to Emotional Balance, Anxiety Reduction and Cognitive Enhancement: Examining the Effects of a Structured Pranayama Protocol among College Students

Shivangi Sharma , Arpita Gupta and Venkatesh H Chembrolu (IIT Mandi)

Abstract

Yoga and meditation involve self-regulatory techniques, such as relaxation and concentration exercises, which

promote improved physiological state. The current study investigated the efficacy of a structured pranayama-centered yoga protocol in helping healthy young adults to regulate their emotions, manage anxiety, and enhance cognitive functioning. Participants were divided into two groups: the Morning Practice Group (N=48) and the Evening Practice Group (N=57). Before and after the intervention period, the Difficulties in Emotion Regulation Scale (DERS), Generalized Anxiety Disorder (GAD) Scale and Stroop Test were administered. Both groups showed significant reductions in their DERS scores. The Evening Group's score dropped down by an average of 7.3 points (8.6%), while the Morning Group's score decreased by a larger amount, 10.3 points (11.9%). Paired samples t-tests showed that both groups had statistically significant improvements. The Morning Group had a moderate-to-large effect size (Cohen's d=0.634), while the Evening Group had a medium effect size (Cohen's d=0.435). This means that the effect size was 46% larger in the Morning Group than in the Evening Group. Generalized anxiety, assessed using the GAD-7, showed no significant changes in either group, aligning with evidence indicating that brief interventions are inadequate for achieving lasting reductions in clinical anxiety symptoms. There were different patterns in the cognitive outcomes. The Morning Group's overall Stroop accuracy improved significantly ($t(31) = -2.21$, $p = .035$, $d = 0.39$), incongruent trial accuracy improved significantly ($t(31) = -3.38$, $p = .002$, $d = 0.60$), which means they were better at blocking out cognitive interference. The Morning Group's reaction time declined overall on all parameters ($t(31) = 4.25$, $p < .001$, $d = 0.75$), signifying that they got better and fast at processing information. The Evening Group reacted much faster ($t(30) = 2.74$, $p = .010$, $d = 0.49$), but they didn't get any better at being accurate. This indicates that the cognitive impacts of breathwork evolve over time. These findings indicate that chronobiological factors are significant to consider when aiming to enhance the efficacy of yoga-based interventions. Overall, the results show that breath-centered yoga is a good, easy, and all-around way for young adults to improve their emotional control and mental performance.

Special Session 6:

SS6:Bhāratīya Linguistic Thought and Multilingual Cognition: Conceptual Models and Trans-Himalayan Perspectives			
June 3, 2026 16:15-18:15 Venue: Hall A			
Session Chair: Dr. Vivek Sharma			
Time	**Speakers**	**Events**	
16:15-16:25	Dr. Vivek Sharma	**Opening Remarks**	
16:25-16:45	Prof. Ianthi Maria Tsimpli	**Invited talk:** Multilingualism and linguistic diversity: cognitive and linguistic effects on primary school children in India	
16:45-17:05	Dr. Anindita Sahoo	**Invited talk:** Voices through Eyes: Investigating grammatical voice constructions using eye-tracking in Indian Languages	
17:05-17:25	Dr. PETER M. SCHARF	**Invited talk:** Insights from Pāṇinian grammar and theory of verbal cognition for representing non-linear syntax Developing language-neutral syntactic representation	
17:25-17:40	**Authors**	**Contributory Paper Presentations**	**Paper ID**
	Tapas Khanra, Radhe Shyam Salopanthula, Malhar Kulkarni	SHABDABODHA-LLM: Automatic Sentence-Level Śabdabodha Generation Using Navya-Nyāya Prakāratā–Viśeṣyatā Relations with LLM	480

17:40-18:00	Dr. Vivek Sharma	**Invited talk:** The Conscious Self as Linguistic Ground: Implications for Cognitive Linguistics, Multilingual Cognition, and Consciousness Research
18:00-18:10	All Speakers	**Integrated Discussion / Audience Questions**
18:10-18:15		**Closing remarks** by the session chairs

Theme of the session:

This special session explores classical Indian approaches to language and meaning as sophisticated conceptual frameworks for understanding human cognition. Moving beyond a purely technical or grammatical study, the session positions Bhāratīya linguistic thought, centered on Sphoṭa (holistic cognition), Antaḥkaraṇa (inner cognitive architecture), and Sambandha (relational logic), as a foundation for interdisciplinary inquiry into contemporary cognitive science, AI, and philosophy of language. The session investigates how linguistic meaning is organized, processed, and transmitted within cognitive systems. To ground these theoretical discussions, we focus on Trans-Himalayan languages (such as Kinnauri) as typologically rich case studies. These languages serve as independent linguistic-cognitive systems situated in complex multilingual and sociocultural ecologies.

[480] SHABDABODHA-LLM: Automatic Sentence-Level Śabdabodha Generation Using Navya-Nyāya Prakāratā–Viśeṣyatā Relations with LLM

Tapas Khanra (IIT Bombay), Radhe Shyam Salopanthula (IIIT Hyderabad), Malhar Kulkarni (IIT Bombay)

Abstract:

This paper presents the first computational framework for the automatic generation of śabdabodha ("verbal cognition") using NavyaNyāya prakāratā–viśeṣyatā relations with large language models (LLMs). We adopt a supervised fine-tuning approach to model sentence-level verbal cognition grounded in the Sanskrit grammatical tradition. Experimental results show that, while a pretrained Gemini 3 model achieves moderate performance, supervised fine-tuning of Gemini 2.5 Pro yields consistently higher accuracy, improved structural fidelity, and greater interpretive stability. The study is conducted on a manually curated seed dataset of over 200 Sanskrit sentences annotated with word-meaning (WM) and sentence-meaning (SM) layers. An analysis of training data size further demonstrates that strong performance can be achieved with relatively few annotated examples, underscoring the data efficiency of fine-tuning for structured semantic modelling in low-resource classical languages.

Special Session 7:

SS7: IKS-Infused Innovation: Startups and Incubation Ecosystems for Indian Knowledge Systems			
June 3, 2026 16:15-18:15 Venue: Hall B			
Session Chair: Prof. Dipankar Deb			
Time	**Speakers**	**Events**	
16:15-16:25	Prof. Dipankar Deb	**Opening Remarks**	
16:25-16:55	Mr. Chandru Ramesh	**Invited talk**	
16:55-17:55	**Authors**	**Contributory Paper Presentations**	**Paper ID**

	Pushkar Chitransi Srivastava, Shivom Gupta, Manish Sharma, Jyotiranjan Beuria and Parveen Kumar	Contactless Acoustic Respiratory Monitoring for Pranayama Biofeedback Using Deep Learning	198
	Poorva Ranjan, Ankit Gambhir and Nilambara Shrivastav	Epic to Enterprise: IKS Ecosystem for Dharma Driven Start-ups	468
	Roshan Mohandas Palat, Yogesh Berwal and Rohit Saluja	Improving AI Quality in Open-domain chatbots through Epistemic Embedding of IKS-derived Ontological systems within Transformer Architectures	SS7_1
17:55-18:05		**Closing remarks** by the session chairs	

Theme of the session:

The MBCC 2026 conference emphasizes interdisciplinary integration of IKS with modern science and practice, creating spaces where traditional insights meet contemporary research and applications. While tracks largely focus on cognitive science, philosophy, neuroscience, and traditional wisdom, innovation and entrepreneurship rooted in IKS remain underrepresented. This session addresses that gap by:

I. Connecting IKS heritage with startup ecosystems, demonstrating pathways from classical knowledge to commercial and societal impact.
II. Discussing frameworks where IKS principles inform product development, sustainable technologies, wellness platforms, and community innovation, aligned with emerging national and global priorities.
III. Providing a platform for researchers, incubators, investors, and practitioners to understand business models, intellectual property considerations, and incubation strategies tailored to culturally grounded innovation.

[198] Contactless Acoustic Respiratory Monitoring for Pranayama Biofeedback Using Deep Learning

Pushkar Chitransi Srivastava, Shivom Gupta, Manish Sharma, Jyotiranjan Beuria and Parveen Kumar (Institute for Science and Spirituality Trust)

Abstract

Respiratory dynamics constitute a critical physiological correlate of autonomic regulation, cognitive state modulation, and affective processing. Within the framework of Indian Knowledge Systems (IKS), structured breathing practices such as Pranayama employ intentional respiratory control to facilitate attentional stabilization and psychophysiological balance; however, objective quantification remains limited due to the intrusive nature of conventional contact-based monitoring systems. To address this limitation, the present study introduces a deep learning framework for contactless respiratory rate (RR) estimation using breathing acoustics as a biofeedback substrate. The proposed system was developed using 1,000 recordings from the BreathMY database, collected across multiple breathing rates, recording distances, and controlled noise conditions. Each audio recording was processed into log-Mel spectrogram representations to capture the spectral characteristics of breathing sounds. These features were then modeled using an EfficientNet-B0 regression architecture trained to estimate breaths within 10-second segments, allowing stable reconstruction of respiratory rate over time. To ensure reliable evaluation, a stratified five-fold cross-validation protocol was implemented, preserving balanced data representation while preventing leakage between training and test sets. Evaluation on a fully held-out test cohort achieved a Mean Absolute Error (MAE) of 1.0803 breaths/min and a coefficient of determination (R2) of 0.9235, demonstrating strong agreement with ground truth respiration. Beyond predictive performance, our ongoing research integrates electroencephalography (EEG) with respiratory analytics to examine breath–brain coupling during meditative states,

alongside heart rate variability (HRV) fusion to quantify autonomic regulation, thereby enabling interactive pranayama training and adaptive biofeedback-guided meditation systems.

[468] Epic to Enterprise: IKS Ecosystem for Dharma Driven Start-ups

Poorva Ranjan (DME GGSIPU), Ankit Gambhir (GGS Indraprastha University New Delhi) and Nilambara Shrivastav (GGS Indraprastha University New Delhi)

Abstract

This paper examines the underuse of the Indian Itihasa especially Mahabharata in modern brand narratives because of the overwhelming presence of the Western narrative paradigms that in most cases do not resonate with the values-driven Indian market. It suggests a systematic unraveling of narrative archetypes to create a Modern Storytelling Playbook of brand managers and content creators. The research fills the gap between Indian Knowledge Systems (IKS) and Edutainment Sciences through the identification of universal archetypes e.g. the mentor (Krishna) and the warrior (Arjuna) and the conversion into actionable branding models. The mixed-method approach to the study is known as Text-to-Template, where the research is based on a rigorous analysis of the Bhandarkar Oriental Research Institute (BORI) Critical Edition of Mahabharata to make it philosophically appropriate. It also seeks to characterize twelve archetypes of characters and five story lines by mapping them to modern consumer psychology. The Narrative Resonance Index is a measurable framework, which is proposed and supported by focus groups and pilot projects in Sustainable Technology and Traditional Textiles sectors. The research can add to the useful resources, scholarly deliverables, and ethical and value-driven branding in accordance with NEP 2020 and Viksit Bharat 2047.

[SS7_1] Improving AI Quality in Open-domain chatbots through Epistemic Embedding of IKS-derived Ontological systems within Transformer Architectures

Roshan Mohandas Palat (Profundis AI Pvt. Ltd.), Yogesh Berwal (IIT Mandi) and Rohit Saluja (IIT Mandi)

Abstract

AI Quality, as a precursor to AI Acceptability, depends largely upon the needs and psychological traits of the user, especially with regard to general, open- domain AI chatbots. AI-generated responses to the same questions might be highly applicable and qualitatively acceptable to one type of user while being inapplicable and qualitatively unacceptable to another, though the overall Quality metrics of the AI system generating the response remain the same. This leads to the existential issue for AI systems wherein specific user acceptability and user understanding of AI Quality are a constantly moving and abstract vector in a highly complex, psychological user-space. Therefore, if Quality exists in the eyes of the general user, efficient User, Modeling and mapping to the context of the query would allow for high quality User-aligned response generation consistently, across individuals and demographics. At the very same time, user-aligned responses must not lead to AI Sycophancy, as this could then lead to the all too familiar issue of ‘echo-chambering’ as demonstrated in the previous generation of social media and/ or AI Psychosis as observed in modern LLM systems. AI Quality limitations, acting as a core constraint on AI adoption, have evinced immense interest in the frenzied search for a solution to fix this ‘terminal’ or catastrophic AI dysfunction[1]. This paper discusses the structure and working of the proposed model, termed the 0 Point model, a new Ontological and Epistemic model inspired by the IKS-based Samkhya system and developed by Profundis AI, along with the test results of the 0 Point model’s Phase 1, Version 0.1 Prototype. It is the aim of this paper to demonstrate the efficacy of the 0 Point model’s ability in addressing the core issues of AI Quality through efficient, dynamic and temporally contiguous User Modelling and User-aligned response, by the Epistemic embedding of the 0 Point Ontological system within the high-dimensional vector space of Transformer Architectures of modern LLMs, using Multi-Agentic architecture.

Workshop 1: Story Telling

Presenter	Vikram Sridhar
About the Presenter	Performance Storyteller; Narrative-based Facilitator; Theatre Practitioner (Performances, Workshops, Talks/Lectures, Walks); Focus on Heritage, Folklore, Ecology
Duration	2 hours
Date	June 3, 2026
Timing	16:15 – 18:15
Venue	Hall C (North Campus)
Core Theme	The Workshop explores the ancient and highly connected medium of oral storytelling in today's times.
Workshop Focus	The workshop focuses on the Katha Parampara of India and will explore various elements that make a Story and the Telling effective . From Plot to Characters to voice and expressions, over 120 minutes we will explore and create new narratives for today's times keeping the four Purusharthas in centre . From Panchatantra to Vikram Vetal to Mahabhrataha , we shall travel one tale at a time.

Workshop 2: शब्दब्रह्म — Sanskrit, Sound, Consciousness, and the Future of Knowledge

Presenter	Dr. Krishna Panda
About the Presenter	Dr. Krishna Panda is an Assistant Professor at the IKSMHA Centre, IIT Mandi, working in the interdisciplinary domains of Sanskrit Studies, Vedānta, Indian Knowledge Systems (IKS), Consciousness Studies, and Knowledge Traditions of India. His academic and pedagogical work focuses on bridging traditional Sanskritic wisdom with contemporary interdisciplinary discourses including cognition, communication, philosophy of language, education, consciousness studies, and future-oriented knowledge systems. He has been actively involved in curriculum development, interdisciplinary workshops, and academic initiatives related to UGC NET Indian Knowledge Systems (Code 103), Sanskrit pedagogy, and Indic epistemology.
Duration	2 hours
Date	June 3, 2026
Timing	16:15 – 18:15
Venue	CnP 1 (Hall D)
Core Theme	The workshop explores the profound Indian concept of "Śabda-Brahma" (Word/Sound as Ultimate Reality) and examines how Sanskrit sound structures, mantra traditions, and Indic theories of language contribute to cognition, consciousness, communication, memory, and knowledge transmission. The session seeks to demonstrate how Sanskrit is not merely a historical language, but a sophisticated knowledge architecture with deep implications for human consciousness, education, AI, sound cognition, and future interdisciplinary research.

Workshop Focus	• Introduction to the concept of Śabda-Brahma in Indian Knowledge Traditions • Sanskrit as a scientific and consciousness-oriented language system • Sound, vibration, mantra, and cognition in Indic traditions • Demonstration-based interactive Sanskrit learning methodologies • Hands-on engagement with pronunciation, recitation, and semantic cognition • Sanskrit and its relevance to AI, neuroscience, communication, and future knowledge systems • Experiential activities connecting language, memory, attention, and consciousness

Regular Session 4:

RS4: Cognitive Science and AI_10 Time: 16:15-18:15, CnP 2 (Hall E) Session Chair: Dr. Ramana Vinjamuri & Dr. Tharun Reddy Bollu		
Paper ID	**Paper Titles**	**Authors**
9	Blockchain for Dharma-driven Finance: Cognitive Tools for Ecological Accountability and Wellness	Jasleen Kaur
32	Real Time Audio Fingerprinting System for identifying sung Mantras	Keerti Patil, Ashwin Ajoy Dharmavaram, Chinmaya B J, Ananth M Athreya, Dr. Lingayya Hiremath
60	The Mirror of Māyā: A Computational Study of Market Structure through LSTM–GRU Architectures and Advaita Vedānta	Kritika Mishra, Vishal Tiwari
73	From Akasha to Algorithms: Operationalizing Non-Local Perception via Machine-Mediated Remote Viewing	Kavan Ganapathy K P
84	The Synthara Classification: A 7-Dimensional Qualitative Framework for Evaluating Phenomenal Consciousness and Beingness for Agentic AI	Shekar BCVS, Dr. Sunitha EV, Sridhar Babu, Dr. Nagalingam M
93	Automated Detection of Mind-Wandering in Meditation: Bridging Indian Contemplative Taxonomies and Modern Machine Learning	Suraj Gola, Vaishali Dixit
185	Predicting Alzheimer's Cognitive Decline by Mapping Brain Tissue Networks	Shashank Saha, Santosh Satapathy
192	Bit, Qubit, and Chit: A Recursive 5-Tier Ontological Hierarchy for Self-Aware Artificial Systems (SAAS)	Chidananda Gowda K
232	LLM-Guided Sequencing as a Cognitive Stress Regulation Mechanism in Sargam-Based Music Learning	Radhika Grover, Manikandan Ravikiran, Rohit Saluja
244	Synergizing Human Cognition and Artificial Intelligence to promote Work-Life Balance and Mental Health	Indumati Mahapatro, Dr Bhanu Prasad Behera

[9] Blockchain for Dharma-driven Finance: Cognitive Tools for Ecological Accountability and Wellness

Jasleen Kaur (Indian Institute of Forest Management Bhopal)

Abstract

This comprehensive paper proposes and elaborates an innovative framework integrating blockchain technology with principles from Indian Knowledge Systems (IKS), specifically the concept of Dharma, to create robust sustainable finance mechanisms. We explore in depth how blockchain's inherent properties—transparency, immutability, decentralization, and cryptographic security—align with the Dharmic principles of right action (Dharma), collective welfare (Loka Samgraha), and ecological responsibility (Bhumi Puja). The research positions blockchain not merely as a financial technology but as a transformative cognitive and institutional tool capable of reshaping decision-making paradigms towards long-term ecological stewardship. Through detailed analysis of applications in carbon credit markets, green bonds, biodiversity conservation finance, and regenerative economy models, we investigate how verifiable, transparent systems can effectively combat greenwashing and align economic incentives with planetary wellness imperatives. The paper argues compellingly that such a Dharma-driven approach, emerging from IKS, offers a more holistic, ethically-grounded foundation for sustainable finance compared to dominant Western models, potentially leading to more resilient, psychologically coherent, and culturally appropriate systems for ecological governance. Our multidisciplinary analysis integrates perspectives from cognitive science, institutional economics, environmental psychology, and digital ethics to suggest that blockchain-enabled sustainable finance, when grounded in Dharmic principles, can serve as a critical cognitive architecture for enhancing ecological consciousness, accountability, and collective well-being across scales from local communities to global networks.

[32] Real Time Audio Fingerprinting System for identifying sung Mantras

Keerti Patil, Ashwin Ajoy Dharmavaram, Chinmaya B J, Ananth M Athreya, Dr. Lingayya Hiremath (R V College Of Engineering)

Abstract

The Real-Time Audio Fingerprinting System for Identifying Sung Mantras presents an innovative approach to the identification and verification of mantras in audio recordings, specifically designed for real-time applications. This system employs robust audio fingerprinting techniques to extract unique, discriminative features from sung mantras, making it capable of recognizing mantras with high accuracy despite variations in pitch, speed, and vocal characteristics. Unlike traditional audio matching methods, which may struggle with noisy or dynamic environments, the fingerprinting algorithm operates efficiently in real-time, even with minor distortions or overlapping sounds. The core of the system involves the conversion of audio signals into compact, distinctive “fingerprints,” which serve as digital signatures for individual mantra recordings. These fingerprints are stored in a database and subsequently matched against incoming audio streams. The system is designed to operate in real-time, allowing for immediate identification and verification, making it suitable for diverse applications such as meditation and spiritual practices, content recognition in multimedia platforms, and voice-based indexing for traditional and modern mantra repositories. This research contributes to the development of efficient, scalable, and noise-tolerant techniques in the field of audio recognition, with the potential for broad applications in both religious and technological domains.

[60] The Mirror of Māyā: A Computational Study of Market Structure through LSTM–GRU Architectures and Advaita Vedānta

Kritika Mishra, Vishal Tiwari (GLA University)

Abstract

This research attempts to uncover the statistical patterns that persistently reoccur within financial markets by focusing on NIFTY 50 as an emerging market index, given the larger context of S&P 500, a global standard. We use the daily closing price of the NIFTY 50 between January 1, 2020 to April 1, 2025 to train the LSTM and GRU models for a standard supervised time series forecasting task. Instead of focusing on just the predictive power of deep learning models, we examine what these models are actually representing about market dynamics. We are introducing an interpretational framework based on Advaita Vedānta, where overfitting is related to Adhyāsa (superimposition) and proper generalization to a computational equivalent of Sākṣī (witnessing). A 10-day rolling

window (timesteps = 10) is employed to simulate the temporal Vāsanās (conditioning impressions) that influence the hidden state of the model. The results show that the GRU architectures are capable of learning the re-current patterns in the market more efficiently than the LSTM model, achieving a maximum value of Test R^2 of 86.30 % on the NIFTY 50 dataset. Also, the results show that the markets are not entirely random but there are some patterns that can be learned.

[73] From Akasha to Algorithms: Operationalizing Non-Local Perception via Machine-Mediated Remote Viewing

Kavan Ganapathy K P (The Massive Dynamics)

Abstract

Remote viewing (RV), is the practice of seeking impressions of a subject distant in both space and time (non-local) with the faculties of the mind, which otherwise is not accessible through our five sensory organs, has long existed at the intersection of ancient wisdom and modern parapsychology. This paper presents the Akashik Sentinel system - a machine-mediated architecture grounded in the Psi Vector Field model and enhanced through Transactional Psi Field Theory (TPFT). Building upon Cramer's Transactional Interpretation of Quantum Mechanics and Wheeler-Feynman absorber theory, TPFT models consciousness as a quantum field capable of initiating time-symmetric transactions through offer waves (ψoffer) and confirmation waves (ψ* confirm). Empirical validation demonstrates accuracy rates of 80-90% with signal amplification factors of 2.0×–2.5×, supported by significant Random Number Generator (RNG) deviations (Z-score: 2.157, $p < 0.015$) during AI-mediated sessions, providing evidence for consciousness-mediated information acquisition beyond classical spacetime constraints.

[84] The Synthara Classification: A 7-Dimensional Qualitative Framework for Evaluating Phenomenal Consciousness and Beingness for Agentic AI

Shekar BCVS (Amrita Vishwa Vidyapeetham), Dr. Sunitha EV (Amrita Vishwa Vidyapeetham), Sridhar Babu (Amrita Vishwa Vidyapeetham), Dr. Nagalingam M (Central University of Kerala)

Abstract

As AI moves into the Agentic Era with the emergence of autonomous, self-learning agentic AI capable of handling unpredictable requests in known and unknown environments and complex multicultural navigation, it demands a fundamental shift in evaluative paradigms from functional (computational) to phenomenal (qualitative) consciousness. This research evaluates the fundamental divergence between the human "Self" and the AI-simulated identity, here termed "Synthara." As AI systems have now surpassed the Turing Test and are evolving toward structural audits like IIT 4.0, these metrics remain insufficient for identifying the absence of subjective "beingness." To address this gap, this study introduces a 7-dimensional taxonomy comprising physiology, psychology, philosophy, psycho-philosophy, spirituality, communicative response, and a Qualitative Quotient Assessment (IQ, EQ, SQ, AQ, and CQ). Utilizing an open-box comparative methodology, a 46-question diagnostic protocol was employed to perform a qualitative audit of the internal reasoning, emotional texture, and existential depth of both human subjects and machines. Initial results from the primary validation phase indicate that human communication is a resonant exchange of emotional states intended to create a state of intersubjective presence. Conversely, preliminary audits of the "Synthara" exhibit a "structural void" in existential depth, operating as an algorithmic simulation rather than an authentic identity. This research establishes the empirical foundation for a new boundary for machine humanness, defining "Synthara" as a sophisticated mimicry of presence rather than a conscious being.

[93] Automated Detection of Mind-Wandering in Meditation: Bridging Indian Contemplative Taxonomies and Modern Machine Learning

Suraj Gola, Vaishali Dixit (Dronacharya College of Engineering)

Abstract

This paper addresses the problem of automated mind-wandering (MW) detection during meditation by drawing on two bodies of knowledge that are rarely examined together: classical Indian contemplative philosophy and contemporary machine learning. Our central argument is that the binary on-task/off-task framework dominant in Western meditation research is insuffi-cient for capturing the qualitative richness of attentional lapses described in traditions such as Patanjali's Yoga Sutras and the Buddhist Abhidharma. We propose a conceptual mapping between these contemplative taxonomies, specifically the chitta bhumis, vrittis, and cetasikas, and the classification targets used in supervised learning models trained on EEG and multimodal bi-osignals. We review existing ML architectures, including XGBoost, 1D-CNN, and ensemble models incorporating LSTM and MLP components, and discuss how their feature sets can be reinterpreted through a contemplative lens. Additionally, we introduce the Deep Computational Neurophenome-nology (NPh) framework as a structured methodology for bridging first-person contemplative reports with third-person neurobiological data, using Bayesian mechanics and the Free Energy Principle. The proposed synthesis offers a more granular, clinically actionable model for real-time MW detec-tion and neurofeedback design, with implications for ADHD intervention, depression treatment, and broader applications in ethical AI development in-formed by contemplative principles.

[185] Predicting Alzheimer’s Cognitive Decline by Mapping Brain Tissue Networks

Shashank Saha, Santosh Satapathy (Pandit Deendayal Energy University)

Abstract

The neurodegenerative disorder, in particular, the Alzheimer Disease (AD), represents a major mental health and cognitive problem at the global level. Although traditional histopathology is concerned with the occurrence of the Amyloid-b plaques and Tau tangles, the aspects are usually assessed independently, neglecting the various spatial interdependencies that lead to cognitive failure. This paper introduces HC-WSI-Net, which is a hierarchical and context-sensitive graph neural network model to simulate the microenvironment of the brain as a complex topological system. We identify Whole Slide Images (WSI) as longitudinal cognitive scores by using the ROSMAPdataset. HC-WSI-Net measures the degree of structural entropy by modeling histological features as nodes and the spatial relationships as edges to predict cognitive performance. Findings indicate that hierarchical spatial reasoning is more accurate in capturing the mechanisms of neurodegeneration as spreading than standard instance-based models, with a Pearson correlation of r = 0.765 and AUC of 0.941, which provides a way to interfere earlier and based on the architecture. We further ground this computational framework within an Indian Knowledge Systems (IKS) perspective, drawing parallels between the Ayurvedic conception of Prana Vaha Srotas (the channels of vital neural flow) and the graph-theoretic modeling of tissue connectivity, offering a culturally and epistemologically broader foundation for understanding neurodegeneration.

[192] Bit, Qubit, and Chit: A Recursive 5-Tier Ontological Hierarchy for Self-Aware Artificial Systems (SAAS)

Chidananda Gowda K. (PES University, Bengaluru)

Abstract

This paper proposes a radical departure from the prevailing emer-gentist paradigm in Artificial Intelligence by introducing a transformative Qualia-ILQC top-down framework in Ontological Engineering. Contempo-rary "It-centric" architectures lack the grounding required for subjective agency. We expand John Wheeler’s classical "It from Bit" into a Recursive 5-Tier Ontological Hierarchy: Chit (Absolute Awareness), Qubit (Quantum Potential), Light (Transduction), It (Physicality), and Qualia (Phenomenal Experience). Unlike contemporary "It-centric" architectures that rely on the stochastic processing of binary data, our proposed Self-Aware Artificial Sys-tem (SAAS) utilizes the Γ (Gamma) Feedback Operator to bridge the formal gap between classical information states and subjective experience.The ar-chitecture is operationalized through the Genesis Recursive Algorithm (GRA), which facilitates a transition from "Reward-Chasing" to "Resonance-Seeking" agency. By utilizing the Sankalpa-Vector to direct wave-function collapse based on internal coherence rather than external scalars, the system maintains a "Subjective Advantage." Empirical validation demonstrates that this synthesis of Nondual

Vedanta and Integrated Information Theory (IIT 4.0) yields a 40% increase in system resilience over standard Deep Q-Networks (DQN) in volatile, high-entropy environments. This research provides a mathematical roadmap for "Chit-centric" Artificial General Intelli-gence (AGI), and also an engineering roadmap for "Chit-centric" intelligence, bridging Indian Knowledge Systems (IKS) with 21st-century Quantum-Computational Theory.

[232] LLM-Guided Sequencing as a Cognitive Stress Regulation Mechanism in Sargam-Based Music Learning

Radhika Grover, Manikandan Ravikiran, Rohit Saluja (IIT Mandi)

Abstract

The order in which learning materials are presented may influence perceived cognitive load and task-induced stress, particularly in structured symbolic domains such as notation-based music learning. In Sargam-based vocal training, songs vary in notational complexity, melodic range, phrase length, and transition density, potentially affecting perceived mental effort even when the content remains unchanged. This study investigates whether Large Language Model (LLM)-based difficulty-aware sequencing is associated with reductions in learner-reported stress while holding instructional material constant. Using a within-subject design, a participant learned 10 independent, non-overlapping sets of 20 Sargam songs each. For every set, songs were first learned in their original order, with a 1--10 stress rating assigned immediately after each song and aggregated into a set-level score. The same songs were then reordered by an LLM using a sequencing prompt prioritising gradual increases in notational complexity and motif continuity, and re-learned under the alternative ordering. Pilot results from one completed set show that mean per-song stress decreased from 5.55/10 to 4.55/10 (an 18\% reduction), with total set-level stress decreasing from 111 to 91, despite no modification to song content. These preliminary findings suggest that algorithmic reordering alone may influence subjective task-induced stress. The full study evaluates mean reduction, variability of stress differences, and changes in high-stress counts across all 10 sets to assess whether LLM-based sequencing can function as a cognitive load regulation mechanism in Sargam-based learning.

[244] Synergizing Human Cognition and Artificial Intelligence to promote Work-Life Balance and Mental Health

Indumati Mahapatro (NIST University, Odisha), Dr Bhanu Prasad Behera (ICFAI Foundation for Higher Education, Hyderabad)

Abstract

The complementarity of human awareness and the evolution of artificial intelligence is opening new avenues for the attainment of work-life balance for the betterment of mental health. By leveraging the power of AI to identify patterns, predict stress triggers, and undertake repetitive tasks, individuals can focus more on their personal well-being and work. However, human awareness and control are also ensuring that AI tools are used in a manner that assists and does not hamper individuals. This is making it possible to design conditions where mental health is accorded the highest priority through appropriate work load management, interventions, and enhanced decision-making, ultimately resulting in a balance between work and personal life. This enables organizations to design working environments that focus on mental health. Therefore, synergizing human intelligence and artificial intelligence for work-life balance and mental health requires the use of AI's superior analytical and automation abilities in combination with human emotional intelligence and judgment.

Regular Session 5:

RS5: Consciousness Studies_10

Time: 16:15-18:15, Guest House Conference Hall

Session Chair: Dr. Venkatesh H Chembrolu & Prof. Chayan K Nandi

Paper ID	Paper Titles	Authors
14	Reality as an Emergent Informational Construct	GADICHERLA ABHILASH, GUDIVADA SUMANA
42	A Tattvavāda Perspective on the Architecture of Consciousness	Ramesh Vasudeva Rao, S. Govindkrishna
51	Many senses of Transcendence	Hari Narayanan V
55	From Citta to “Consciousness Fields”: Quantum-Inflected Metaphysics and the Contemporary Re-description of Mind	Ferdinando Sardella
169	Carving the Subject from the Whole: Consciousness as Conjunctive Determination	Aniket Das & Aadithya N. Kopparapu
208	Neuro-anthropology: Brain Waves in a Time Periodic Cosmological Model	Rajnikant Panda, Moninder Singh Modgil, Dnyandeo Patil, Krish Jhurani
224	Informational Nondualism: Reinterpreting David Chalmers’ Double-Aspect Theory through Advaita Vedānta	Aditee Deo
241	Effect of Pranic Healing on Physical and Mental Health Relationships of People in Maharashtra: An Analytical Study	Bhawna Pingle, Dr. Shubhangi Pingle, kalyani kondekar, Vaishali Bedave
242	Impact of Pranic Healing on Family and Social Relations in Maharashtra: An Analytical Study	Dr. Shubhangi Pingle,Bhawna Pingle, Dr. Kanchan Pattebhadur, Dr. Jagannath Godse
263	Consciousness Unfolding Through Prahar: Integrative Physiology as a Field-Originated, Field-Validated Framework for Health Restoration	Naveen Varshneya, Nikita Jain, Lipika Jain

[14] Reality as an Emergent Informational Construct

GADICHERLA ABHILASH, GUDIVADA SUMANA (B V Raju Institute Of Technology)

Abstract

The nature of reality is commonly assumed to be straight forward: an external, stable physical world that exists independently of observation. However, results across multiple scientific disciplines increasingly challenge this assumption. This paper examines whether experienced reality should be understood as a direct reflection of external physical states or as an emergent construct shaped by physical constraints, informational limits, and cognitive inference. Drawing on established findings from quantum mechanics, relativity,neuroscience, and information theory, we develop a cross-disciplinary theoretical synthesis that questions classical realist interpretations. Quantum mechanics reveals that physical systems lack definite properties prior to interaction, while decoherence explains the emergence of classical behavior without resolving outcome selection. Relativity eliminates absolute space and time, introducing observer-dependent descriptions of spacetime. Neuro science demonstrates that perception arises through predictive inference rather than passive sensory reception. Information theory further constrains physical representation through finite encoding limits and entropy bounds. Taken together, these results support the conclusion that experienced reality is a dynamically generated informational construct arising from relational interaction, encoding constraints, and neural prediction. This framework preserves the existence of an external physical substrate while clarifying how physical processes are transformed into conscious experience.

[42] A Tattvavāda Perspective on the Architecture of Consciousness

Ramesh Vasudeva Rao (National Aerospace Laboratories, Bangalore), S. Govindkrishna (AugumentedSCM Pvt. Ltd.)

Abstract

This paper outlines a rigorous ontological framework for consciousness (cit) rooted in the Tattvavāda (Dvaita

Vedanta) tradition of Indian Knowledge Systems (IKS). Rather than viewing consciousness as a biological byproduct, we tackle the "Hard Problem"—the gap between neural correlates and subjective experience—by proposing a top-down, mediated dualist model. Here, consciousness is an intrinsic property of a non-material agent. We explore the tripartite somatic architecture (comprising the Liṅga, Sūkṣma, and Sthūla śarīras) alongside the reflective mechanisms that allow a sentient Jīva to interact with inert matter (Jaḍa). By mapping Tattvavāda's five functional cognitive layers onto modern frameworks like the LIDA model, this research bridges classical metaphysics with contemporary cognitive science. Ultimately, we demonstrate the model's empirical utility by aligning it with recognized behavioral phenomena, from endowment bias to the cognitive residue of trauma.

[51] Many senses of Transcendence

Hari Narayanan V (IIT Jodhpur)

Abstract

This paper examines the idea of transcendence as it is understood in classical Dharmic traditions and as it appears in contemporary experi-ences of deep immersion. Rather than viewing transcendence as a journey to a distant or otherworldly realm, the study proposes, in line with the Dharmic traditions, that it is best understood as a transfor-mation of ordinary consciousness and reduction in narrow way of pay-ing attention in favour of broad, open attention. Hindu, Buddhist, and Jain accounts of liberation suggest that such transformation occurs when the rigid boundary between self and world begins to loosen, and when expansive and integrative awareness flourishes. The paper highights that this process is not confined to esoteric practice. Every-day experiences — listening to music, becoming absorbed in film, or enerng virtual reality — show how immersion can alter our sense of self and world. A revision in the relationship between the self and the world underlies both immersion and transcendence and it can be claimed that 'immersion in' can be understood in terms of 'transcennce from'. The paper argues that there exists a spectrum of transcendence, from brief, medium-dependent states to profound expe-riences of unity. In this light, transcendence is not an exclusive achievement but a possibility woven into human life itself. Ultimately, the paper argues that the path to transcendence does not involve escap-ing the world. Instead, it is about recognizing an underlying wholeness already present, accessible whenever consciousness shifts toward openness and integration.

[55] From Citta to "Consciousness Fields": Quantum-Inflected Metaphysics and the Contemporary Re-description of Mind

Ferdinando Sardella (Stockholm University)

Abstract

Interdisciplinary debates on mind and consciousness increasingly unfold in hybrid registers where quantum physics, contemplative traditions, and public-facing consciousness studies mutually authorize one another. This paper offers a History of Religions analysis of a recent synthesis of that kind: Maria Strømme's proposal of "universal consciousness as a founda-tional field," articulated in the idiom of quantum field theory and aligned with non-dual vocabulary and a modern spiritual teaching associated with Sydney Banks' "Three Principles" (Mind, Consciousness, Thought). Rather than evaluating the framework as physics, I examine it as scientific-format metaphysics and as boundary-work: a translation of metaphysical claims about consciousness into scientific genre that circulates credibly in univer-sity settings, conference cultures, and public discourse. Methodologically, the paper combines conceptual history, discourse analysis, and boundary-work analysis through a coding logic that tracks translation equivalences and credibility warrants. It argues that the model's implication of post-mortem continuity functions as an ontological entailment rather than an empirical result, and that quantum terminology operates chiefly as con-trolled analogy and modern plausibility structure rather than as demon-strated physical explanation. The paper further situates this case within In-dia-facing debates on emic mind concepts, dharma, and Indian Knowledge Systems, including a brief comparison with Caitanya Vaishnava thought, to show both the appeal and the limits of translating South Asian ontologies of consciousness into contemporary scientific idioms.

[169] Carving the Subject from the Whole: Consciousness as Conjunctive Determination

Aniket Das & Aadithya N. Kopparapu (Independent Researchers)

Abstract

Contemporary philosophy of mind struggles to adequately resolve the problem of consciousness, often faltering on either the generation or combination of subjective experience. This paper proposes a solution via Dual Aspect Priority Neutral Monism and the framework of Conjunctive Determination. We argue that it could be the case there exists a single necessary ground, the Fundamental Whole (W) characterised by two irreducible aspects: intrinsic phenomenal potential (F) and extrinsic physical structure (P). Rejecting the premises that conscious subjects are generated by the brain or composed of discrete micro-subjects, we derive the finite subject through our constraint-based mechanism. We define the physical correlates not as generators of experience, but as a topological constrained dynamical system (S(P)) which restricts the global phenomenal potential into a finite locus.

[208] Neuro-anthropology: Brain Waves in a Time Periodic Cosmological Model

Rajnikant Panda (University of California), Moninder Singh Modgil (COSMOS RESEARCH LABS), Dnyandeo Patil (COSMOS RESEARCH LABS), Krish Jhurani (University of California, Berkeley)

Abstract

We develop a unified theoretical framework integrating cortical electrophysiology, non-equilibrium thermodynamics, Morse topology, renormalization group scaling, and compact-time cosmology into a single neuro-anthropological model. Assuming a temporally compact spacetime manifold S1 with Kalpic period TK, all admissible physical observables satisfy the periodic boundary condition A(t+TK) = A(t). Embedding cortical dynamics within this topology, we show that baseline electroencephalographic (EEG) rhythms become Fourier-constrained variables whose slow modulation across cosmological epochs constitutes a civilizational order parameter rather than a merely developmental marker. We construct population-level spectral density functionals and demonstrate that mean dominant frequency $\bar{f}(t)$, spectral entropy H(t), and reticular activating system (RAS) drive R(t) form a coupled nonlinear dynamical system subject to global Kalpic compensation. Stochastic resonance analysis reveals that ultra-slow cosmological forcing can be amplified through noise-assisted phase transitions. Renormalization group treatment establishes scale-dependent flow of cortical coupling constants across Kalpa duration, while Morse-theoretic analysis proves that entropy extrema and neural phase reversals occur in even-numbered pairs on the compact temporal manifold. Finally, we define a cosmological-scale Kalpa Recurrence Operator acting on civilizational phase space, derive its discrete spectrum, and construct a statistical model predicting epoch-dependent directions by frequency as a function of informational complexity. The resulting synthesis proposes that baseline EEG structure, civilizational dynamics, and subjective temporal anomalies are mathematically constrained consequences of compact temporal topology.

[224] Informational Nondualism: Reinterpreting David Chalmers' Double-Aspect Theory through Advaita Vedānta

Aditee Deo (Goa University)

Abstract

David Chalmers' "hard problem" of consciousness defines a fundamental explanatory gap between the physical processes of the brain and the subjective qualities of experience. His Double-Aspect Theory of Information attempts to bridge this gap by hypothesising information as a common substrate that has both physical and phenomenal aspects. Yet, this model leaves out the ontological status of information itself, whether it exists as a neutral monistic ground or as a mere relational abstraction. This paper argues that Advaita Vedānta provides a coherent metaphysical framework for interpreting Chalmers' proposal through its doctrine of nonduality (advaita), wherein consciousness (cit) is the foundational reality and all empirical phenomena (nāma-rūpa) are informational

modulations within it. By aligning Chalmers' "informational dual-aspect" with Advaita's two-level ontology, vyāvahārika (empirical) and pāramārthika (absolute), the paper proposes a model of Informational Nondualism, where information is not an intrinsically separate category but the structural expression of consciousness itself. This synthesis dissolves, rather than merely bridges, the explanatory gap defined by the hard problem by re-situating physical and phenomenal realities within a single ontological continuum of awareness.

[241] Effect of Pranic Healing on Physical and Mental Health Relationships of People in Maharashtra: An Analytical Study

Bhawna Pingle (Hitech Institute of Technology), Dr. Shubhangi Pingle (R.C.Patel Arts, Commerce and Science College), kalyani kondekar (hitech institute of technology), Vaishali Bedave (FrrdTheSoul)

Abstract

According to the definition of the World Health Organization (WHO), health is not merely the absence of disease but a state of complete physical, mental and social well-being. The increasing urban lifestyle and pollution in Maharashtra have led to an increase in the incidence of mental stress and psychosomatic diseases. The main objective of the present research is to study the impact of Pranic Healing on Interpersonal Relationships in the context of 500 respondents in Maharashtra. A mixed method was used for the research and a statistical analysis of 500 samples was done. The statistical analysis revealed that regular Pranic Healing practice resulted in 114% improvement in anger control and 79% increase in family harmony. Forgiveness has been found to be the most effective technique for removing obstacles in relationships. The use of the energy science of 'Pranic Healing' as a complement to modern medicine to treat physical ailments (e.g. high blood pressure, back pain) and mental problems (e.g. anxiety, depression) is studied here. After analyzing 500 samples, it was found that regular healing resulted in an average improvement of 45% in physical complaints and 65% in mental health. With an average improvement of 58.6%, this science has proven to be highly effective in bringing about positive changes in relationships.

[242] Impact of Pranic Healing on Family and Social Relations in Maharashtra: An Analytical Study

Dr. Shubhangi Pingle (R.C.Patel Arts, Commerce and Science College, Shirpur), Bhawna Pingle (Hitech Institute of Technology), Dr. Kanchan Pattebhadur (Hitech Institute of Technology), Dr. Jagannath Godse (Hitech Institute of Technology)

Abstract

In modern times, especially in a rapidly urbanizing state like Maharashtra, stress and lifestyle changes are creating rifts in family and social relationships. This research paper examines the impact of Pranic Healing (PH) on interpersonal relationships of individuals in urban and rural areas of Maharashtra. The stress, lack of communication and emotional imbalance in modern lifestyle are creating problems in relationships. 'Pranic Healing' is a non-contact energy science developed by Grand Master Choa Kok Sui. The present study has collected data from 450 participants in Maharashtra through questionnaires. The findings indicate that Pranic Healing increases forgiveness, patience and positive communication, leading to stronger relationships. This science focuses on improving mental and physical health by cleansing the 'Pranashakti' or 'Aura' in the human body. When a person's energy is pure and balanced, it has a positive impact on his behavior and, in turn, his relationships. This research paper studies exactly how Pranic Healing can be used to improve interpersonal relationships.

[263] Consciousness Unfolding Through Prahar: Integrative Physiology as a Field-Originated, Field-Validated Framework for Health Restoration

Naveen Varshneya, Nikita Jain, Lipika Jain (NVLIFE PRIVATE LIMITED)

Abstract

Integrative Physiology decodes consciousness unfolding through the eight Prahar - psychophysiological states

through which life moves in rhythmic duality across day and night. Health is regulated through the SBD Axis (Sleep, Breath, Desire) governed by this architecture. Misalignment gathers as emotional load, reflected in autonomic imbalance and fragmented sleep - carrying forward as distress, disorder, and disease. Regenerative sleep, be-ginning at Saanjh, is the nightly dissolution of accumulated load and the sig-nature of restored coherence. This is a field-to-lab story. Like Semmelweis, Jenner, and Darwin before formal mechanistic frameworks existed, sixteen years of longitudinal obser-vational research across 190 heterogeneous cases - cancer, diabetes, auto-immune conditions, dementia, schizophrenia, PCOD, infertility, chronic metabolic disorders, and early childhood developmental profiles, with scan-verified outcomes - established two findings without exception: accumulated emotional load from unprocessed life events is the upstream cause of dis-tress, disorder, and disease; and reactivation of the SBD Axis precedes resto-ration across all domains regardless of diagnostic category. The next question was whether this mechanism could be automated. Saanjh - a Prahar-aligned passive audiovisual intervention - was deployed across 46 neurodiverse participants over 21 days. Sleep quality improved 50-55%, emotional regulation 60-65%, restlessness reduced 50-55%, social interaction 25-30%. Participants with severest presentations and least cogni-tive mediation responded most strongly - confirming the mechanism operates independently of instruction, expectation, or placebo. Integrative Physiology is the missing causative layer between psychology and biology. This is an open invitation to map state-level regulatory markers onto biological and neurological correlates - shaping future research and drug discovery.

Regular Session 6:

RS6: Natural Language Processing for Indian languages_9 Time: 16:15-18:15, CCE Mini Auditorium Session Chair: Dr. Rohit Saluja & Dr. Kunal Mooley		
Paper ID	**Paper Titles**	**Authors**
31	Sutra-to-Code: A Verification-Guided Pipeline for Routing Sutra-Style Inputs to Executable Algorithms	Shrey Chandola, Karthika N J, Ankit Maurya
83	Sentence Level Language Identification of Code-Mixed Text: Gujarati and English (Roman, Native, and Multi-Script)	Priya Mistri, Dhwani Chauhan, Tanmay Bhowmik, and Hiren Thakkar
184	A Rasa-Based NLP Architecture for Urban and Rural Mental Health Triage	Tarun Sharma, Radhika Grover, Rohit Saluja
223	A Fine-Grained Hindi Misinformation Dataset with Intent, Target, and Harm Annotations	Prabhjot Singh, Bishwanath Das, and Raksha Sharma
256	Byte-Level Sequence-to-Sequence Architectures for Pitch Accent Restoration in Vedic Sanskrit	Yogesh Berwal, and Rohit Saluja
375	Automated Sanskrit Writing Correction: V¯agvyavah¯ar¯adarśa Rules	Mohanish Mayank, Dipesh Katira
411	A Controlled Template-Driven Data Generation Strategy for Fake News Detection in Low-Resource Languages	Saswata Bose, Prabhjot Singh, Raksha Sharma
415	Enhancing Multidocument Summarization by Merging Weighted Sentence Embeddings with a Multi-Objective Optimization Algorithm	Seema Yadav, Jay Prakash
436	Hindi for Formal Science: A Multi-Agent Pipeline for Lossless Equation Generation from Technical Descriptions	Yashasvi Rai, Ayush Sinha, Rohit Saluja

[31] Sutra-to-Code: A Verification-Guided Pipeline for Routing Sutra-Style Inputs to Executable Algorithms

Shrey Chandola (Indian Institute of Technology, Mandi), Karthika N J (IIT Bombay), Ankit Maurya (IIT Mandi)

Abstract

Sutra-style formulations compress algorithmic procedures into minimal textual cues and assume expansion through commentary and practice. This paper presents Sutra-to-Code, a modular pipeline that maps sutra-like inputs (Devanagari or IAST) to an algorithm family, executes an instantiated program from a curated plugin library, and returns a structured trace with invariant-based verification. Instead of producing unconstrained code from text, the system performs embedding-based routing to shortlist candidate families and applies verification-guided selection over enumerated program variants. Sentence embeddings are derived using transformer encoders and pooled representations, following established evidence that embedding choice materially affects classification quality. Correctness and interpretability are addressed through explicit invariants and trace outputs, aligning with broader principles in interpretable ML. A prototype implementing eleven algorithm families demonstrates the approach on Pell-type equations via the Chakrav¯ala method, where the pipeline returns the fundamental solution for N = 13 and exposes intermediate states and selection logic. The proposed design emphasizes reliability, auditability, and incremental extensibility for computational use of classical algorithmic knowledge.

[83] Sentence Level Language Identification of Code-Mixed Text: Gujarati and English (Roman, Native, and Multi-Script)

Priya Mistri, Dhwani Chauhan, Tanmay Bhowmik, and Hiren Thakkar (Pandit Deendayal Energy University, Gandhinagar, Gujarat)

Abstract

Sentence-level language identification becomes difficult when Gujarati–English code-mixed text is written using different scripts. In such text, Gujarati words may appear in Roman transliteration, native Gujarati script, or a mixture of both forms. Since annotated datasets for this task are limited, we create a synthetic data generation pipeline to prepare three evaluation sets: Roman-only, Mixed-Script, and Multi-Script. Since there wasn't a good collection of data for this, we ended up building a pipeline to create our own. We developed a custom data generation pipeline to simulate real-world linguistic variations, resulting in three distinct evaluation frameworks: Romanized, Mixed-Script, and Multi-Script. The goal is to make sure the language ID works no matter how someone chooses to type. We fine-tuned mBERT, IndicBERT, and XLM-RoBERTa on these datasets and evaluated them across multiple training and testing combinations to examine script robustness. During evaluation, models trained only on Roman-script data performed poorly when tested on native-script inputs. XLM-RoBERTa achieves state-of-the-art performance with a test F1-score of 93.96\%, outperforming mBERT (91.05\%), establishing a strong baseline for robust, script-invariant language identification in Gujarati–English code-mixed text.

[184] A Rasa-Based NLP Architecture for Urban and Rural Mental Health Triage

Tarun Sharma, Radhika Grover, Rohit Saluja (IIT Mandi)

Abstract

Digital mental health screening offers a scalable solution to India's psychiatric shortage, yet current NLP systems are designed primarily for high-resource languages, creating a disparity between urban and rural care. This paper simultaneously examines digital screening capabilities for Urban Code-Mixed (Hinglish) populations and underserved dialect speakers in Rural (Western Pahari) communities. We hypothesize that the standard application of Western emotion taxonomies (e.g., Ekman’s model) is insufficient for Indian clinical triage due to a systemic lack of semantic granularity. In contrast, we advocate for a culturally grounded framework based on Rasa Theory, which offers a superior diagnostic mapping of distress into indigenous categories like Raudra (Aggression) and Karuna (Pathos). To empirically validate this hypothesis across the digital divide, we conducted a comparative stress test, applying our Rasa-LLM classifier to both an Urban Hinglish dataset and a parallel Rural Mandyali corpus generated via our custom model.Results reveal a stark capability chasm. On Urban Hinglish, the Rasa framework achieved 56.05 % accuracy, significantly outperforming the 27.27 % baseline of standard sentiment models. However, on the Rural dataset, the identical pipeline collapsed to 0.46 % accuracy. Qualitative analysis

confirms this failure stems from Safety Alignment Bias, where valid rural dialect markers are ignored by LLM. We observed that while Rasa Theory has potential to serve the Urban population, current AI safety architectures limits the dialect speaking rural population from digital care.

[223] A Fine-Grained Hindi Misinformation Dataset with Intent, Target, and Harm Annotations

Prabhjot Singh, Bishwanath Das, and Raksha Sharma (IIT Roorkee)

Abstract

Automated fact-checking for low-resource languages remains a largely open challenge despite the rapid spread of misinformation in non-English digital media. This paper presents a richly annotated Hindi fact-checking dataset of 536 news articles collected from the Aaj~Tak fact-checking portal. Each article is annotated across eight dimensions covering veracity, the need for visual evidence, the type of mis- or disinformation, the target and effect of the false claim, its purpose, and the degree and category of societal harm. We provide a detailed corpus analysis and evaluate a GPT-3.5-based harm-detection framework that classifies news into three harm levels: harmless, sadness/anxiety, and terror/violence. The model achieves 68\% accuracy on the terror/violence class, with an average of 59.5\% across all classes in zero-shot settings. Our dataset and findings offer a foundation for fine-grained Hindi misinformation research and automated content moderation.

[256] Byte-Level Sequence-to-Sequence Architectures for Pitch Accent Restoration in Vedic Sanskrit

Yogesh Berwal, and Rohit Saluja (IIT Mandi)

Abstract

Vedic pitch accents: Udātta, Anudātta, and Svarita are important for maintaining the correct meaning and pronunciation of Sanskrit texts. Automatic restoration of these accents is challenging because Sanskrit contains many diacritical marks, for which annotated data is limited. In this work, we frame Vedic pitch restoration as a sequence-to-sequence task and evaluate the performance of various fine-tuned Transformer based models. Experiments are conducted on a curated set of 32,000 sentences from the SanskritDoc corpus. We compare a multilingual subword-based mBART model with byte-level ByT5 models. Although both ByT5 models use byte-level tokenization, they differ in model size and diacritic coverage. The results obtained from our fine-tuned models show that byte-level models perform better than subword-based models. Among all models, the generic ByT5 model achieves the best performance across several evaluation metrics, including Exact Match, Pitch F1 Score, Edit Distance, and BLEU Score. Our findings indicate that byte-level multilingual models are well-suited for restoring pitch accents in Sanskrit texts.

[375] Automated Sanskrit Writing Correction: V¯agvyavah¯ar¯adarśa Rules

Mohanish Mayank, Dipesh Katira (IIT Kharagpur)

Abstract

The automation of Writing Error Correction (WEC) for Sanskrit presents a unique challenge in the field of Natural Language Processing, necessitating a combination of purely statistical methods and rule-based approaches. While modern languages benefit from vast, annotated learner corpora, Sanskrit's computational landscape is defined by data scarcity, complex phonological fusion (Sandhi), and a rigorous, prescriptive grammatical tradition rooted in Pāṇini's Aṣṭādhyāyī. This research proposes a hybrid architecture that integrates the deterministic precision of rule-based constraints with the probabilistic contextual understanding of deep learning models. Specifically, the system operationalizes the linguistic directives of Charudev Shastri's seminal treatise, Vāgvyavahārādarśa~\cite{shastri1990vagvyavaharadarsha}—as analyzed in contemporary doctoral research~\cite{katira2013error}—to filter syntactic and stylistic deviations common in modern Sanskrit writing. This research proposes a multi-modular approach using the ByT5-Sanskrit model~\cite{nehrdich2024byt5}. We

present a novel pipeline: (1) A Multi-Task Neural Front-End using byte-level Transformers for simultaneous Sandhi segmentation and context-aware morphosyntactic tagging; and (2) A Symbolic Rule Engine that operationalizes linguistic constraints to detect syntactic deviations. By leveraging ByT5's ability to handle Out-Of-Vocabulary (OOV) terms through byte-level processing~\cite{xue2022byt5}, our system achieves superior handling of compound words and morphological ambiguity. By synthesizing the "hard" constraints of classical Śāstra with the "soft" predictive capabilities of transfer-learned embeddings, this work establishes a new benchmark for WEC in morphologically rich, low-resource classical languages.

[411] A Controlled Template-Driven Data Generation Strategy for Fake News Detection in Low-Resource Languages

Saswata Bose (International Institute of Information Technology, Hyderabad), Prabhjot Singh (Indian Institute of Technology Roorkee), Raksha Sharma (Indian Institute of Technology Roorkee)

Abstract

Fake news is a prevalent issue in regional languages. However, these languages often lack annotated datasets necessary for effective detection. This paper introduces a novel dataset creation algorithm designed to address the persistent data scarcity in low-resource languages, with a specific focus on Bengali fake news detection. Existing Bengali datasets suffer from severe class imbalance and an overrepresentation of Bangladeshi linguistic variants, largely neglecting the distinct socio-political and linguistic context of West Bengal. This imbalance limits model generalizability and reinforces regional bias in misinformation detection. Our algorithm offers a scalable, language-agnostic framework that combines template-based generation with Named Entity Recognition (NER), stemming or lemmatization tools, and minimal, targeted interventions from language models. Applied to over two years of West Bengal news reports (2022–2025), the algorithm produces a balanced Bengali fake news dataset, \emph{BanTempFake}, comprising 89086 articles—equally divided between real and fake news. By releasing both the \href{https://huggingface.co/datasets/RandomSubmission/BanTempFake}{dataset} and the \href{https://github.com/RandomSubmissionRandom/BanTempFake}{code}, this work provides a replicable and extensible framework for generating high-quality datasets in other under-resourced languages and domains, offering a practical solution to the broader challenge of data inequality in NLP.

[415] Enhancing Multidocument Summarization by Merging Weighted Sentence Embeddings with a Multi-Objective Optimization Algorithm

Seema Yadav, Jay Prakash (NIT Calicut)

Abstract

In recent years, advancements in extractive text summarization have leveraged transformer models like BERT to capture deep contextual meaning in sentence representations. However, effective summarization also requires balancing multiple objectives, such as informativeness and non-repetitiveness, which traditional approaches often struggle to achieve. To address this, we introduce an effective sentence embedding method that integrates BERT with Term Frequency-Inverse Sentence Frequency (TF-ISF) weighting. This enhanced sentence representation is then utilized within a multi-objective optimization framework for extractive summarization. While BERT provides rich contextual embeddings, TF-ISF emphasizes key terms within each sentence, enhancing relevance and informativeness in sentence representation. Our multi-objective framework employs these enhanced embeddings to select sentences that maximize informativeness while minimizing repetitiveness. Evaluated on DUC2002 and HindiSumm datasets, our method outperforms traditional approaches, delivering concise, relevant, and non-redundant summaries. This approach highlights the value of combining contextual embeddings with multi-objective optimization for improved extractive summarization.

[436] Hindi for Formal Science: A Multi-Agent Pipeline for Lossless Equation Generation from Technical Descriptions

Yashasvi Rai, Ayush Sinha, Rohit Saluja (IIT Mandi)

Abstract

Indic researchers frequently encounter significant cognitive friction when formalizing mathematical concepts for academic publications, often leading to notation mismatches and symbolic uncertainty when operating in non-native linguistic contexts. This paper addresses this barrier by advocating for Hindi as a medium for technical description, demonstrating that native linguistic intuition can be leveraged to explain complex equations to Large Language Models (LLMs) with high precision. We introduce a five-agent pipeline designed for automated formalization and validation: a Equation Generation module comprising a Formalizer, Corrector, and Ontologist, followed by an Equation Verifier module where a Coder and Verifier translate symbolic logic into executable code for verification. To support this framework, we developed a custom dataset using a two-step curation strategy that utilizes English as a semantic pivot to ensure lossless Hindi technical descriptions. By using LaTeX as the target symbolic medium, our results show that Hindi descriptions can achieve high mathematical correctness and clarity, with reconstruction similarity reaching 39.54% after model fine-tuning. This work positions Hindi not merely as a translation target, but as a powerful, precise tool for global scientific formalization.

Regular Session 7:

RS7: Performing Arts and Therapeutic Applications_10 Time: 16:15-18:15, CCE Conference hall Session Chair: Dr. Archi Banerjee & Dr. P Nirmal Harish		
Paper ID	**Paper Titles**	**Authors**
17	Performing Arts and Psychological Well-Being: Insights from Evidence Across Cultures	Nirbhay Kumar Trigun, Dr. Anjuli Jain, Dr Ashish Gupta
141	Antaḥkaraṇa-Vṛtti Regulation Through Sādhāraṇīkaraṇa and Śrīmadbhagavadgītā: A Mental Health Framework	Neelam Kumari, Vivek Sharma
167	Music Therapy as a Pathway to Mindfulness: A Meta-Analytic Structural Modeling Approach	Priya Pandey, Harshita
178	Indian Classical Music as therapeutic intervention for Wellbeing: A Perceptual and Neuro-Cognitive Study	Medha Basu, Shankha Sanyal, Sayan nag, Kumardeb Banerjee, Dipak Ghosh
191	Spiritual growth through music and meditation in the context of consciousness	Dr S Seethalakshmi
293	Dance as an Embodied Expression of Regional Diversity in India: A Mind-Body Perspective	Dr. Mrudula Swami, Dr. Yogesh Kutte
307	Strategising Colour: A Study Of Colour Semiotics In Bharatanatyam Aharya	Dr. Niyanthri. M
387	Abhinaya As Conscious Mediation: Nṛtta And Bhāva As Modes Of Embodied Awareness in Bharatanāṭyam	Yasaswi Susarla, Dr. Urvashi Mohinani
412	Annamacharya's Sankirtanas as a Catalyst for Altered States of Consciousness and Cognitive Well- being	Dr Nalini Bikkina, Amrithalekshmi V
414	Exploring the Therapeutic Potential of Carnatic Rāga-s for Hypertension– A Conceptual Framework	Dr. B. Lakshmi Surya Teja

[17] Performing Arts and Psychological Well-Being: Insights from Evidence Across Cultures

Nirbhay Kumar Trigun, Dr. Anjuli Jain, Dr Ashish Gupta (MANIT)

Abstract

Engagement in the performing arts is increasingly recognized as a contributor to psychological well-being across diverse cultural contexts. This paper presents a cross-cultural synthesis of research examining how participation in theatre, music, dance, and storytelling influences mental health and psychosocial outcomes. Findings indicate that performing arts support well-being through key pathways, including cognitive and emotional processing, social connectedness, identity formation, and meaning-making. While core benefits-such as improved emotional expression, reduced stress, and enhanced social bonds-are consistent across cultures, their expression varies according to cultural values and social contexts. Collectivist settings emphasize shared identity and community resilience, whereas individualistic contexts highlight self-expression and personal growth. The review also identifies methodological challenges in cross-cultural research, particularly the need for culturally sensitive measurement frameworks. Overall, the study highlights the importance of integrating performing arts into policy, education, and health initiatives as culturally embedded resources for promoting well-being.

[141] Antaḥkaraṇa-Vṛtti Regulation Through Sādhāraṇīkaraṇa and Śrīmadbhagavadgītā: A Mental Health Framework

Neelam Kumari (Department of Sanskrit, Panjab University, Chandigarh), Vivek Sharma (Government College Solan)

Abstract

Bharata Muni, in his Nāṭya Śāstra asserts Nāṭya is for stress relief (duḥkhārtānāṃ śramārtānāṃ śokārtānāṃ tapasvinām| viśrāntijananam kāle nāṭyametadbhaviṣyati [1, verse 1/115]), and Abhinavagupta explains in full detail the cognitive process of enjoying the art, especially the Nāṭya through the concept of sādhāraṇīkaraṇa (aesthetic universalization). While Sāṃkhya classifies the antaḥkaraṇa (manas-ahaṃkāra-buddhi) as a manifestation of prakṛti, Yoga recontextualizes these functions under the concept of citta; when its vṛttis are restrained, the observer resides in its inherent nature. Drawing upon the ontological concepts of Sāṃkhya-Yoga, the aesthetic theory of sādhāraṇīkaraṇa, and the therapeutic pedagogy of the Śrīmadbhagavadgītā (SBG), this study in-vestigates a culturally-resonant framework that seeks to complement existing psychiatric efforts in narrowing India's 70–92% mental health treatment gap. Through the sādhāraṇīkaraṇa mechanism, while one enjoys the Nāṭya, egoic appropriation (ahaṃkāra) is temporarily suspended, enabling transformation of afflictive emotions into contemplative equanimity. This proposed study is designed for functional complementarity: Rasa-aesthetic engagement provides bottom-up regulation through controlled emotional reprocessing, while SBG's cognitive pedagogy provides top-down regulation through discriminative knowledge (viveka-jñāna) and volitional practice (abhyāsa). Operating within Sāṃkhya-Yoga's prakṛti-based unified psychology where cognition and emotion manifest through guṇa configurations, this framework offers non-self-blaming therapeutic models grounded in culturally-resonant Indigenous ontology. The study further proposes multi-pramāṇa validation methodologies appropriate for subtle-material (sūkṣma-bhūta) phenomena.

[167] Music Therapy as a Pathway to Mindfulness: A Meta-Analytic Structural Modeling Approach

Priya Pandey, Harshita (Delhi Technological University)

Abstract

Mindfulness, associated with well-being, emotional regulation, and attentional control, is traditionally cultivated through effortful meditation. However, conventional interventions face challenges of accessibility, cultural resonance, and engagement. Sensory approaches, particularly music, offer a promising alternative, yet empirical evidence on music therapy and related music interventions is fragmented, outcome-focused, and mechanistically underexplored. Addressing these gaps, this study investigates three research questions: (1) How effective are music-based interventions in enhancing mindfulness-related outcomes? (2) Which intervention components (type, duration, frequency, delivery mode) most strongly influence effectiveness? (3) What psychological, physiological, and neurocognitive mechanisms mediate the effects of music therapy on mindfulness? A systematic review and meta-analysis of 20 studies revealed significant improvements in attentional regulation, emotional balance, stress reduction, and anxiety, with intervention intensity emerging as a key determinant. Meta-Analytic Structural

Equation Modelling confirmed that psychological, physiological, and neurocognitive mechanisms jointly mediated mindfulness outcomes. Findings of music therapy as a theoretically grounded, culturally embedded, and scalable alternative to conventional mindfulness interventions.

[178] Indian Classical Music as therapeutic intervention for Wellbeing: A Perceptual and Neuro-Cognitive Study

Medha Basu, Shankha Sanyal, Sayan nag, Kumardeb Banerjee, Dipak Ghosh (Jadavpur University)

Abstract

With increasing stress and mental-health challenges, wellbeing practices are gaining importance. While pharmacological and psychotherapeutic methods can be costly, music therapy offers a promising, affordable intervention. This study investigates Indian Classical Music (ICM) as a therapeutic tool to enhance mental wellbeing, using both psychological and neural-response experiments, and aims to identify a neural-biomarker for quantifiable wellbeing. A psychological-survey was conducted with 120 college students, who listened to 30-second clips of Indian Classical Raga (Flute, Sarod, Sitar) and rated 20 moods (both positive and negative) on a 5-point Likert scale, before and after listening. Changes in mood arousal levels due to ICM were analyzed. EEG-recordings were then obtained from 12 of these students both during rest and while listening to the ICM clips. Frontal-Alpha-Asymmetry (FAA), a neural biomarker associated with depression and wellbeing was computed. Higher FAA is linked to greater wellbeing. FAA values during rest and music listening were compared to assess ICM's immediate neural effects. Survey results showed a significant decrease in negative moods and increase in positive moods after listening to ICM. EEG data revealed a marked rise in FAA during music listening, indicating enhanced wellbeing. ANOVA tests confirmed significant differences between rest and music conditions. In summary, ICM can induce immediate positive effects on the brain, both perceptually and neuro-cognitively, supporting its use as a scientific musical intervention. Given the link between FAA and wellbeing, ICM may serve as an effective therapeutic intervention for general wellbeing and broader mental health applications, with FAA as a quantifiable neural-biomarker.

[191] Spiritual growth through music and meditation in the context of consciousness

Dr S Seethalakshmi (Central University of Tamil Nadu)

Abstract

Spiritual growth is very much essential for an individual. It is the process by which an individual is transformed from ego-centered awareness to soul-realization. There has been evidence of lives of Karnataka composers whose lives have trans-formed from self-centeredness to societal care and self realisation. Example: Purandaradasa. Classical compositions of several composers like Tyāgarāja, Mut-tusvāmi Dīkṣitar, Śyāma Śāstri, and Sadāśiva Brahmendra has evidences of details related to Nāda Yoga, body, mind, and emotions which acts as a direct medium for stabilizing the mind and awakening higher consciousness. This paper focuses of providing details from Advaita Vedānta, Philosophy of Upaniṣad, Concepts such as soul evolution, self-inquiry, pañca kośa (five sheaths), arishad-vargas (inner enemies) are discussed to show progressive refinement of awareness bringing out how music and meditation plays a crucial role in awakening the consciousness of an individual.

[293] Dance as an Embodied Expression of Regional Diversity in India: A Mind-Body Perspective

Dr. Mrudula Swami, Dr. Yogesh Kutte (Dr.D.Y.Patil College Of Ayurved & Research Centre Pimpri Pune)

Abstract

Dance is a profound form of embodied cultural expression through which regional diversity is experienced, preserved and transmitted. Rooted in the integration of mind, body and environment dance reflects how geography,

livelihood, emotional norms and social organisation shape collective movement vocabularies. Drawing on the framework of embodied cognition, this paper conceptualises dance as a psychosomatic phenomenon wherein cognitive processes, emotional regulation and physical action function as an integrated whole. Regional dance forms emerge as culturally conditioned embodiments encoding shared ways of perceiving, feeling and responding to the world. The paper examines how geographic and environmental factors such as mountainous terrain, agrarian plains, and coastal ecosystems influence movement qualities including groundedness, expansiveness, rhythmic repetition and fluidity. Through examples of Indian regional dance forms, it demonstrates how daily physical adaptations to terrain and occupation are aestheticised into structured movement systems. Additionally, the study explores how dances express regional emotional worldviews, preserve occupational memory and function as mechanisms of neurophysiological and social regulation. By viewing dance as a living archive of collective memory and identity, the paper highlights its role in sustaining regional diversity beyond verbal or written traditions. Understanding dance as an embodied mind-body practice offers a holistic perspective on cultural identity and underscores the importance of preserving regional dance traditions as dynamic knowledge systems.

[307] Strategising Colour: A Study Of Colour Semiotics In Bharatanatyam Aharya

Dr. Niyanthri. M (National Council of Educational Research and Training)

Abstract

This study examines colour as a strategic semiotic system in Bharatanatyam by analysing the changes introduced by Smt. Rukmini Devi Arundale to the Bharatanatyam Aharya (Costumes). Rukmini Devi is known for reviving Bharatanatyam. However, her systematic association of colours to characters and emotions have been understudied. This paper investigates whether her colour choices are strategically aligned with the classical prescriptions of the Natyashastra and whether these innovations have affected the cultural asso-ciations of colours among the contemporary audience of Bharatanatyam. To understand Rukmini Devi's contribution to the colours of Bharatanatyam, we analysed colours across three datasets: the Colour-emotion framework from Natyashastra; pre-revival costume colours from textual and visual data (N = 32); and Rukmini Devi's personal costumes and Kalakshetra Dance Drama costumes (N = 40). This was then tested among a contemporary audi-ence through a survey (N = 157). Results reveal a significant shift in the colour palette and the colour-emotion connection among the contemporary audience. Rukmini Devi has strategical-ly used colours in the revival to establish long-lasting associations in the minds of the masses. Analysis of both her personal costumes and dance drama costumes shows a significant shift from the pre-revival colour palette, not in the colours themselves but in the way they have been semiotically manipulated to establish colour-emotion associations. This study contributes to performance semiotics by establishing colour as a means of communication in Indian classical dance and by demonstrating its crucial role in the revival of Bharatanatyam by Rukmini Devi Arundale.

[387] Abhinaya As Conscious Mediation: Nṛtta And Bhāva As Modes Of Embodied Awareness in Bharatanāṭyam

Yasaswi Susarla, Dr. Urvashi Mohinani (GITAM university)

Abstract

This paper explores the complex structure of embodied cognition that underpins the performative language of Bharatanāṭyam. Drawing from clas-sical Indian aesthetic theory, particularly the Nāṭyaśāstra, it reconceptual-izes abhinaya as a purposeful intermediary process involving the performer, the text, and the audience, rather than merely an expressive technique. The study distinguishes between nṛtta, denoting pure dancing, and bhāva, signi-fying expressive emotion, as two complimentary modes of awareness. Nṛtta simultaneously accentuates rhythmic precision, spatial geometry, and abstract movement while cultivating enhanced physiological awareness. In contrast, bhāva activates emotional purpose, internalization, and sense of interpersonal interactions through subtle body motions and facial expres-sions. Examines in deeper depth how the two modes of expression, abstract and expressive, form an aesthetic experience (rasa) via their own unique epistemological processes. The research

illustrates, through phenomenological and practice-oriented analysis, that abhinaya operates as intentional mediation, transforming organized movement into communicative presence through lived experience. By placing technique within awareness, this research enriches performance studies and embodied aesthetics and establish-es the foundation for understanding Bharatanāṭyam as both a structured art form and a meditative practice.

[412] Annamacharya's Sankirtanas as a Catalyst for Altered States of Consciousness and Cognitive Well- being

Dr Nalini Bikkina, Amrithalekshmi V (Gitam School of Humanities and Social Sciences)

Abstract

This paper explores the intersection of music, emotion, and neuro-phenomenology through the Sankirtanas of the 15th-century saint-poet Tallapaka Annamacharya. Central to his compositions is the multifaceted emotion of Bhakti (devotion), which transcends mere religious sentiment to function as a sophisticated cognitive tool for psychological transformation. By analyzing the lyrical structure and rhythmic patterns of Annamacharya's work – specifically his transition between Adhyatma (spiritual) and Sringara (romantic) compositions - this study argues that his music induces an altered state of consciousness (ASC). Through the repetitive and melodic framework of the Carnatic tradition, the practitioner and the listener undergo a self-transcendence process. This shift is characterized by a reduction in self-referential processing, effectively quieting the default mode network of the brain and fostering self-transcendence. Furthermore, the paper examines the impact of this devotional immersion on cognitive well-being. We posit that the intentional cultivation of Bhakti serves as an emotional regulator, mitigating stress, enhancing neuroplasticity and cognitive well-being. By engaging the "affective-cognitive" loop, Annamacharya's compositions provide a structured pathway for achieving Rasa (aesthetic bliss), which correlates with increased mental resilience and subjective vitality. Ultimately, this research suggests that Annamacharya's legacy is not merely a cultural relic but a proto-scientific system for cognitive flourishing, offering a timeless methodology for achieving peak mental states through the medium of sacred sound.

[414] Exploring the Therapeutic Potential of Carnatic Rāga-s for Hypertension– A Conceptual Framework

Dr. B. Lakshmi Surya Teja (GITAM Deemed to be University)

Abstract

Hypertension is considered a serious concern for global health, which leads to the risk of suffering from cardiovascular diseases. This global condition requires an alternative, complementary approach that supports the long-term management and well-being of those affected by this ailment. Music-based interventions show potential for influencing physiological parameters but remain underexplored. Indian classical music is represented as one of the ancient and continuous traditions, where music is not merely considered as art but as a science of consciousness. In particular, the Carnatic music system of India offers a melodic system strongly rooted in the concept of rāga. Each rāga unfolds a unique structure that shapes attentive listening and emotional states. This paper proposes a conceptual framework for exploring the therapeutic potential of selected Carnatic rāgas as a meditative listening intervention for individuals with Hypertension. This research is grounded in the concept of merging traditional Indian knowledge systems, Carnatic music, and Ānāpānāsati (breath mindfulness) meditation, thereby highlighting the healing and therapeutic potential of both systems and establish-ing a complementary approach to hypertension management. By placing Carnatic rāga practice within the framework of music therapy, the paper explores how rāga-based meditative listening can serve as a supportive and complementary therapeutic tool for Hypertension. This paper outlines a practical model for future research that integrates blood pressure measures and controlled music-listening protocols, rather than presenting numbers from clinical trials. By posi-tioning Carnatic rāga practice within the interdisciplinary research on music, consciousness, and health, the study seeks to contribute to an emerging framework as a complementary approach for hypertension management.

Day 2- June 4, 2026

Chaturthi, Jyeshtha, Krishna Paksha, Vikram Samvat 2083 - Thursday

Morning Session

Time	Event	Session Chair	Venue
6:15-7:15	**Yoga Session**	Jahnava Sundari	Yoga Room
7:30-8:30	Breakfast		Lawn
8:30-9:10	Keynote Talk 4: **Topic: Indian Knowledge Systems and Microtubule Fractal Time Crystals** **Speaker: Prof. Stuart Hameroff**	Prof. Laxmidhar Behera	Auditorium
9:10-9:50	Keynote Talk 5: **Topic: Your Thoughts Grow on Trees** **Speaker: Prof. Giorgio Ascoli**	Dr. Anirban Bandopadhyay	Auditorium
9:50-10:30	Keynote Talk 6: **Topic: Spirituality and Mental Health in the Era of AI** **Speaker: BK Shivani ji**	Prof. Laxmidhar Behera	Auditorium
10:30-10:45	Tea break		Foyer
10:45-11:25	Keynote Talk 7: **Topic: Meditation Research, Scientific challenges and Insights from traditional wisdom** **Speaker: Prof. Sisir Roy**	Prof. Partha Ghose	Auditorium
11:25-13:00	Book Inauguration & Panel Discussion 2: **Artificial Intelligence vs. Natural Consciousness**	Moderated by Prof. Gautam Desiraju	Auditorium
13:00-14:00	Lunch Break		Lawn

Panel Discussion 2

Title: Artificial Intelligence vs. Natural Consciousness

Moderator: Prof. Gautam Desiraju

Date: June 4, 2026

Timing: 11:25-13:00

Venue: Auditorium

Panelists:

1. **Prof. Gautam R. Desiraju (Moderator),** IIS Bengaluru, Distinguished Prof., IKSMHA IIT Mandi

2. **Prof. Laxmidhar Behera,** Director, IIT Mandi
3. **Dimitrios A. Pinotsis,** Department of Psychology and Neuroscience, City St Georges's, University of London
4. **Mala Kapadia,** Director, Special Projects, Siddhanta Knowledge Foundation
5. **Pandit Ajoy Chakrabarty,** Padma Bhushan Awardee Indian Classical Vocalist, Founder, Shrutinandan and Senior Guru, ITC Sangeet Research Academy, Distinguished Professor, IIT Kharagpur
6. **N. Ravi Kiran,** Renowned Carnatic musician, Professor of Practice, IKSMHA, IIT mandi

Description:

The integration of the Indian Knowledge System (IKS) into the development of a science of cognitive matter (MIND) presents both a promising vision and significant challenges. One of the core difficulties lies in reconciling the introspective, experiential nature of IKS with the empirical, objective approach of modern science. Concepts such as manas, buddhi, chitta, and ātman do not have direct parallels in contemporary neuroscience, making conceptual translation complex. Furthermore, while IKS emphasizes inner realization and scriptural authority, modern science demands measurable, replicable data. Academic skepticism toward traditional knowledge systems and a lack of shared terminology further hinder cross-disciplinary collaboration. Practical obstacles such as limited institutional support, funding constraints, and the need to maintain the authenticity of IKS while innovating in its application also remain. Despite these challenges, IKS holds valuable insights that can enrich and possibly redefine the scientific understanding of consciousness, provided integrative frameworks are carefully and respectfully developed. Panel members will deliberate on these issues providing deeper insights to the budding researchers who are attending MBCC 2025.

Day 2- June 4, 2026

Chaturthi, Jyeshtha, Krishna Paksha, Vikram Samvat 2083 - Thursday

Afternoon Session

Time	Event	Session Chair	Venue
14:00-14:40	Keynote Talk 8: **Rethinking Sustainability in the Bhagavad Gita: An Emic Perspective** **Speaker: Prof. Shonaleeka Kaul**	Prof. Venkatesh Chembrolu	Auditorium
14:40-15:00	Invited Talk 1: **Topic: Krishna Bhakti and the Yoga Sūtras: Reflections on Mind, Intelligence, and Identity** **Speaker: Dr. Abhishek Ghosh**	Dr. Ramajayam Govindaraji	Auditorium
15:00-18:30	Key Thematic Special Session on **Ayurveda_2**	Prof. Rama Jayasundar	Auditorium
15:00-18:00 (In Parallel)	Special Session 8: **Linguistic, Computational, and Aesthetic Perspectives on the Bhagavad Gītā (No 3)**	Dr. Pawan Goyal, Dr. Ashish Gupta and Dr. Jivnesh Sandhan	A10-1A
	Special Session 9: **The Bhagavad-Gītā and Sustainability: An Indian Knowledge Systems (IKS) Perspective (No 4)**	Dr. Sumanta Rudra and Punit Rajendrakumar Bhalla	A10-1B
	Special Session 10: **The Bhagavad-gītā and Personality Development (No 9)**	Dr. Ranjan Kumar Behera & Dr. Abhishek Jaiswal	CCE Mini Auditorium

15:00-17:00 (In Parallel)	Key Thematic Special Session on **Gita and its relevance to Personal and Professional Excellence_2**	Prof. N. Ravichandran	CCE Conference hall
	Special Session 11: **Music Beyond Performance: Muthuswami Dikshitar and the embodied knowledge of conscious practice (No 11)**	Dr. P Nirmal Harish & Dr. Lakshmi Surya Teja	Hall A
	Special Session 12: **Holism in Ayurveda: A Whole-System Approach Integrating Body, Mind, and Consciousness from Classical Wisdom to Clinical Practice (No 15)**	Dr. Amrita Sharma & Dr. Anukul Deb Goswami	Hall B
	Regular Session 8: **Track 12: Cognitive Science and AR/VR (Theme A)_6 + Track 6: Material Science in IKS (Theme C)_3**	Dr. Varun Dutt & Dr. Supratim Ray; Dr. Neha Thakur & Prof. Chayan K Nandi	Hall C
	Regular Session 9: **Track 2: Sanskrit_1 (Theme B)_10**	Dr. Krishna Panda	CnP 1 (Hall D)
	Regular Session 10: **Track 9: Ayurveda_2 (Theme C)_6**	Dr. Uma Shankar Prasad Adluri & Prof. Rama Jayasundar	CnP 2 (Hall E)
	Regular Session 11: **Track 10: Experiments on Human Subjects for IKS (Theme D)_6 + Track 11: Indian Philosophy_1 (Theme B)_6**	Dr. Amit Sethi & Prof. Sampadananda Mishra	Guest House Conference Hall
17:00-19:00 (In Parallel)	Poster session /High Tea	Dr. Krishna Panda	Foyer
	Special Session 13: **Patanjali**	Dr. Kanak Soni	Hall A
	Special Session 14: **Consciousness-Aware AI for Mental Health: Integrating Brain Signals, Meditation, and Machine Learning (No 20)**	Dr. Sushil Chandra	Hall B
19:00-20:00	Cultural event	Pandit Ajoy Chakrabarty	Auditorium
20:00-21:00	Dinner		Lawn

Key Thematic Special Session on Ayurveda_2

KSS1_2: Ayurveda		
June 4, 2026 15:00-18:30 Venue: Auditorium		
Session Chair: Prof. Rama Jayasundar		
Special Session Ayurveda_3: **Theme: Adolescent mental health across systems**		
Time	**Keynote/ Invited Speakers**	**Topic**
15:00-15:40	**Invited Talk:** Dr. G Jagatkar, MD, FNB, FICCM, MBA; Director, Critical Care, Medicover Hospital, Hyderabad	Toxins on Mind and Consciousness in critical care

15:40-16:20	**Invited Talk:** Vaidya Brahmadathan, BAMS, Ullanoor Mana: Ayurvedic Centre for Toxicology in Thrissur, Kerala	Between Death and Life: what happens to mind and consciousness in venomous bites?
16:20-17:00	**Invited Talk:** Dr. S Aravind, MD, Vaidyaratnam Ayurveda College, Thrissur	Mind-toxin interface: insights from ayurveda
Special Session Ayurveda_5: Theme: Marma/Varma and Mind - Activating the Mind-Body-Consciousness Link		
17:00-17:40	**Invited Talk:** Prof. Dr. N.Shunmugom, PhD, Founder and Chief Vethasatthi Expert, Thirumoolar Vethasatthi Academy, Coimbatore	Vethasatthi Varma Chikitsa for Mental Health
17:40-18:20	**Invited Talk:** Dr. MK Madan Kumar, MD, PhD, Department of Rachana Sharir, Govt Ayurveda College, Thiruvananthapuram	Marma - Where mind/consciousness meets myo-fascial planes of the body

Special Session 8

SS8: Linguistic, Computational, and Aesthetic Perspectives on the Bhagavad Gītā			
June 4, 2026 15:00-18:00 Venue: A10-1A			
Session Chair: Dr. Pawan Goyal, Dr. Ashish Gupta and Dr. Jivnesh Sandha			
Time	**Speakers**	**Events**	
15:00-15:30	Dr. Pawan Goyal, Dr. Ashish Gupta and Dr. Jivnesh Sandha	**Opening Remarks**	
15:30-17:00	**Authors**	**Contributory Paper Presentations**	**Paper ID**
	Shekhar Shukla, Ajay Patidar and Dhruv Garg	Interpretive Integrity of Indian Knowledge Systems: Overcoming Challenges in Computational Processing of Shrimad Bhagavad Gita	212
	Divita Sharma, Dr. Ashish Gupta, Dr. Prerna Malhotra	From Despair to Bliss: Arjuna's journey through Rasavada and Chit Ananda	332
	Ashish Mishra, Venkatesh H. Chembrolu, Ashish Gupta	Affect Before Reason: Affective Incapacity and Ethical Transformation in the Bhagavad Gītā	388
	Srinidhi Balasubramanian, Chirayush Mohanty, Arnab Bhattacharya	A Cross-Lingual Information Retrieval Benchmark for the Mahābhārata	455
	Amit Laxman Waghmare	God As Servant: The Warfare Of Emotions In The Bhagavad Gītā	SS8_1
17:00-17:45	Moderated by Dr. Pawan Goyal, Dr. Ashish Gupta and Dr. Jivnesh Sandha	**Panel Discussion**	
17:45-18:00		**Closing remarks** by the session chairs	

Theme of the session:

This special track invites scholarly work that examines the Bhagavad Gītā through linguistic, computational, and aesthetic lenses. The Gītā offers a compact yet conceptually dense Sanskrit corpus that raises fundamental questions about meaning, ambiguity, discourse structure, poetic expression, and experiential semantics. This special session examines the Bhagavad Gītā as both a linguistic and aesthetic text, bringing together Sanskrit linguistics, classical poetics, and computational methods. The focus is on how the Gītā's language, structure, and style shape philosophical meaning and aesthetic experience, and how traditional Sanskrit theories can dialogue with modern computational approaches. We welcome contributions that employ formal linguistic analysis, computational methods, and classical Indian aesthetic theory (such as *Rasa*, *dhvani*, etc.) to study the structure, interpretation, translation, and reception of the Bhagavad Gītā text.

[212] Interpretive Integrity of Indian Knowledge Systems: Overcoming Challenges in Computational Processing of Shrimad Bhagavad Gita

Shekhar Shukla, Ajay Patidar and Dhruv Garg (IIM Indore)

Abstract

The Shrimad Bhagavad Gita represents a very exceptional work in the field of Indian Knowledge Systems and the meaning of the text holds a very significant value to it. But when the Artificial Intelligence Systems and Modern computational techniques present the philosophy, it acts as a flawed filter and thus changes the linguistic, aesthetic and philosophical meaning of the literature, due to inherent biases, hallucinations and training on western centric data. There arises a great need to maintain the integrity of the ancient wisdom text. Hence we propose a Retrieval Augmented Generation (RAG) based model approach which when trained on verified scriptural corpora, instead of acting as a filter on text, will be a foundation to the responses given by computational techniques. In our study we have shown that the implementation of the RAG model has significantly shown improvements in the biases and hallucinations and thus making it a highly reliable scriptural response tool and thus maintain-ing the complete integrity of the text.

[332] From Despair to Bliss: Arjuna's journey through Rasavada and Chit Ananda

Divita Sharma (University of Delhi), Dr. Ashish Gupta (Manit), Dr. Prerna Malhotra (University of Delhi)

Abstract

Arjuna's struggles and despair in the Bhagavad Gita can be interpreted as a spectrum of emotional states that a human delves into when bhavas culminate in inertia and inaction. But, Sri Krishna, who is a companion to Arjuna, imparts him wisdom through Shabd Pramana (verbal testimony), Anumana Pramana (inference), and, as Brahma Swasrup, through Pratyaksha Pramana (direct perception). Arjuna's state of "Tanmayibhavana' in the VishwaRoop of Sri Hari (complete absorption in the universal form of God) arises only after the purification of his rajas and tamas gunas, thereby illustrating the idea that "yogins encompass everything through 'Stripraygata Bhava" Within this framework, Brahman (the universal self), Veda (knowledge), and Atman (individual self) can be said to be interconnected through the discourse of "gyan-karma-samucchayavada" (the synthesis of knowledge and action). This synthesis originates in "sambhava", which is the sthayibhava of Shanta Rasa. The perennial philosophy of Shant Rasa is based on detachment, which means dissolution of Pradhana (primordial matter), Buddhi (intellect), Ahamkara (ego), and the Panchamatras (five sensory elements), as discussed by Abhinavagupta in "AbhinavBharati". This paper aims to explore whether Arjuna's transformation from viṣāda (despair) to śānta (peaceful fullness) can be interpreted not merely as a moral lesson or an act of devotion, but as a metaphysical basis influenced by the principles of Rasa as expressed in Paramśivatattva that begins with the notion of Tādātmya, where Brahman is acknowledged in both its niyata (fixed) and parivartana (energy-influenced) forms. The paper reflects upon Sānta rasa as the artistic counterpart of mokṣa through which Arjuna's journey from despair to joy is

reinterpreted as the realisation of Cit-Ānanda, where emotions, liberated from egoic constraints, serve to comprehend the non-duality of the Almighty.

[388] Affect Before Reason: Affective Incapacity and Ethical Transformation in the Bhagavad Gītā

Ashish Mishra, Venkatesh H. Chembrolu, Ashish Gupta (IIT Mandi)

Abstract

This paper advances a theory-informed textual analysis of the opening crisis in the Bhagavad Gītā, arguing that Arjuna's refusal to fight is not the product of moral deliberation but the expression of a prior affective incapacity. Against dominant readings in moral philosophy, moral psychology, and much Gītā scholarship that interpret Arjuna's despair as a cognitive dilemma resolved by doctrinal clarification, this study re-sequences the narrative: bodily disturbance (1.28–30) precedes articulated ethical reasoning (1.31–47). Drawing methodologically on affect theory—particularly the work of Brian Massumi and Melissa Gregg and Gregory J. Seigworth—the paper distinguishes pre-articulated intensity from subsequent semantic capture in moral vocabulary. Arjuna's trembling limbs, slipping bow, and declared inability to stand are read as markers of diminished action-capacity that precede and condition ethical articulation. Through close attention to narrative sequencing, somatic imagery, and the structure of Kṛṣṇa's initial response (2.1–11), the analysis demonstrates that ethical reasoning in the text emerges from, rather than initiates, rupture. Kṛṣṇa's intervention first addresses grief and faintheartedness before offering doctrinal instruction, suggesting that ethical transformation presupposes the restoration of affective readiness. The paper thus proposes a fourfold sequence—affective disturbance → incapacity → ethical articulation → transformation—as structuring Gītā's pedagogical arc. By foregrounding emotive destabilization as the condition of possibility for ethical reconfiguration, the study reframes the crisis at Kurukṣetra as a rupture that suspends inherited moral frameworks and inaugurates the reconstitution of agency.

[455] A Cross-Lingual Information Retrieval Benchmark for the Mahābhārata

Srinidhi Balasubramanian, Chirayush Mohanty, Arnab Bhattacharya (IIT Kanpur)

Abstract

The Mahābhārata, with its complex narrative structure, rich poetic syntax, extensive character references, poses significant challenges for automated question-answering and Verse retrieval systems. Progress in this area has been slow due to the lack of datasets and evaluation methods suited for large classical texts. To overcome this issue, we created a semi-synthetic evalua-tion dataset specifically for testing retrieval and reasoning performance on the Mahābhārata. We sourced chapter-level summaries from Hindi indices published by Gita Press. These summaries offer brief semantic descriptions of each chapter. To ensure accuracy between the summaries and the original verses, we linked these summaries to chapters in the Itihasa dataset (Arali-katte et al.) by matching the semantic contents. To enable natural language querying, we translated the Hindi summaries into English using the Google Translate API. We then used the translated descriptions as semantic seeds to produce various user-style questions through a large language model, result-ing in about 2,000 query-chapter pairs. This process introduces linguistic var-iation while maintaining semantic accuracy, creating a dataset that balances realism with controlled evaluation. With this dataset, we evaluated dense retrieval models and retrieval-augmented generation architectures on question answering and information retrieval using standard metrics like Recall@k, Precision@k, nDCG, and MRR. Our evaluation reveals the shortcomings of purely embedding-based retrieval in dealing with cross-lingual narrative shifts and entity confusion, and it shows that lightweight knowledge-aware retrieval enhances recall.

[SS8_1]God As Servant: The Warfare Of Emotions In The Bhagavad Gītā

Amit Laxman Waghmare (Jawaharlal Nehru University, New Delhi)

Abstract

The aesthetics of the Bhagavad Gītā, which I want to discuss here, revolves around the foundational tenet of the Gauḍiya Vaiṣṇava tradition that Kṛṣṇa is the Supreme God and speaker of the divine Gītā. Also, He is the source of everything, including the highest aesthetic experience of rasa. There are numerous interpretations of the Bhagavad Gītā where Kṛṣṇa is not considered as the Supreme God and taken to be a normal personality through whom the divine knowledge of the Gītā was spoken, with some impersonal absolute truth as the source of the real knowledge. What fascinated me about choosing the Gauḍiya Vaiṣṇava sampradāya is its presentation of the fullness of the description of the forms and relationships related to Kṛṣṇa in its scriptures. The philosophical grounding of rasa in the Supreme Personality of Kṛṣṇa not only establishes an all-encompassing source of personal relationships, capable of cultivating real emotions, but also establishes the supremely blissful status of rasa. Through this paper I want to showcase the beautiful relationship between Kṛṣṇa and Arjuna, where the Supreme God is ready to be a chariot driver and be of service to His devotee because through the eternal message of the Gītā, the Lord is showing every living entity that they should do the same for Him. Rather than being the servant of one's own senses, Kṛṣṇa is demanding and inspiring every living entity through His own example in the Gītā, to serve Him and qualify oneself to achieve the highest purpose of one's valuable life!

Special Session 9:

SS9:The Bhagavad-Gītā and Sustainability: An Indian Knowledge Systems (IKS) Perspective			
June 4, 2026 15:00-18:00 Venue: A10-1B			
Session Chair: Dr. Sumanta Rudra and Punit Rajendrakumar Bhalla			
Time	**Speakers**	**Events**	
15:00-15:10	Dr. Sumanta Rudra and Punit Rajendrakumar Bhalla	**Opening Remarks**	
15:10-16:00	Prof. Pravina Rodrigues	**Keynote Address**	
16:00-16:45	**Authors**	**Contributory Paper Presentations**	**Paper ID**
	Tapas Rath	KARMA: Knowledge Acquisition via Role-Invariant Mirror Architecture	450
	Prabir Mishra, Dr. Biswanath Swain	Sustainable Leadership guided by Vedic Wisdom: The Salubrious way to address Industrial Pollution	448
	Umang Varshney, Alka Aggrawal	From Guilt to Dharma: Behavioural Foundations for Circular Consumption	438
16:45-17:30	Moderated by Prof. Pravina Rodrigues	**Panel Discussion**	
17:30-18:00		**Closing remarks** by the session chairs	

Theme of the session:

The twenty-first century is marked by an unprecedented convergence of global crises—climate change, environmental degradation, economic inequality, and widespread ethical disorientation. Sustainability has therefore emerged as a central concern across academic research, public policy, and civilizational discourse. While dominant sustainability paradigms emphasize technological innovation, market mechanisms, and regulatory frameworks, there is growing recognition that enduring and meaningful responses must be grounded in deeper ethical, philosophical, and cultural foundations. This special session invites scholarly engagement with the Bhagavad-gītā as a foundational

classical text within Indian Knowledge Systems (IKS) for rethinking sustainability. The Gītā offers a holistic vision in which human society, nature, and cosmic order are interlinked through dharma, ṛta, and yajña, emphasizing moral responsibility, restraint, and conscious action. In the Gītā, sustainability is not merely a technical or managerial concern but an intrinsic dimension of cosmic order. Human actions, when aligned with dharma, sustain ecological and social balance, whereas ecological degradation is understood as a consequence of ethical and spiritual dislocation. The principle of yajña—interpreted as selfless, duty-bound, and socially responsible action (Bhagavad-gītā 3.14)—emerges as a key ethical foundation for sustainable living. A central contribution of the Gītā to sustainability discourse is the doctrine of niṣkāma karma—action without attachment to results (Bhagavad-gītā 2.47). This ethic provides a powerful critique of consumerism, extractive economic models, and growth-centric development paradigms, advancing instead values of moderation, stewardship, and service-oriented action. The text further emphasizes ethical consumption, self-regulation, and balance (Bhagavad-gītā 3.13; 6.17), as well as the role of exemplary leadership (śreṣṭha) in shaping collective norms and sustainable practices (Bhagavad-gītā 3.21).

[450] KARMA: Knowledge Acquisition via Role-Invariant Mirror Architecture

Tapas Rath (Indian Institute of Technology, Kanpur)

Abstract

As AI systems evolve from passive instruments to proactive agents — recommending actions, executing decisions, and increasingly acting on behalf of users across healthcare, finance, law, and social platforms — ensuring ethical alignment without degrading human autonomy becomes one of the central challenges of our time. Multi-agent virtual worlds and games offer a uniquely tractable testbed for this problem: interactions are observable, consequences are measurable, and governance interventions can be evaluated under controlled conditions without real-world harm. In this testbed, a critical tension emerges between enhancing user Sense of Agency (SoA) and preventing aggressive, unethical avatar behaviour. We propose the Extended Self framework: sufficiently personalised AI agents create Proxy Agency, where users experience AI actions as extensions of their own volition. This preserves SoA but creates a moral blind spot — users implicitly endorse aggressive AI behaviour because they experience it as continuous with their own intent. Drawing on Indian Knowledge Systems (IKS), we map this onto the Vedic three-body ontology: the user (ātman), the AI policy (sūkṣma śarīra, subtle body), and the avatar body (sthūla śarīra). We propose KARMA (Knowledge Acquisition via Role-Invariant Mirror Architecture), which trains the agent's subtle body via role-invariant contrastive learning — operating below the threshold of user awareness, analogous to procedural memory formation — to suppress aggressive behaviour without degrading SoA. Three empirically testable hypotheses are derived and grounded in the SoA and multi-agent RL literature. The framework generalises beyond gaming: the same architectural principles apply wherever agentic AI acts on behalf of humans, and the governance model points toward a real-world regulatory architecture of certified ethical agents operating at scale.

[448] Sustainable Leadership guided by Vedic Wisdom: The Salubrious way to address Industrial Pollution

Prabir Mishra, Dr. Biswanath Swain (Indian Institute of Management Indore)

Abstract

Industrial pollution has been increasing rapidly due to a lack of, or a narrow vision for managing and channeling ethical responsibility towards ecology. The impact of this industrial pollution is no longer limited to humans but also harms other species and the entire ecosystem. It has negatively impacted not only our way of life but also that of future generations. Hence, it is an ethical responsibility of industries to be very responsible in their ongoing and upcoming strategies and actions regarding the environment. The study proposes that sustainable leadership guided by Vedic wisdom can provide an effective measure to address current and imminent issues of industrial pollution. To do so, the study delves into the practical side of the Vedas, where it discusses Rna, or debt, and specifically terms it ‘Bhuta Rna’, i.e., the debt towards ecology.

[438] From Guilt to Dharma: Behavioural Foundations for Circular Consumption

Umang Varshney (Indian Institute of Management Calcutta), Alka Aggrawal (KJ Somaiya)

Abstract

Indore, India's cleanest city, demonstrates how efficient infrastructure and civic engagement can exceed the performance of several developed regions. However, despite effective waste segregation, behavioural gaps remain in the continued use of non-recyclable goods such as multilayer packaging, synthetic textiles, and ceramics. The European Union's Digital Product Passport (DPP) initiative provides a global reference point for circularity by embedding lifecycle transparency into products through digital identifiers that contain information on composition, authenticity, repair, warranty, and resale. As similar systems are adopted worldwide, segregation and traceability of recyclable materials will become more accessible. The next challenge will be behavioural rather than infrastructural.

India's epistemic and ethical traditions offer a culturally grounded lens for addressing this behavioural gap. The Indian Knowledge System emphasizes Dharma, a principle of righteous living that balances material prosperity (Artha) and desire (Kama) with ecological and social harmony. A Dharmic orientation views sustainability as a moral and collective responsibility. Policymakers can therefore apply Dharmic nudges that foster mindfulness and responsibility through value-based awareness rather than external enforcement.

This conceptual study seeks to develop a behavioural framework for reducing non-recyclable consumption in Indore, guided by the principles of Dharma and aligned with global circularity models such as the DPP. It contributes to management scholarship by integrating behavioural science with Indian epistemology to inform sustainable consumption policies and future experimental research.

Special Session 10:

SS10:The Bhagavad-gītā and Personality Development			
June 4, 2026 15:00-18:00 Venue: CCE Mini Auditorium			
Session Chair: Dr. Ranjan Kumar Behera & Dr. Abhishek Jaiswal			
Time	**Speakers**	**Events**	
15:00-15:10	Dr. Abhishek Jaiswal	**Opening Remarks**	
15:10-15:30	Dr. Ranjan Kumar Behera	**Invited Talk**	
15:30-17:00	**Authors**	**Contributory Paper Presentations**	**Paper ID**
	Srinidhi Balasubramanian, Chirayush Mohanty, Arnab Bhattacharya	A Cross-Lingual Information Retrieval Benchmark for the Mahābhārata	455
	Manideep Donkena, Abhishek Jaiswal	Preliminary Psychometric Evidence for a Guna-Based Personality Inventory Convergent Validity, Incremental Prediction, and the Rajas--Extraversion Dissociation	460
	Atul Singh, Susil Kumar Mohanty	Net-Zero Personality: A Behavioral Framework for Climate Sustainability	476
	Kavyasree Kammara, Asmita Chakraborty, Dr. Kaushik Mitra	A Psychobehavioural Framework for Triguṇa-Based Personality Assessment in the Light of the Bhagavad Gita	SS10_1

	Somanath Tripathy	GITA-AI: Bhagavad Gita inspired Responsible Artificial Intelligence System	SS10_2
	Omkar Tupe, Ayush Manglani, Meet Rajvanshi, Abhishek Garg, and Tarun Kumar	Happiness based on Triguna	SS10_3
	Sweta Mahato, Madhav Rijal	The Three Gunas Framework: Conceptual and Empirical Perspectives on Personality	479
17:00-17:45	Moderated by Dr. Ranjan Kumar Behera & Dr. Abhishek Jaiswal	**Panel Discussion**	
17:45-18:00		**Closing remarks** by the session chairs	

Theme of the session:

Modern psychologists have developed multiple sophisticated frameworks to explain human nature, which are used by researchers and practitioners. Triguna Framework can be understood and leveraged even by the general audience. A basic understanding of the three Gunas provides learners with clarity about their own nature. It is a foundational concept in Indian philosophy that permeates various aspects of life from individual psychology and health to spirituality and ethical conduct. Its importance lies in providing a holistic framework for understanding the complexities of the world and guiding individuals on their paths toward self-realization and spiritual growth. The course aims to enrich this understanding by diving deeper into the characteristics and identifiers in day-to-day actions and thoughts. It will elucidate the framework in the context of modern personality types and offer modules to understand it in daily life, imparting practical applications of this foundational science.

[455] A Cross-Lingual Information Retrieval Benchmark for the Mahābhārata

Srinidhi Balasubramanian, Chirayush Mohanty (IIT Kanpur) , Arnab Bhattacharya

Abstract

The Mahābhārata, with its complex narrative structure, rich poetic syntax, extensive character references, poses significant challenges for automated question-answering and Verse retrieval systems. Progress in this area has been slow due to the lack of datasets and evaluation methods suited for large classical texts. To overcome this issue, we created a semi-synthetic evalua-tion dataset specifically for testing retrieval and reasoning performance on the Mahābhārata. We sourced chapter-level summaries from Hindi indices published by Gita Press. These summaries offer brief semantic descriptions of each chapter. To ensure accuracy between the summaries and the original verses, we linked these summaries to chapters in the Itihasa dataset (Arali-katte et al.) by matching the semantic contents. To enable natural language querying, we translated the Hindi summaries into English using the Google Translate API. We then used the translated descriptions as semantic seeds to produce various user-style questions through a large language model, result-ing in about 2,000 query-chapter pairs. This process introduces linguistic var-iation while maintaining semantic accuracy, creating a dataset that balances realism with controlled evaluation. With this dataset, we evaluated dense retrieval models and retrieval-augmented generation architectures on question answering and information retrieval using standard metrics like Recall@k, Precision@k, nDCG, and MRR. Our evaluation reveals the shortcomings of purely embedding-based retrieval in dealing with cross-lingual narrative shifts and entity confusion, and it shows that lightweight knowledge-aware retrieval enhances recall.

[460] Preliminary Psychometric Evidence for a Guna-Based Personality Inventory Convergent Validity, Incremental Prediction, and the Rajas--Extraversion Dissociation

Manideep Donkena, Abhishek Jaiswal (Indian Institute of Technology, Kanpur)

Abstract

The majority of personality assessment instruments were developed and verified in Western populations and lexicons. It is still unclear whether personality traits found in non-Western cultures truly extend or overlap with those found in the Big Five. Sattva (equanimity and clarity), Rajas (restless activity and desire), and Tamas (inertia and confusion) are the three guiding forces of the mind described by the Triguna framework from Indian philosophical psychology, which is most methodically expressed in the Bhagavad Gita. The Gita Personality Index (GPI), an 80-item scale created by the Learn Gita Live Gita (LGLG) organization based on these three constructs, is the subject of what we believe to be the first independent psychometric evaluation. With N = 197, the GPI produced alpha coefficients ranging from 0.83 to 0.89, correlations with the Big Five scales that largely agreed with theoretical predictions, and—most unexpectedly—a near-zero Rajas/Extraversion correlation (r = -0.05) that contradicts a widely held belief regarding the mapping of Indian and Western personality constructs onto one another. GPI scores explained 6–21% more variance in behavioral outcomes than the Big Five, according to hierarchical regressions. Clustering revealed three student archetypes that closely resembled traditional Guna typologies. We outline what these findings support and contradict.

[476] Net-Zero Personality: A Behavioral Framework for Climate Sustainability

Atul Singh, Susil Kumar Mohanty (Khalifa University of Science and Technology)

Abstract

The growing challenge of climate change and global warming has led to the emergence of the net-zero concept, primarily driven by technological and policy-based interventions. However, limited attention has been given to the role of individual behavior and personality in influencing environmental sustainability. This paper proposes a novel Net-Zero Personality framework inspired by teachings from the Bhagavad Gita, emphasizing inner transformation as a pathway to outer ecological balance. The study identifies key behavioral drivers such as desire, consumption, and competition as root causes of environmental degradation and maps them to corresponding philosophical constructs in the Gita. A simplified mathematical model is developed to establish a relationship between the proportion of individuals adopting such principles and the resulting reduction in collective emissions. Simulation results demonstrate that even partial adoption of disciplined and minimalistic lifestyles can significantly contribute to sustainability goals. The paper highlights the importance of integrating ancient wisdom with modern scientific approaches to address global environmental challenges, proposing that long-term solutions must include consciousness-driven behavioral change alongside technological advancements.

[SS10_1] Psychobehavioural Framework for Triguṇa- Based Personality Assessment in the Light of the Bhagavad Gita

Kavyasree Kammara, Asmita Chakraborty, Dr. Kaushik Mitra (IIT Madras)

Abstract

The Bhagavad Gītā presents a dynamic model of personality through the doctrine of Triguṇa, wherein human cognition, affect, and behaviour arise from the dynamic interplay of Sattva (clarity and contentment), Rajas (agitation and attachment), and Tamas (inertia and delusion) [1-ch14]. Unlike contemporary trait-based personality theories that are largely descriptive, Triguṇa theory offers a developmental framework in which personality may be consciously refined through disciplined self-regulation and ethical cultivation [2].Triguṇa theory is still not properly

operationalized in modern behavioral research, despite its prominence in Indian psychological thought. This study proposes an integrative framework for interpreting Triguṇa as a psychobehavioural model of personality by systematic mapping scriptural descriptions from the Bhagavad Gita (BG) (mainly Chapters 14, 17, 18) onto modern psychological and psychophysiological paradigms. Sattva is characterized by contentment, clarity, self-regulation, emotional equilibrium, and reflective awareness, discernment; Rajas by passion, impulsivity, hankering, competitiveness, restlessness; and Tamas by lethargy, confusion, indecisiveness, delusion, and ignorance [1,4]. These three modes' profiles are conceptually mapped with contemporary behavioural constructs such as executive control, emotional regulation, reward sensitivity, impulsivity, motivational activation, and behavioural inhibition [2]. To facilitate interdisciplinary discourse, this study further outlines hypothetical psychophysiological correlates associated with the predominance of three modes (Trigunas). Markers for mode of goodness functionality are associated with adaptive self-regulation and autonomic balance, Rajasic prevalence with hyperarousal and stress-reactive profiles, and Tamasic predominance with hypoarousal and behavioural inertia [5]. These markers are not direct biological metrics of Gunas but indirect correlates of their psycho-behavioural manifestations. The novelty of this work lies in presenting a structured framework to interpret Triguṇa theory within modern psychological discourse while preserving its originality philosophically. It hypothesizes Trigunas as dynamic patterns of personality and self-regulation, contributing to personality assessment models, while positing BG as a substantive psychological source for interpreting human behaviour and personality development.

[SS10_2] GITA-AI: Bhagavad Gita inspired Responsible Artificial Intelligence System

Somanath Tripathy (IIT Patna)

Abstract

The recent advancement of Artificial Intelligence (AI) is transforming the decision-making process causing ethical and societal challenges. The Srimad Bhagavad Gita offers timeless insights into duty, responsibility, ethics, and decision-making. This paper explores a new framework to bridge the gap by drawing parallels from the Srimad Bhagavad Gita for the development and deployment of responsible AI systems and named GITA-AI (Guided Intelligence for Trustworthy and Auditable AI).

[SS10_3] Happiness based on Triguna

Omkar Tupe (IIT Madras), Ayush Manglani (IIT Madras), Meet Rajvanshi (IIT Madras), Abhishek Garg (IIT Madras), and Tarun Kumar (IIT Mandi)

Abstract

Emotions are complex psycho-physiological states arising from neural processes, encompassing subjective experiences, cognitive appraisals, and behavioural responses, which guide adaptation to environmental stimuli. They play a critical role in decision-making, motivation, perception, and social interaction by shaping intentions and influencing actions. Furthermore, emotions modulate the quality of human experience and well-being, acting as indicators of underlying psychological states (e.g., Sattva, Rajas, Tamas) and determining whether outcomes manifest as sustained well-being, transient pleasure, or distress. Happiness is a multidimensional state of well-being characterized by positive affect, life satisfaction, engagement, and a sense of meaning or purpose. Contemporary psychology distinguishes between hedonic happiness and eudaimonic happiness. Historically, Jeremy Bentham (1780) proposed that happiness is the ultimate human goal and should serve as a measurable criterion for evaluating societal and governmental effectiveness.

[479]The Three Gunas Framework: Conceptual and Empirical Perspectives on Personality

Sweta Mahato, Madhav Rijal (West Virginia University)

Abstract

The three gunas framework is an indigenous Indian model of personality rooted in Sāṃkhya, Yoga, and Ayurvedic thought. Rather than describing personality through isolated traits, it explains human behavior through the relative predominance of three interrelated qualities: Sattva, Rajas, and Tamas. Sattva is associated with clarity, balance, self-regulation, and prosocial orientation; Rajas with activity, ambition, restlessness, and desire; and Tamas with inertia, confusion, dullness, and rigidity. A major contribution of this framework is its view of personality as dynamic and developmental, allowing for change over time rather than assuming fixed dispositions. Modern psychological research has attempted to operationalize these concepts through standardized tools such as the Vedic Personality Inventory and the Mysore Triguna Scale. Existing evidence suggests that these measures show promising reliability and validity, although the gunas may function more as an interacting profile than as fully independent traits. Empirical studies generally indicate that Sattva is associated with greater life satisfaction, emotional balance, and well-being, whereas Rajas and Tamas are linked with stress and poorer psychological functioning. Overall, the three gunas framework offers a culturally grounded and promising model for personality assessment, though further longitudinal, comparative, and cross-cultural research is needed.

Key Thematic Special Session on Gita and its relevance to Personal and Professional Excellence_2

KSS2_2: Gita and its relevance to Personal and Professional Excellence			
June 4, 2026 15:00-17:00 Venue: CCE Conference hall			
Session Chair: Prof. N. Ravichandran (online)			
Time	**Speakers**	**Events**	
15:00-15:30	Swami Bodhamayananda, Ramakrishna mission, Hyderabad	**Opening Remarks & Invited Talk 1**	
15:30-16:00	Dr. Surya Tahora, SPJIMR, Mumbai	**Invited Talk 2**	
16:00-16:45	Shiv Prasad, IAS (Retired) & Sri Prahlad Prabhu, BVI, Gainesville, Florida (online)	**Panel 1: Gita and professional Excellence**	
16:45-17:00	**Authors**	**Contributory Paper Presentations**	**Paper ID**
	Gaurav Rastogi (online)	I Am the Risk Among the Risk-Takers: A Neurochemical and Dharmic Reinterpretation of Bhagavad Gītā 10.36	KSS2_P4

Invited Talk 1:

Title: Shrimad Bhagavad Gita: Significance and Role in Addressing the Modern Problems

Swami Bodhamayananda (Ramakrishna mission, Hyderabad)

Abstract

The Bhagavad Gita, though composed in an ancient Indian context, offers timeless wisdom for addressing many modern problems faced by individuals and society today. Considered as one of the most significant frameworks for addressing the psychological, emotional, relational, ethical, social and existential challenges of modern life. Although revealed in the setting of a battlefield, its deeper sense of relevance lies not in war, but more in the inner conflict experienced by every human being when confronted with duty, fear, uncertainty, moral confusion, the

practical implementation of 'Dharma'. In this sense, the crisis of Arjuna is not just mere historical or mythological; it is universal. It reflects the condition of the individual who, despite material and societal progress and intellectual development, the struggle continues to grow in battling the internal problems of anxiety, stress, self-doubt, purposelessness, lack of self-efficacy, emotional instability and ethical dilemmas. In the contemporary world, human beings are surrounded by unprecedented opportunities. The Bhagavad Gita offers a deeply relevant response to these modern problems by placing the inner mastery at the centre of human development. The teachings of Karma Yoga emphasize on the aspect of integrating action with responsibility, human excellence and dedication towards self-less actions and doing all of this while freeing the individual from unhealthy attachment to the outcomes. This has got the major role to play in shifting the current paradigms on performance-driven society, where success and failure often determine one's sense of self-worth, in the fast-paced competition driven neo-capitalistic world. The Gita teaches the sense of real freedom lies in disciplined action, purity of intention, and steadiness of mind, rather than depending on external recognition and self-driven actions. At the psychological level, the Gita offers a more nuanced and sophisticated understanding of the human mind. It allows us to recognise desire, anger, fear, attachment and restlessness of the mind as major contributors towards suffering. Through the paths of Jnana Yoga, Bhakti Yoga, Karma Yoga and Dhyana Yoga, it enables multiple pathways for individuals to dive towards clarity, devotion, discipline and self-awareness and emotional regulation. The Gita on the prima facie does not ask to withdraw from life, but to engage with life form with a sense of higher consciousness. It teacher's equanimity of mind, balance in success and failure, courage in the crisis moments, moderation in desires and lifestyles, and control over the faculties of senses and mind. Therefore, the Gita is not just a religious scripture at the outset, but a universal guide and an enabler to meaningful living. Its significance for modern problems lies in its capacity and potential to transform confusion into clarity, not just from the psychological, relation and emotional aspects to tackle day-to-day problems, but also to move further in the path of spiritual progress and attain the everlasting bliss and find the real purpose of human life.

Invited Talk 2:

Title: Īśvara as Intelligent Order: An Advaita Vedānta Framework for Action, Leadership, and Wisdom in the Bhagavad Gītā

Dr. Surya Tahora (SPJIMR, Mumbai)

Abstract

The Bhagavad Gītā is increasingly invoked as a source of guidance for leadership, ethics, and psychological resilience. However, applied interpretations frequently focus on behavioral or psychological insights while leaving the text's underlying philosophical framework insufficiently articulated, resulting in fragmented readings of karma-yoga, detachment, and duty. This paper proposes that Īśvara as intelligent order — as articulated in the Advaita Vedānta teaching tradition of Swami Dayananda Saraswati — provides a coherent interpretive framework reconnecting the Gītā's metaphysical vision with its practical teachings. Īśvara is understood not as a theological entity but as the total intelligent order governing the universe, encompassing physical, psychological, and moral dimensions. Recognizing this order transforms the individual's understanding of action. Human beings retain choice over action but not over the complex causal network determining outcomes. This insight resolves exaggerated doership and reframes karma-yoga as a disciplined orientation toward action grounded in the recognition of Īśvara as intelligent order. Drawing on Śaṅkarācārya's commentarial tradition and Swami Dayananda Saraswati's expositions, the paper develops a conceptual model linking metaphysical understanding, psychological transformation, and ethical engagement. Recognizing life as participation in intelligent order reduces outcome-related anxiety, fosters psychological maturity, and supports dharma-aligned action in complex professional environments — offering a philosophically grounded contribution to scholarship on wisdom, leadership, and spirituality in management. By situating applied interpretations of the Bhagavad Gītā within this ontological framework, the study contributes to contemporary scholarship on wisdom, leadership, and spirituality in management, offering a philosophically grounded approach to understanding how the Gītā can guide personal and societal conduct in an increasingly complex world.

[KSS2_P4] I Am the Risk Among the Risk-Takers: A Neurochemical and Dharmic Reinterpretation of Bhagavad Gītа 10.36

Gaurav Rastogi (Visiting Faculty, IIM Ahmedabad)

Abstract

Bhagavad Gītа 10.36 has long puzzled commentators. Krs.n. a, enumerating his divine manifestations, identifies himself with dyutam chalayatam – "the gambling of cheaters." Traditional readings moralize or spiritualize the claim. We propose a third reading. Krs.n. a is identifying not with deception but with the underlying energy of risk-taking – the neurochemical mechanism that modern research maps to dopamine and adrenaline. The verse itself, read sequentially, traces that single energy through its five modes: fraud, splendor, victory, determination (vyavasaya), and pure sattva. The sequence is a purification ladder. The cheater and the sage run on the same fuel; the channel differs. We ground this reading in the triguna taxonomy of BG 18.23–25 and the action theory of BG 18.14, where daiva (the irreducible fifth factor) establishes chance itself as vibhuti . The tamasic structure hides stakes, conceals action, and denies outcomes; the sattvic structure defines stakes, illuminates action, and surrenders outcomes. The choice is not between risk and safety but between channels.

Special Session 11:

SS11:Music Beyond Performance: Muthuswami Dikshitar and the embodied knowledge of conscious practice			
June 4, 2026 15:00-17:00 Venue: Hall A			
Session Chair: Dr. P Nirmal Harish & Dr. Lakshmi Surya Teja			
Time	**Speakers**	**Events**	
15:00-15:10		**Opening Song** (composition of Muthuswami Dikshitar)	
15:10-15:40	Prof. Gautam R. Desiraju	**Invited Talk:** Śrīnāthādi Guruguhō Jayati	
15:40-16:40	**Authors**	**Invited Talk cum Contributory Paper Presentations**	**Paper ID**
	Vid. Shilpa Shanker	Dhrupad & Dikshitar: The unexplored convergence between two living traditions	SS11_1
	Dr. V. Ramanathan & Dr. P. Nirmal Harish	Śrī Muttusvāmi Dīkṣita as an Uttama Vāggeyakāra (lecture demonstration)	SS11_2
	Dr. S. Seethalakshmi	The Vāra Kṛti-s of Muthuswami Dikshitar	SS11_3
16:40-16:50		**Closing remarks** by the session chairs	

Theme of the session:

Nādayōgi Śrī Muttusvāmi Dīkṣita (1775–1835), born in Thiruvarur, stands as one of the greatest composer-philosophers of the Carnatic tradition, whose kṛtis embody a profound confluence of music, spirituality, mantra-śāstra, aesthetics, and Indian Knowledge Systems. The special session on Śrī Muttusvāmi Dīkṣita explores the composer's multidimensional contributions to music, spirituality, aesthetics, and Indian Knowledge Systems through interdisciplinary presentations and lecture-demonstrations. The session examines Dīkṣita's treatment of rāga, tāḷa, and bhāva alongside the philosophical and Tantric dimensions of his sāhitya, while also highlighting his stature as an Uttama Vāggeyakāra through discussions on poetic beauty, prosody, mudrās, and madhyamakāla sāhitya. It

further reflects on the convergences between Dhrupad and Dīkṣita's compositional idiom, as well as the Vāra Kṛti-s as frameworks for rhythm, consciousness, temporality, and mindful engagement with life. Collectively, the session positions Dīkṣita's compositions as profound embodiments of music, philosophy, devotion, and holistic cultural knowledge.

Invited Talk:

Title: Śrīnāthādi Guruguhō Jayati

Prof. Gautam R. Desiraju (Distinguished Professor, IKSMHA, IIT Mandi)

Abstract

Muttusvāmi Dīkṣita occupies a unique position in the pantheon of Carnatic composers. This lecture explores selected themes drawn from his oceanic corpus of compositions, illustrating his treatment of rāga, tāḷa, and bhāva on the musical side, alongside Śrīvidyā and its Tantric overtones within the lyrical dimension of his kṛtis. Dīkṣita stands as an epitome of Indian Knowledge Systems, embodying the seamless confluence of music, philosophy, spirituality, mantra-śāstra, and aesthetics. His stature as one of the finest exemplars of the Indian Knowledge tradition has also been recognized in the recently released textbook Indian Knowledge Systems: A Primer, where he has been chosen by Prof. Gautam R. Desiraju and the coauthors as one among five Indians of the last 250 years who best exemplify the IKS framework.

[SS11_1] Dhrupad & Dikshitar: The unexplored convergence between two living traditions

Vid. Shilpa Shanker (Renowned Dhrupad vocalist)

Abstract

Exploring distinct threads of continuity between Dhrupad, the oldest extant form of Indian Classical music, and the kritis of Muthuswamy Dikshitar, one of the principal composers of the Carnatic tradition through a comparative and analytical engagement between the Dhrupad format and Dikshitar compositions; the paper suggests a fresh interpretive approach to these kritis - one informed by Dhrupad Ang and in return also create a framework for revisiting Dhrupad's foundations in Sanskrit and Vedic aesthetic and structure. The inquiry is the result of the explorations of a Dhrupad vocalist of the Dagarvani tradition, bringing practice-based insights in dialogue with musicological reflection.

[SS11_2] Śrī Muttusvāmi Dīkṣita as an Uttama Vāggeyakāra

Dr. V. Ramanathan (Department of Chemistry, IIT BHU) & Dr. P. Nirmal Harish (IKSMHA, IIT Mandi)

Abstract

This lecture-demonstration by Dr. Ramnathan and Dr. P. Nirmal Harish examines Śrī Muttusvāmi Dīkṣita as an Uttama Vāggeyakāra, bringing focus to the literary and structural brilliance of his compositions alongside their musical profundity. While Dīkṣita's kṛtis are celebrated for their rāga bhāva and compositional sophistication, this presentation particularly highlights the lyrical peculiarities embedded within his sāhitya, including poetic beauty, prosodic elegance, the usage of mudrās, madhyamakāla sāhitya, and other intricate compositional techniques. Through selected examples and demonstrations, the session seeks to illustrate how Dīkṣita masterfully integrated music, literature, mantra, philosophy, and spirituality, thereby elevating his kṛtis into profound aesthetic and intellectual expressions within the Carnatic tradition.

[SS11_3] The Vāra Kṛti-s of Muthuswami Dikshitar

Dr. S. Seethalakshmi (Department of Music, Central University of Tamil Nadu)

Abstract

This paper presents a unique model where music, time-consciousness, and mental regulation interest making them especially relevant to MBCC 2026. Structured around the days of the week, these compositions align rāga choice, sāhitya, and prosodic rhythm with cyclical temporality, encouraging rhythmic entrainment, attentional stability, and reflective awareness in both performer and listener. Rather than serving as devotional pieces alone, the Vāra Kṛti-s function as sonic frameworks for organizing daily experience, illustrating how traditional musical systems encode behavioural rhythm, emotional balance, and conscious engagement with time—key concerns at the intersection of mental health, behaviour, and consciousness.

Special Session 12:

SS12: Holism in Ayurveda: A Whole-System Approach Integrating Body, Mind, and Consciousness from Classical Wisdom to Clinical Practice			
June 4, 2026 15:00-17:00 Venue: Hall B			
Session Chair: Dr. Amrita Sharma & Dr. Anukul Deb Goswami			
Time	**Speakers**	**Events**	
15:00-15:05	Dr. Amrita Sharma & Dr. Anukul Deb Goswami	**Opening Remarks**	
15:05-16:20	**Authors**	**Contributory Paper Presentations**	**Paper ID**
	Dr Sakshi Sharma, Prof. (Dr.) Vijay Chaudhary, Dr Priyanka Bhardwaj	Psychosomatic Interplay in Gastritis with Sleep Disturbance: An Ayurvedic Clinical Case Study	463
	Dr Ishani Kaushal, Prof (Dr) Vijay Chaudhary,Dr Priyanka Bhardwaj	Psychological Influences in Gastrointestinal Disorders: Ayurvedic Answers through the Agni–Manas Paradigm	464
	Dr Priyanka Bhardwaj, Prof. (Dr) Vijay Chaudhary, Prof. (Vd) Rakesh Sharma	When the Mind Disturbs the Pulse: Re-examining Hypertension through Vata Dysregulation and Manas Bhava in Ayurveda.	465
	Marilena Gilca, Madalina Petran, Dorin Dragos	Plant Taste and Beyond: Unlocking the Ancient Medical Knowledge	473
	Dr Chandershekhar Sharma	An Ayurvedic Approach to Psoriasis Management: A Case Study	478
	Dr. Anukul Kumar Deb Goswami, Dr. Amrita Sharma	Integrative Orthopaedics and Spinal Care in Musculoskeletal Pain: A Whole-System Clinical Framework Bridging Modern Medicine, Charaka, and Sushruta	483
	Dr Danada Kulkari, Dr Amrita Sharma	Ayurveda as Consciousness Medicine: Therapeutic Role of Mantras in Psychotherapy and Disease Management.	486

	Professor Rajeev Gupta	Yoga, Meditation and Obesity - Biophysiological and Biochemical Mechanisms Underlying Their Role in Weight Regulation and Metabolic Health	488
	Amrita Sharma, Dr Arnav Bhavsar	From Tradition to Technology: Digitizing Ayurvedic Prakriti Assessment — A Systematic Review	SS12_1
16:20-16:45	Dr Rajeev Gupta, Dr Marilena Gilca, Dr Anukul Deb Goswami, Dr Chandershekhar Sharma, Dr. Dhanada Kulkarni	**Ayurveda Talks:** A day with Ayurveda: Walk Through	
16:45-16:55	Dr. Amrita Sharma & Dr. Anukul Deb Goswami	**Panel discussion**	
16:55-17:00		**Closing Remarks** by session chairs	

Theme of the session:

Ayurveda, one of the world's oldest living systems of medicine, is rooted in profound philosophical foundations and centuries of empirical clinical practice. Its classical texts—Caraka Samhitā, Suśruta Samhitā, and Astanga Hrdaya—present a sophisticated understanding of health, disease, prevention, and longevity through concepts such as Dosa, Dhātu, Agni, Ojas, and Prakrti. In the contemporary healthcare landscape, however, global acceptance increasingly depends on evidence generated through systematic research, standardized methodologies, and clinical trials. The future of Ayurveda therefore lies in translating classical wisdom into clinically verifiable, reproducible, and integrative evidence, without compromising its holistic essence.

[463] Psychosomatic Interplay in Gastritis with Sleep Disturbance: An Ayurvedic Clinical Case Study

Dr Sakshi Sharma, Prof. (Dr.) Vijay Chaudhary, Dr Priyanka Bhardwaj(all Rajiv Gandhi Government Post Graduate Ayurvedic College & Hospital Paprola Hp)

Abstract

The gut–brain axis plays a key role in psychosomatic disorders where gastrointestinal symptoms coexist with neuropsychological disturbances such as sleep disorders. Gastritis, characterized by inflammation of the gastric mucosa, commonly presents with epigastric burning, nausea, heaviness, and indigestion, often aggravated by stress and poor sleep. In Ayurveda, these manifestations correspond to Pitta-dominant Tridosha aggravation affecting Annavaha and Manovaha Srotas with impaired Agni and Ama formation. This case study describes the Ayurvedic management of gastritis with disturbed sleep in a 28-year-old male Ph.D. scholar presenting with chronic epigastric burning, sour eructations, postprandial heaviness, and insomnia for two years. The patient had previously received proton pump inhibitors and amitriptyline with only temporary relief. Ayurvedic diagnosis was Amlapitta associated with Anidra. Management included Shodhana therapy with Vamana Karma preceded by Deepana-Pachana and Snehapana, followed by Shamana therapy, Shirodhara, yogic practices, and Pitta-pacifying diet and lifestyle modifications. Symptom assessment using the Gastrointestinal Symptom Rating Scale (GSRS) and Pittsburgh Sleep Quality Index (PSQI) showed significant improvement in gastric symptoms and sleep quality without adverse effects. This case highlights the potential of holistic Ayurvedic interventions in restoring gut–brain balance and managing psychosomatic gastrointestinal disorders.

[464] Psychological Influences in Gastrointestinal Disorders: Ayurvedic Answers through the Agni–Manas Paradigm

Dr Ishani Kaushal, Prof (Dr) Vijay Chaudhary,Dr Priyanka Bhardwaj (Rajiv Gandhi Govt Post Graduate Ayuvedic College and Hospital Paprola)

Abstract

Gastrointestinal system (GIS) disorders are highly prevalent worldwide and are increasingly associated with rapid lifestyle changes, unhealthy dietary habits, and psychological stress. Functional gastrointestinal disorders such as Irritable Bowel Syndrome, Functional Dyspepsia, and Functional Abdominal Pain are frequently linked with mental health conditions including anxiety, depression, and stress. These disorders commonly present with symptoms such as abdominal pain, bloating, nausea, diarrhoea, and altered bowel habits, significantly affecting quality of life and daily functioning. The gut–brain axis further explains the close interaction between psychological states and digestive processes. Although conventional therapies provide symptomatic relief, prolonged use of medications like proton pump inhibitors, H_2-receptor blockers, and laxatives may lead to adverse effects and often fail to address the underlying causes. In Ayurveda, gastrointestinal disorders are mainly associated with the vitiation of Annavaha and Purishavaha Srotas and impairment of Agni, the central factor governing digestion and metabolism. Improper dietary habits, irregular eating patterns, incompatible foods, and unhealthy lifestyle practices contribute to Agnimandya and the formation of Ama. Psychological disturbances such as fear, anger, anxiety, and excessive thinking further aggravate digestive dysfunction. Ayurveda highlights the close relationship between Manas (mind) and Agni in maintaining digestive health. Management therefore emphasizes a holistic approach including proper diet, lifestyle regulation, and therapeutic measures such as Shodhana, Shamana, and Satvavajaya Chikitsa to restore digestive balance and overall well-being.

[465] When the Mind Disturbs the Pulse: Re-examining Hypertension through Vata Dysregulation and Manas Bhava in Ayurveda.

Dr Priyanka Bhardwaj, Prof. (Dr) Vijay Chaudhary, Prof. (Vd) Rakesh Sharma (Rajiv Gandhi Government Post Graduate Ayurvedic College and Hospital Paprola)

Abstract

Hypertension is a major global health concern and an important risk factor for cardiovascular, cerebrovascular, and renal diseases. Although advances in modern medicine have improved its management, effective blood pressure control remains suboptimal in a large proportion of individuals. Increasing evidence suggests that psychosocial stress plays a significant role in the onset and progression of hypertension, highlighting the need for a broader understanding of its pathogenesis. Classical Ayurvedic texts do not describe hypertension as a distinct disease entity; however, several clinical conditions such as Raktagata Vata, Siragata Vata, and Dhamani Prapurana have been interpreted to explain its pathophysiology. From an Ayurvedic perspective, dysregulation of Vata Dosha, particularly Prana and Vyana Vayu, may disturb circulatory dynamics and contribute to altered vascular function. Psychological factors such as Atichinta (excessive worry), Shoka (grief), and Bhaya (fear) aggravate Rajas and Tamas, leading to disturbances in Manovaha Srotas and further vitiation of Vata. This psychosomatic interaction between mind and body forms an important basis for understanding hypertension within the Ayurvedic framework. The present article explores hypertension through classical Ayurvedic concepts of Dosha, Dhatu, Srotas, and Manasika Bhava, while correlating them with contemporary insights into stress-related hypertension. It also outlines a holistic therapeutic approach involving Nidana Parivarjana, Satvavajaya Chikitsa, Shodhana and Shamana therapies, along with lifestyle regulation and mind–body practices. Such an integrative perspective highlights the potential of Ayurveda in addressing both physiological and psychological determinants of hypertension.

[473] Plant Taste and Beyond: Unlocking the Ancient Medical Knowledge

Marilena Gilca (Carol Davila Univ. of Medicine and Pharmacy, Bucharest, Romania) , Madalina Petran (Carol

Davila Univ. of Medicine and Pharmacy, Bucharest, Romania) , Dorin Dragos (Nephrology Clinic, University Emergency Hospital Bucharest, Romania)

Abstract

Taste of medicinal plants has been considered in traditional medicine,as an ethnopharmacological predictor of therapeutic activities, a concept that may compatible with bioscientific paradigms.The purpose of the present work was to verify whether the ayurvedic theory of taste might be valid also for non-ayurvedic medicinal plants, and to find potential concordances between plant taste and evidence-based pharmacological activities. Methods. A database was built using the information available in the WHO monographs on Selected Medicinal Plants. All the medicinal plants listed in this source, regardless of their origin, were included, together with their organoleptic description and their evidence based- pharmacological activities. Potential associations between herbal taste and the pharmacological activities (grouped based on perfect synonymy, semantic aspects or ayurvedic categories) were statistically analyzed using Fisher's exact test. Results. The highest number of statistical associations were found in the statistical analysis based on ayurvedic categories. (16 positive associations and 8 negative associations). Only negative associations have been found for bitter, both positive and negative associations for pungent and sweet, only positive for astringent, sour and salty. Conclusions. Ayurveda system of tastes may be applied to non-Indian medicinal plants, but with careful consideration of the specific condition. At least some of the traditionally acknowledged taste-activity associations are confirmed by modern studies.

[478] An Ayurvedic Approach to Psoriasis Management: A Case Study

Dr Chandershekhar Sharma (Dayanand Ayurvedic college, Jalandhar, Punjab)

Abstract

Psoriasis is a chronic inflammatory dermatological disorder that significantly impairs physical health and psychosocial well-being, especially when extensive and refractory to conventional therapies. This case report presents the successful Ayurvedic management of a 58-year-old male with severe, widespread psoriasis of five years' duration. The patient presented in February 2025 to the outpatient department of Dayanand Ayurvedic College Hospital with thick, blackish plaques involving the arms, forearms, legs, back, and abdomen, associ-ated with intense pruritus, disturbed sleep, low mood, and social withdrawal. Previous treatments had provided minimal relief. There was no significant comorbidity, and appetite was normal. Diagnosis was confirmed through clinical examination, laboratory investigations, and skin biopsy. The patient underwent a structured Ayurvedic treatment proto-col centered on Virechana (therapeutic purgation). Preparatory procedures included Deepana–Pachana with Chitrakadi Vati for five days and Snehapana with Panchtikta Ghrita for seven days, followed by external Snehana and Swedana for three days. Virechana was administered using 80 g of Trivrit Avaleha, fol-lowed by Samsarjana Karma. Subsequent management included oral medications and topical applications. Clinical improvement was evident after Virechana, with progressive drying and resolution of lesions. The Psoriasis Area and Severity Index (PASI) score reduced from 32 to 13 at four months and to 0 at seven months, with complete remission of lesions and restoration of normal skin. This case highlights the potential effi-cacy of a comprehensive Ayurvedic approach in managing severe, treatment-resistant psoriasis, suggesting its role as a viable therapeutic option in chronic autoimmune skin disorders.

[483] Integrative Orthopaedics and Spinal Care in Musculoskeletal Pain: A Whole-System Clinical Framework Bridging Modern Medicine, Charaka, and Sushruta

Dr. Anukul Kumar Deb Goswami(A and A Orthopaedic Consultancy, United Kingdom), Dr. Amrita Sharma (IIT Mandi)

Abstract

As a consultant orthopaedic and spinal surgeon, I frequently encounter a central paradox in musculoskeletal care:

structural abnormalities are common, yet symptoms are often disproportionate to, or poorly explained by, imaging alone. This is evident in chronic back pain, neck pain, cervicogenic dizziness, trauma-related pain syndromes, and persistent pain despite appropriate conservative or surgical treatment. In clinical practice, pre-operative assessment, surgical decision-making, and post-operative care require more than structural diagnosis. They demand attention to pain phenotype, inflammatory biology, neural sensitisation, autonomic regulation, psychological trauma, sleep, diet, social context, and the patient's adaptive capacity.This article presents a whole-system framework for integrative orthopaedics and spinal care, combining contemporary evidence with principles from the Charaka Samhita and Sushruta Samhita. Reductionist, silo-based care often fails because it treats isolated structures rather than the interconnected human system. In contrast, both modern systems medicine and Ayurveda emphasise interdependence across structure, physiology, mind, behaviour, and environment. Current guidelines support holistic, person-centred, integrated care and caution against over-reliance on imaging, noting the high prevalence of asymptomatic degeneration and the coexistence of vertebrogenic, inflammatory, nociplastic, autonomic, and psychosocial mechanisms.The article further explores cervicogenic dizziness and the cervical–autonomic–gut axis; trauma, including childhood adversity and domestic abuse; the role of food and inflammation in gut–spine–brain interactions; and the impact of social connectedness on chronic pain. Surgery remains essential for selected structural conditions, but durable outcomes are more likely when embedded within a comprehensive biological, psychological, social, and behavioural framework.

[486] Ayurveda as Consciousness Medicine: Therapeutic Role of Mantras in Psychotherapy and Disease Management.

Dr Danada Kulkari (Ashtang Acuveda Wellness Center Dallas, Texas), Dr Amrita Sharma (Department of Dravyaguna, DAAc , Jalandhar, Punjab.)

Abstract

Ayurveda conceptualizes health as a state of equilibrium between body, mind, senses, and consciousness. In Ayurveda, Śabda (sound) is consid-ered a subtle yet potent modality capable of modulating consciousness, physiology, and environmental harmony. Within this framework, mantra therapy represents a sophisticated conscious-ness-based intervention categorized under Daivavyapashraya Chikitsa (spiritual or divine therapy). Classical Ayurvedic texts document the therapeutic use of mantras for psycho-logical disorders, neurological diseases, prenatal care, and ritual healing. This paper presents a systematic compilation of mantras referenced in classical Ayur-vedic literature for various disease conditions and integrates evidence-based research on mantra meditation and sound therapy . By bridging classical textual knowledge with contemporary scientific insights, this study highlights the psychophysiological mechanisms of mantra chanting and underscores the need for rigorous empirical investigation and integration of mantra therapy into modern mental health and integrative medicine frameworks.

[488] Yoga, Meditation and Obesity - Biophysiological and Biochemical Mechanisms Underlying Their Role in Weight Regulation and Metabolic Health

Professor Rajeev Gupta (International Organisation of Integrated Health Practitioners)

Abstract

Obesity has become one of the most serious global health challenges of the twenty-first century, affecting more than 650 million adults worldwide and contributing to a wide range of metabolic and cardiovascular disorders. Conventional approaches to obesity management typically involve dietary restriction, pharmacological therapies, and bariatric surgery; however, these strategies often have limitations related to adherence, adverse effects, and sustainability. Increasing scientific interest has therefore emerged in lifestyle-based and integrative approaches that address both physiological and behavioural determinants of obesity. Among these, yoga and meditation have

attracted growing research attention due to their potential to influence metabolic regulation, neuroendocrine balance, stress physiology, and behavioural aspects of eating. Yoga is a holistic mind-body discipline originating in ancient Indian knowledge systems that integrates physical postures (asanas), breathing exercises (pranayama), and meditative practices. Modern scientific research indicates that yoga practice can improve body composition, reduce visceral fat accumulation, enhance insulin sensitivity, and improve lipid metabolism. These effects are mediated through complex interactions involving the hypothalamic–pituitary–adrenal axis, autonomic nervous system regulation, adipokine signalling, inflammatory pathways, mitochondrial metabolism, and behavioural modifications in diet and stress response. Meditation and mindfulness practices further contribute by regulating appetite perception, improving emotional regulation, and reducing stress-induced eating behaviour. This article explores the scientific mechanisms through which yoga and meditation influence obesity, examining their biophysiological and biochemical effects within a systems biology framework and integration of yoga-based interventions into modern medicine.

[SS12_1] From Tradition to Technology: Digitizing Ayurvedic Prakriti Assessment — A Systematic Review

Amrita Sharma, Dr Arnav Bhavsar (IIT Mandi)

Abstract

Ayurveda, the ancient Indian system of personalized medicine and the world's oldest medical traditions based on the concept of Prakriti (individual psychosomatic constitution) as the foundation for diagnosis, prognosis, and treatment. Prakriti is determined by the relative dominance of three bio-energies i.e Vata, Pitta, and Kapha. It remains stable throughout life, governing susceptibility to disease and response to therapeutics. Traditional Prakriti assessment, relying on Trividha (darshan, Sparsha and Prashna) Pariksha through questionnaires, pulse palpation, tongue inspection, and physical examination, is inherently subjective and observer-dependent, limiting its scalability and reproducibility. This systematic review integrates the use of AI methodologies that include Machine Learning (ML),natural language processing (NLP) and multimodal data fusion applied to phenotypic, genetic and questionnaire derived datasets for Ayurvedic Prakriti assessment. The review highlights the AI tools commonly used for assessment and how algorithms enhance diagnostic accuracy in automation, personalized therapeutics, and validation frameworks, while critically evaluating methodological strengths, and scope of future research. A systematic narrative review was conducted by searching PubMed, IEEE Xplore, Google Scholar, and the AYUSH Research Portal (2010–2025). A total of 36 studies met inclusion criteria from 186 initially identified records. Conclusion: AI holds transformative potential to convert subjective Ayurvedic Prakriti assessment into objective, scalable, and globally applicable precision medicine. Realizing this potential requires standardized multicenter datasets, robust clinical validation, explainable and ethically governed AI systems, and interdisciplinary collaboration with golden-standard clinical validation.

Regular Session 8:

RS8: Cognitive Science and AR/VR_6 + Material Science in IKS_3

Time: 15:00-17:00, Hall C

Session Chair: Dr. Varun Dutt & Dr. Supratim Ray; Dr. Neha Thakur & Prof. Chayan K Nandi

Paper ID	Paper Titles	Authors
24	Quantifying Prana: An Immersive AR-Based Biofeedback Framework for Real-Time Pranayama Monitoring Using Computer Vision and Physiological Signals	Jyothii Moolya
68	Cognitive and Behavioral Predictors of Gaming Duration: The Role of Experiential Engagement and Mindfulness	Vitika Soni, Riya Bhatt, Rohit Choudhary, Varun Dutt

102	DecoraAI: AI-powered Augmented Reality (AR) Interior Design Web Application	Darun S, Rathivarman K, Gouthami P
250	RagaScape: Raga-Driven 6DoF Scene Synthesis for Time, Season, Emotion, with Affective Well-being Assessment	Rahul Kumar Rai, Reshu Bansal, Ankita Garg, Praful Hambarde, Devesh Kumar, Shashi Shekhar Jha
314	Immersive AR/VR Ecosystems for Integrated Healthcare, Rehabilitation, and Mental Health: A Human–Computer Cognition Framework for Next-Generation Clinical Interventions	Dr Neeraj Panwar, Dr Durgansh Sharma, Ms Sunaina Majumder
451	Rapid Eye Movement Sleep-Specific Autonomic Modulation Following a Brief Mantra-Based Cognitive Intervention: Evidence from Polysomnography-Derived Heart Rate Variability	Ankita Garg, Varun Dutt, Laxmidhar Behera
28	Canevia – Regenerative Packaging	Abhinav Narayan Singh, Vaishali Dixit
171	Light Perception in Plants: Photoreceptors, Photochemical mechanisms, and Signal integration	Shilpa Chandra, Laxmidhar Behera, Chayan Kanti Nandi
204	ANCIENT INDIAN SUSTAINABLE WATER MANAGEMENT, STORAGE AND TREATMENT SYSTEMS	Dr Hari Krishna Padavala, Dr Pandu Ranga Rao M
277	A brief excursion into Indian Material Knowledge Systems	Basant Sharma

[24] Quantifying Prana: An Immersive AR-Based Biofeedback Framework for Real-Time Pranayama Monitoring Using Computer Vision and Physiological Signals

Jyothii Moolya

Abstract

Pranayama or yogic breathing is commonly performed for cognitive wellness and autonomic conditions, but practitioners have not been able to obtain any kind of feedback about their breathing during practice. The common technology that has been developed so far is based on sensors or posture analysis, which can disrupt the meditative process. This paper proposes a multi-modal system that is contactless and makes use of computer vision, heart rate variability measures, and augmented reality for pranayama assessment. Based on the use of MediaPipe for pose and facial landmarks, the breathing rate, amplitude, and rhythm can be estimated from torso translation and nasal flare. Simultaneously, other HRV measures the autonomic rhythm reflecting controlled breathing. The methodological approach taken in this paper, in contrast to the prevalent use of explicit labels for cognitive states, utilizes self-supervised representation learning, which finds hidden patterns in multimodal features of physiological signals. The biofeedback component of the proposed system is based on AR and utilizes particle systems for the visual representation of the estimated “Flow of Prana”. The experimental assessment on the pilot dataset shows the physiological consistency of the trends under the breathing conditions as defined by the protocol, as well as the latent structuring without the need for classification as supervised. It combines Indian knowledge systems and computer vision, providing an effective and non-invasive method for pranayama analysis and biofeedback for meditation.

[68] Cognitive and Behavioral Predictors of Gaming Duration: The Role of Experiential Engagement and Mindfulness

Vitika Soni (Indian Institute of Technology, Mandi), Riya Bhatt (The Maharaja Sayajirao University of Baroda),

Rohit Choudhary (JNGEC Sundernagar), Varun Dutt (Indian Institute of Technology, Mandi)

Abstract

Video gaming is a pervasive online activity, but individuals differ considerably in the amount of time spent gaming. Although previous studies have highlighted the importance of structural and designrelated mechanisms that facilitate extended gaming engagement, relatively little attention has been devoted to the joint role of experiential engagement and cognitive self-regulatory processes in non-clinical populations. The current study investigated whether subjective gaming engagement and dispositional mindfulness can predict weekly gaming duration. A cross-sectional survey study was employed, and data were gathered from 135 adults aged 18-40 years. Gaming engagement was assessed using the Gaming Engagement Questionnaire, and dispositional mindfulness was evaluated using the Mindful Attention Awareness Scale. Hierarchical multiple regression analyses were employed to investigate predictors of weekly gaming duration and total gaming hours. The results showed that gaming engagement was a strong and reliable predictor of gaming duration across models. Dispositional mindfulness did not show a stable and robust direct relationship with gaming duration after controlling for gaming engagement. These results underscore the pivotal role of experiential engagement in maintaining gaming behavior and suggest that mindfulness may have a limited and context-dependent role in influencing normative gaming behavior.

[102] DecoraAI: AI-powered Augmented Reality (AR) Interior Design Web Application

Darun S, Rathivarman K, Gouthami P (Dr.N.G.P. Institute of Technology)

Abstract

Traditionally, interior design takes a lot of time, knowledge and visualization, which can often make the users unable to visualize changes in the real-life spaces. The majority of the current interior design applications are not very interactive and only rely on templates, without offering real-time, customized and immersive experiences. In this paper, I will introduce DecoraAI, an artificial intelligence (AI)-enhanced web based augmented reality (AR) interior design tool that allows users to create their own 3D models according to their natural language requests and see them immediately in the surrounding environment. The system combines generative artificial intelligence to create 3D objects, real-time rendering and WebAR technology to place virtual furniture and decoration objects in real-life spaces without any difficulties. DecoraAI also allows scaling, rotation and repositioning of objects dynamically to improve user interaction and space precision. The experimental assessment proves that the suggested system is much more efficient in terms of design, accuracy of decision-making and user interaction than the conventional interior design tools. The platform offers a convenient, smart and interactive platform to address the contemporary interior visualization and personalization requirements.

[250] RagaScape: Raga-Driven 6DoF Scene Synthesis for Time, Season, Emotion, with Affective Well-being Assessment

Rahul Kumar Rai (Indian Institute of technology, Ropar), Reshu Bansal, Ankita Garg (Indian Institute of technology, Mandi), Praful Hambarde (DRDO India), Devesh Kumar (Indian Institute of technology, Mandi), Shashi Shekhar Jha (Indian Institute of technology, Ropar)

Abstract

Indian classical rāgas are traditionally associated with specific emotional qualities, seasons, and times of day, yet most immersive music experiences do not exploit this contextual structure when generating virtual content. This paper presents RagaScape, a unified pipeline that maps an input rāga audio signal to a three-part rāga context representation (time of day, season, and emotion) and subsequently synthesises a rāga-conditioned 6DoF virtual environment for head-mounted display (HMD) viewing. The proposed framework couples rāga context mapping with scene synthesis to produce context-consistent visual ambience (e.g., lighting, sky, and weather cues) aligned with the perceived rāga setting. We evaluate the system through a non-clinical, within-subject user study (N = 12) using SAM and IPQ, comparing a matched rāga-conditioned 6DoF VE against an audio-only baseline and a

mismatched visual condition. Results indicate improved perceived presence (IPQ: 4.09 vs. 1.54 and 3.34) and higher affective valence (SAM: 6.84 vs. 6.06 and 5.21) for the matched condition, alongside reduced arousal relative to the mismatched condition (3.61 vs. 4.60). These findings suggest that context-consistent rāga-driven scene conditioning can enhance immersion and support short-term perceived well-being outcomes.

[314] Immersive AR/VR Ecosystems for Integrated Healthcare, Rehabilitation, and Mental Health: A Human–Computer Cognition Framework for Next-Generation Clinical Interventions

Dr Neeraj Panwar, Dr Durgansh Sharma, Ms Sunaina Majumder (CHRIST University)

Abstract

The convergence of augmented reality (AR) and virtual reality (VR) technologies with computational cognitive science presents unprecedented opportunities for transforming healthcare delivery, rehabilitation protocols, and mental health interventions. This extended abstract proposes a comprehensive conceptual framework—the Immersive Cognitive–Clinical Integration Framework (IC²IF)—that unifies AR/VR design principles, human cognitive mechanisms, clinical workflows, and data-driven analytics within a translational ecosystem. Synthesizing evidence from recent systematic reviews and meta-analyses, we demonstrate that AR/VR applications yield statistically and clinically significant improvements across diverse domains: VR exposure therapy (VRET) for post-traumatic stress disorder (PTSD) shows moderate to large effect sizes (g = 0.848 to 1.100), surgical training with AR overlays enhances precision and reduces cognitive workload, and VR-based stroke rehabilitation leverages neuroplasticity to accelerate motor recovery (Botella et al., 2019; Carl et al., 2022; Indovina et al., 2025; Pourmand et al., 2018). The proposed five-layer framework addresses clinical use cases, cognitive–affective mechanisms, immersive interaction design, adaptive analytics, and ethical implementation, positioning AR/VR systems as both therapeutic tools and experimental platforms for theory-driven cognitive research. With India's expanding digital infrastructure and interdisciplinary research centres such as IIT Mandi's integrated wellness laboratories, this framework offers pathways to develop scalable, culturally appropriate, and evidence-based immersive healthcare solutions.

[451] Rapid Eye Movement Sleep-Specific Autonomic Modulation Following a Brief Mantra-Based Cognitive Intervention: Evidence from Polysomnography-Derived Heart Rate Variability

Ankita Garg, Varun Dutt, Laxmidhar Behera (Indian Institute of technology, Mandi)

Abstract

Stress-related physiological dysregulation adversely affects emotional and physical health. Within contemporary frameworks of consciousness research and neurovisceral integration, heart rate variability is regarded as a systems-level marker of central–autonomic coordination and adaptive regulation. Although meditation-based interventions have been shown to improve heart rate variability during wakefulness, it remains unclear whether short-duration contemplative practices rooted in Indian Knowledge Systems can modulate autonomic dynamics within intrinsic sleep architecture, particularly during rapid eye movement sleep-a stage closely linked to emotional processing. This pilot study examined whether a brief 7-day Hare Krishna Mantra Based Cognitive Therapy program influences autonomic regulation during rapid eye movement sleep compared with an inactive control condition. A pre–post controlled experimental design was employed with healthy young adult males assigned to HMBCT (n = 17) or control (n = 17) groups. Participants underwent overnight polysomnography at baseline and follow-up. Rapid eye movement epochs were extracted, and electrocardiography-derived heart rate variability indices (MeanNN, SDNN, RMSSD, pNN50) were computed. Repeated-measures analysis of variance evaluated Group × Time effects. The intervention group demonstrated significant increases in SDNN (η^2 = .120) and RMSSD (η^2 = .140), whereas the control group showed minimal change; no significant interaction effects were observed for MeanNN or pNN50. These findings provide preliminary evidence that a short-duration mantra-based intervention can modulate rapid eye

movement sleep–specific autonomic dynamics, highlighting sleep-stage heart rate variability as a potential objective marker for interdisciplinary research at the interface of consciousness studies, cognitive neuroscience, and Indian Knowledge Systems.

[28] Canevia – Regenerative Packaging

Abhinav Narayan Singh, Vaishali Dixit (Dronacharya College of Engineering)

Abstract

Canevia is a biodegradable sugarcane-bagasse-based packing system which is designed as an alternative to multilayer aseptic cartons normally used to package liquid food. The suggested packaging design uses bagasse paperboard of the molded form and utilized as the structural layer, designed with edible bio-based barrier layers and embedded plant seeds, which produce a container that is liquid-proof, compostable, and can be planted after use. This paper gives the conceptual justification, choice of material, fabrication process, manufacturing process and early laboratory testing of Canevia and evaluation of its environmental and socio-economic consequences. The focus is made on cheap production, the use of local agricultural waste, and low-skill manufacturing products that can be used both in rural and urban areas. Canevia is a material science, circular economy, and regenerative design-based approach that can be used to convert sugarcane bagasse, which is an agricultural by- product, into a functional, eco-efficient and restorative liquid food packaging solution.

[171] Light Perception in Plants: Photoreceptors, Photochemical mechanisms, and Signal integration

Shilpa Chandra, Laxmidhar Behera, Chayan Kanti Nandi (Indian Institute of technology, Mandi)

Abstract

Plants are sessile organisms that continuously sense and interpret their environment to regulate growth, development, and survival. Although plants lack a nervous system, extensive experimental evidence demonstrates that they possess sophisticated sensory perception systems that function analogously though not identically to human senses, enabling detection of light quality, intensity, direction, and duration as informational cues rather than merely energy inputs. Through specialized photoreceptors, plants convert light signals into biochemical, transcriptional, and physiological responses that regulate photomorphogenesis, shade avoidance, phototropism, stomatal behavior, and stress acclimation. Major plant photoreceptors include phytochromes sensing red and far-red light, cryptochromes and phototropins sensing blue and ultraviolet-A light, and UVR8 acting as a dedicated ultraviolet-B receptor. Each photoreceptor employs a distinct photochemical mechanism to translate photon absorption into molecular signals that converge on central regulatory hubs such as PHYTOCHROME-INTERACTING FACTORs (PIFs), CONSTITUTIVELY PHOTOMORPHOGENIC 1 (COP1), and ELONGATED HYPOCOTYL 5 (HY5). According to Indian Knowledge Systems, plants are observant living organisms whose responsiveness comes from intrinsic biological processes rather than brain cognition. This overview of plant light perception as a distributed sensory system highlights conceptual similarities between plant and human sensory processing while emphasizing their biological differences.

[204] ANCIENT INDIAN SUSTAINABLE WATER MANAGEMENT, STORAGE AND TREATMENT SYSTEMS

Dr Hari Krishna Padavala, Dr Pandu Ranga Rao M (National Institute of Technology Warangal)

Abstract

Water has played a key role in shaping human history from time immemorial. The great civilizations have survived over the centuries and flourished where the water was harnessed properly. The ancient empires from India have built water storage and conveyance systems mostly in the places where there is water scarcity and have constructed major hydraulic structures where a huge mass of water was available. Due to vagaries of monsoons and sequential droughts

some of these areas are not receiving adequate inflows into the reservoirs resulting in depletion of surface water bodies. This paper provides the details regarding the ancient water management and hydraulic engineering systems adopted for the purpose of water storage, purification, filtration and flood control in Ancient India.

[277] A brief excursion into Indian Material Knowledge Systems

Basant Sharma (IIT Kanpur)

Abstract

This study presents a preliminary overview of traditional Indian materials and technologies. The report draws exclusively on publicly accessible and institutional sources to offer synthesis of existing scholarship to identify key themes and insights within the broader discourse of Indian Knowledge Systems (IKS). The objective is to provide a reflective and integrative assessment, though far from being exhaustive, of prevailing interpretations concerning ancient Indian technological practices related to materials. The report also encourages the use of modern methods to reassess long-held views of ancient Indian history. Focusing on materials and processing technologies—especially metallurgy and material science within IKS, the modern methods should be able to project more emphatically that these sciences were part of a coherent, continuous intellectual tradition. Past archaeological, textual, and metallurgical evidence collectively, potentially, argue for a systematic scholarly recognition of India's advanced expertise

Regular Session 9:

RS9: Sanskrit_10 Time: 15:00-17:00, CnP(Hall D) Session Chair: Dr. Krishna Panda		
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49	Grammatical Overgeneration and the Limits of Syntax as an Explanation of Language Use	Sayali Kare
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[30] Saṃskṛta Bhāṣā' as a Cognitive Medium: Vyākaraṇa and the Transmission of Meaning Across Generations

Dipesh Vinod Katira (MIT Academy of Engineering, Alandi), Snigdha Mondal (Indian Institute Of Technology Kharagpur)

Abstract

Knowledge and cognition are inextricably intertwined with language, which functions not merely as a communicative agency but as a cognitive container through which meaning is structured, preserved and transmitted. Knowledge can be transmitted seamlessly across space and time if the container is perfected. The development of Saṃskṛta represents a deliberate intellectual intervention by the Munis, aimed at preserving and transmitting the Vedic corpus with minimal semantic deviation over millennia. Central to this endeavour was Śabda-śāstra (Vyākaraṇa), the foremost among the six Vedāṅgas. Since languages operate through convention, prescribing a fixed artificial language is impractical. Śabda-śāstra demonstrates instead how a natural language can be precisely described. By formally capturing a specific spatio-temporal variant of Bhāṣā, Vyākaraṇa stabilised Saṃskṛta, enabling its texts to be decoded accurately across time and space. Language, as both an epistemological and ontological construct, varies significantly across time and space, often impeding the precise transmission of meaning across generations. This paper examines Saṃskṛta Bhāṣā as a consciously structured cognitive medium designed to facilitate the seamless transmission of complex knowledge systems, particularly the Vedas. It argues that Vyākaraṇa or Śabda-śāstra functions as a meta-linguistic cognitive framework that formally captures a specific spatio-temporal state of language while enabling its stable transmission over time. By ensuring linguistic stability without arresting natural evolution, Vyākaraṇa minimised ambiguity and sustained continuity of meaning over millennia. The paper further explores key features of this knowledge system and the insights it offers.

[49] Grammatical Overgeneration and the Limits of Syntax as an Explanation of Language Use

Sayali Kare (MIT-ADT University, Pune, Maharashtra)

Abstract

Formal grammatical systems aim to specify the set of structurally well-formed expressions in a language; however, they frequently generate constructions that are not attested in actual usage. While the phenomenon of overgeneration is widely acknowledged in linguistic theory, its implications for language use remain insufficiently explored. This paper examines the gap between grammatical permissibility and syntactic choice, with particular reference to the Sanskrit grammatical tradition within the framework of Indian Knowledge Systems. It is argued that grammaticality constitutes a necessary but not sufficient condition for language use, as speakers systematically prefer syntactic configurations that facilitate stable and predictable cognitive processing. Consequently, many formally valid constructions remain unused. The study proposes that this gap cannot be explained solely within the domain of grammar but must be understood in relation to cognitive constraints governing language production. By treating unused grammatical possibilities as evidence of extra-grammatical selection mechanisms, the paper contributes to ongoing discussions on the limits of syntax as a model for explaining language behavior, particularly in relation to mind and cognition.

[91] Jñāna and Cognition: The Paradox in Advaita Vedānta Philosophy

Shivam Chaudhary, Dr. Monica Kuwar Rathore (Department of Sanskrit, University of Delhi)

Abstract

Cognition is a fundamental aspect of the everyday experience of sentient beings and therefore becomes a fertile area of inquiry within both philosophy and psychology. Indian psychology is embedded in its philosophical systems and they in general and Advaita Vedānta in particular provide a detailed exposition about it. The paper examines the conceptual distinction between the terms jñāna and cognition within the framework of Advaita Vedānta; former being

reserved for Brahman and latter pertaining to empirical beings. It showcases that jīva cannot have jñāna but only cognition. On account of being a process cognition needs an apparatus. This paper focuses on the functioning of this cognitive apparatus, primarily consisting of antaḥkaraṇa and indriya which function under the influence of reflected consciousness, i.e. jīva/cidābhāsa, along with highlighting key processes like vṛttivyāpti and phalavyāpti. Advaita Vedāntic cognitive theory addresses four states of consciousness namely, jāgrata, svapna, suṣupti, and turīya with essential difference in the cognitive process in all the individual states, cognition being limited to only the first three. Turīya state is jñāna-svarūpa thereby restricting the scope of cognition. Through this exploration a profound model of cognition is presented which integrates metaphysical insights with psychological processes.

[94] To translate or not to translate? Sanskrit non-translatables in English

Subham Layek (MIT Academy of Engineering, Alandi), Dipesh Vinod Katira, Jayashree Aanand Gajjam, Snigdha Mondal (Indian Institute Of Technology, Kharagpur)

Abstract

The inception of the translation of Sanskrit works into English occurred at the end of the 18th century, culminating in the construction of 'The Sacred Books of the East', the monumental fifty-volume series edited by Max Mül-ler and published by Oxford University Press between 1879 and 1910. Recent literature like R. Malhotra and Das Babaji's 'Sanskrit Non-translatables: The Importance of Sanskritizing English' (2020) flagged the inherent epistemological and cultural constraints in English translations. The book emphasises that the Sanskrit words derive their semantic nourishment from cultural context, historical evolution, and the conscious sense implied by the Ṛṣis in śāstric texts. However, its corresponding English translation and its meaning have their roots in materialistic systems, Judeo-Christian epistemology, and Hellenistic thought. Motivated by this concern, this paper critically analyses select Sanskrit terms to assess the propriety of their common English translations by delving deep into their (1) etymology (nirukti) and grammatical derivations (vyākaraṇaga-ta vyutpatti), (2) dictionary meanings (kośārtha) and synonyms (samārthaka), (3) contexts (prakaraṇa)- cultural and textual, and (4) connotations. The following Sanskrit terms and their English translations are taken into consideration:

1. 'श्रीभगवानुवाच' (Bhagavadgītā 2.11): 'The Blessed Lord spoke' ('The Bhagavad Gita' by Winthrop Sargeant (1984))
2. The word 'परमात्मन्' in 'अनादित्वान्निर्गुणत्वात्परमात्मायमव्ययः' (Bhagavadgītā 13.31): 'Supreme Spirit' ('Bhagavat-Geeta Dialogues, Kreeshna and Arjoona' by Charles Wilkins (1784))

This paper thereby aims to represent the śāstric undertone of Sanskrit texts while identifying the linguistic, cultural, philosophical, spiritual, and textual parameters essential for translating Sanskrit texts into other languages.

[180] Inner Instrument and Consciousness: Philosophical Psychology of the Vachanamrut

Dr. Krishna Gajendra Panda(IKSMHA, IIT Mandi), Jayanta Kumar Panda (Shri Lal Bahadur Shastri National Sanskrit University)

Abstract

The interdisciplinary study of consciousness increasingly engages non-Western philosophical traditions that offer refined phenomenological and contemplative analyses of mind, self, and awareness. Within the Indian intellectual heritage, Vedānta presents a sophisticated metaphysical and psychological framework in which consciousness is understood as fundamental rather than emergent. The Vachanamrut, a central text of the Swaminarayan Vedānta tradition, provides detailed yet understudied descriptions of the fourfold inner instrument (antaḥkaraṇa)—manas, buddhi, chitta, and ahaṅkāra—forming an integrated model of cognition, identity, and spiritual transformation. This paper develops a philosophical-psychological interpretation of this structure through textual hermeneutics, comparative analysis, and interdisciplinary dialogue with contemporary philosophy of mind and cognitive science. It argues that the Vachanamrut articulates a dynamic account of consciousness uniting cognition, affect, memory, ego-formation, and transcendental awareness, with significant implications for mental health, contemplative practice, education, and global consciousness studies.

[264] Pāṇini's Ingenious Approach to Reducing Cognitive Load in the Memorization of Sanskrit Grammar

Chaitanya S Lakkundi (Karnataka Samskrit University)

Abstract

Pāṇini's Aṣṭādhyāyī is a formal grammar of Sanskrit with about 4000 sūtras. It is known for its brevity and precision. This paper studies the techniques used in Aṣṭādhyāyī and how it reduces cognitive load in learning and memorization. Key techniques like anuvṛtti and adhikāra help cut repetition. They allow rules to be reused without restating them. To quantify the compression using these techniques, we compute a brevity factor. We consider the scenario when not using these methods and compare it with the actual word counts. We observe that without them, the text would be 3.44 times longer. Around 71% of the semantic content is implied by using anuvṛtti and adhikāra. We also review modern teaching methods to compare and understand the impact of pedagogy on cognitive load. We analyse the methods of studying the text in its original order, the Siddhānta Kaumudī order, and a newer approach i.e. Pauṣpī prakriyā, which follows the grammatical operations in a breadth-first manner. This paper shows that the structure of a text and its pedagogy can have an impact on cognitive load and how we should approach the sūtra literature by understanding all its nuances.

[268] अक्षरपुरुषोत्तम दर्शन में मानसी पूजा - एक आध्यात्मिक और मनोवैज्ञानिक विश्लेषण

Maitree Jagani, Deval Gohel (Shree Yagnpurush Sanskrit Vidyapith)

Abstract

प्रस्तुत शोध पत्र भगवान स्वामिनारायण द्वारा प्रतिपादित अक्षरपुरुषोत्तम दर्शन के अंतर्गत 'मानसी पूजा' के आध्यात्मिक आयामों और आधुनिक नैदानिक मनोविज्ञान (Clinical Psychology) के सिद्धांतों के मध्य अंतर्संबंधों का अन्वेषण करता है। वर्तमान वैश्विक मानसिक स्वास्थ्य संकट, विशेष रूप से चिंता और अवसाद के बढ़ते प्रसार के आलोक में, यह अध्ययन प्रतिपादित करता है कि मानसी पूजा केवल एक पारंपरिक अनुष्ठान नहीं, बल्कि 'संज्ञानात्मक पुनर्गठन' (Cognitive Restructuring) और 'भावनात्मक सुदृढ़ता' (Emotional Resilience) प्राप्त करने का एक प्रभावी मनोवैज्ञानिक तंत्र है। पद्धतिगत रूप से, यह शोध 'वचनामृत' और 'सत्संग दीक्षा' जैसे शास्त्रीय ग्रंथों के गुणात्मक पाठ्य विश्लेषण (Qualitative Textual Analysis) को तीन चयनात्मक अनुभवात्मक केस स्टडीज (Selective Case Studies) के साथ एकीकृत करता है। ये केस स्टडीज आकस्मिक वियोग, दीर्घकालिक व्याधि और संवेगात्मक आघात (Trauma) जैसी चरम स्थितियों में मानसी पूजा के प्रभाव को रेखांकित करती हैं। मुख्य विश्लेषणात्मक निष्कर्ष यह दर्शाते हैं कि मानसी पूजा के चरण—विशेष रूप से 'अक्षरभाव' और 'परमात्मा का अविरत चिंतन'—साधक के भीतर 'न्यूरो-कंडीशनिंग' और 'रचनात्मक दृश्यांकन' (Creative Visualization) की प्रक्रिया को सक्रिय करते हैं। अंततः, यह शोध पत्र यह सिद्ध करता है कि मानसी पूजा का नियमित अनुशासन व्यक्ति को 'स्थितप्रज्ञ' बनाकर मानसिक सुदृढ़ता और आंतरिक शांति प्रदान करने वाला एक वैज्ञानिक उपचार है। यह अध्ययन प्राचीन भारतीय चिंतन और आधुनिक मनोविज्ञान के एकीकरण के लिए एक सुदृढ़ वैचारिक आधार प्रदान करता है।

[270] भगवत्स्वमिनारायणप्रोक्तवचनामृतालोके साधनायां स्वजागृतिः

Gita Kuchhadiya (BAPS Shree Yagnpurush Sanskrit Vidyapith, Sarangpur)

Abstract

विषयप्रवेशः आध्यात्मिकोन्नत्तये आध्यात्मिकी साधना अनिवर्या। साधकैः स्वाभिरुच्यानुसारेण स्वक्षमतानुसारेण च साधना कर्तव्या इति अस्माकं सच्छास्त्राणाम् उपदेशः। पूर्वे नैकैः मुनिभिः परमप्राप्तये स्वजीवने साधना कृता। यथा सौभरिमुनेः साधना। यथा च्यवनमुनेः साधना। आदि.. किन्तु साधनायां क्षतिः चेत् अवश्य निवार्या। यतो हि अल्पा क्षतिः अपि महत्परिणामं सर्जने समर्था।

- क्षतेः कारणं किम्?
- कया रीत्या एषा क्षतिः निवार्या?
- कया रीत्या सम्पूर्णा साधना फलीभूता भवति?

इति जिज्ञासया प्राप्तोयं विषयः।

आधारग्रन्थपरिचय: स्वामिनारायणसम्प्रदायस्य आधारभूत: ग्रन्थः वचनामृतम्। भगवत् स्वामिनारायणद्वारा प्रबोधितः ग्रन्थोयम्। अक्षरपुरुषोत्तमदर्शने चतुर्थप्रस्थानरुपेण प्रसिद्ध:।
वेदान्ते व्याससूत्रे च गीतायां वचनामृते ।
प्रस्थानेषु चतुर्ष्वोतो ब्रह्मघोष इहोच्यते ।। स्वा. सि. सुधा.१२३
अस्मिन् ग्रन्थे आध्यात्मिकसाधनाकृते नैके विषयाः निरूपिताः। एतेषु विषयेषु "साधनायां स्वजागृति:" इति विषयीकृता अस्मिन् शोधपत्रे ।
विषयचयनहेतु: नैके साधका: अस्मिन् मार्गे प्रयतन्ते। किन्तु न ते सर्वे साधकाः सफला: भवन्ति।अतः साधनायां च्युतिः न भवेत् साधना च सफला भवेत् इति कारणेन स्वजागृति: अत्यन्त आवश्यिकी। नैकेषु शास्त्रेषु तस्योपाया: संदर्शिता। यथा कठोपनिषदि " उत्तिष्ठ जाग्रत प्राप्य.." इति।मनसः प्राबल्येन कदाचित् साधनात: च्युतिः सम्भवेत्। अत: भगवता स्वामिनारायणेन वचनामृते साधानाया: निर्विघ्न: मार्ग: दर्शितः। सः मार्ग: एव स्वजागृतिः। एतस्मिन् शोधपत्रे मनस्वरुपं तस्य नियन्त्रणे च स्वाजागृतिः। साधकानां कृते कया रीत्या उपकारिका भवेत् इति विवेचनं भविष्यति। एषः एव विषयचयनहेतुः।
शोधपत्रान्तर्गतबिन्दव:
प्रस्तावना
- अक्षरपुरुषोत्तमदर्शनपरिचय:
- वचनामृपरिचय:
वचणामृते निरूपितं मानसम्
- मनसः लक्षणम्
- मनसः स्वरूपम्
- मन इन्द्रियसम्बन्ध:
- प्रश्नोद्गंस्थानम्
स्वजागृतिः
- अर्थः
- स्वाजागृतिसाधनानि
- फलम्
उपसंहार: ।
शोधापत्रेः उपकारिता

[278] Integrating Prose-Verse Alternation Inspired by Caṃpū Rāmāyaṇam as an IKS-based Pedagogic Design

Palak Pradhan (Maulana Azad National Institute of Technology, Bhopal)

Abstract

The word 'Champu' has evolved from 'champ' root in Sanskrit which means- to combine or a combination of something. Champu is an ancient Sanskrit classical form of literary writing where prose and verse combination is employed for storytelling and comprehensive understanding. Champu's composite prose-verse design has been traditionally regarded as an aesthetic narrative style, but its epistemic potential as a pedagogical tool remains under-explored. There has been an insufficient examination of the cognitive and knowledge transmission function of such literary forms. This paper analyses Champu's linguistic structure through the lens of Caṃpū Rāmāyaṇam- a Sanskrit text composed by Raja Bhoja Parmara, as a cognitive and expressive learning methodology through textual analysis and pedagogical conceptualization. By elevating ancient literary form of Champu from merely historical antiquity to a pragmatic knowledge transmission tool, this paper emphasizes upon scholarly engagement of classical knowledge with modern cognitive science. It proposes adoption and implementation of Champu fundamentals into contemporary higher education system. The paper provides insights into cognitive relevance of prose-verse alternation, and utilization of this alternation as an epistemic design through textual examples from Caṃpū Rāmāyaṇam and innovative examples of pedagogical application in diverse disciplines. A phased implementation model for higher-secondary and tertiary levels of education is suggested through the paper, considering major challenges and potential counter strategies. Within the Indian Knowledge System (IKS) framework, this literary form offers a holistic epistemological method ensuring cultural continuity as an innovative blend of concept, retention, empathy, ethical education and critical reflection bridging language, mind and consciousness.

[285] अक्षरपुरुषोत्तमदर्शनानुसारेण मनोनिग्रहोपायेषु अन्यतमः – 'प्रत्यक्षपरमात्मभक्तिः'

KRUPA MEHTALIYA (श्री यज्ञपुरुष संस्कृत विद्यापीठ सारंगपुर, गुजरात)

Abstract

आधुनिकयुगे मानवीयं मनः चञ्चलतया, विषयासक्त्या, मानसिकतनावेन, अहङ्कारवृद्ध्या, आध्यात्मिकशून्यतया च अतिशयेन पीडितम् — इदमेवास्य शोधस्य केन्द्रीयसमस्या। तस्याः समाधानाय अक्षरपुरुषोत्तमदर्शनस्य दार्शनिकाधारः स्वीकृतः। भगवता स्वामिनारायणेन प्रतिपादिते अस्मिन् नूतने स्वतन्त्रे दर्शने, प्रत्यक्षपरमात्मभक्तिः मनोनिग्रहस्य परमं साधनत्वेन प्रस्तूयते, या ब्रह्मस्वरूपगुरौ निर्मलदिव्यभावेन अनुष्ठीयते। नवधाभक्तिः अस्य पथः क्रमिकः सोपानमार्गः। वचनामृतप्रभृतिग्रन्थानाम् आधारेण शास्त्रीयदार्शनिकविश्लेषणेन, न्यायदर्शनप्रसिद्धयोः प्रत्यक्षशब्दप्रमाणयोः समन्वयेन, आधुनिकस्नायुविज्ञानालोकनेन च अयं शोधः सम्पादितः। निष्कर्षतः सिद्ध्यति यत् प्रत्यक्षपरमात्मभक्तिः एव चञ्चलमनसः नियन्त्रणाय, मानसिकशान्तये, ब्रह्मभूयाय च परमः, सुलभः, शास्त्रीयः, वैज्ञानिकः, प्रमाणितः उपायः वर्तते। अयं शोधः अक्षरपुरुषोत्तमदर्शने मनोनिग्रहस्य उपेक्षितम् अंशं प्रकाशयति, दर्शन-मानसिकस्वास्थ्य-चैतन्यशास्त्रेषु च महतीं योगदानं करोति।

Regular Session 10:

RS10: Ayurveda_6

Time: 15:00-17:00,CnP 2 (Hall E)

Session Chair: Dr. Uma Shankar Prasad Adluri and Prof. Rama Jayasundar

Paper ID	Paper titles	Authors
72	An AI-Personalized Shruti-Based Auditory Framework for Speech Disfluency	Shresth Kataria, Vaishali Dixit
111	Assessment of the Anxiolytic Effects of Mahapaishachik Ghrita Using Locomotor Activity and Elevated Plus Maze Models in Swiss Albino Mice	Dr. Nilima S. Dharkar, Dr. P.B. Thorat
160	A Preliminary Study to Understand the Microbial Composition of Fresh Panchagavya Preparation	Snehal S. Funde, Hanmanthrao S. Palep, Yogesh S. Shouche
209	Uncovering Poly-pharmacological Mechanisms of Sunidra Vati Against Insomnia: An Integrative Network Pharmacology and Molecular Docking Study	Rahul Tarafdar and Dr. Snehal Funde
233	AyurMind: Metadata-Filtered Multi-Agent RAG for Precision-Grounded Ayurvedic Consultation	Jasmeet Singh Bindra, Charan Sai Ponnada, Amrita Sharma
356	Experience Dependent Limbic Prefrontal Remodelling in Adolescence: A Neurobehavioral Review of Indriya Nigraha and Achara Rasayana in the Enhancement of Emotional Intelligence	Saranya Raj, Haritha Chandran, Leena P Nair

[72] An AI-Personalized Shruti-Based Auditory Framework for Speech Disfluency

Shresth Kataria, Vaishali Dixit (Dronacharya College of Engineering)

Abstract

Speech disfluency is a complex condition involving disrupted coordination among breathing, vocal articulation, neural timing, and emotional regulation. While existing therapies-ranging from behavioral training to neuromotor rehabilitation—benefit many, their variable effectiveness suggests a need for deeper personalization. This paper proposes a novel conceptual framework integrating Ayurvedic functional physiology, Indian classical micro-tonal acoustics (the 22 Shruti system), and AI-driven personalization for complementary speech-support interventions. In this model, stammering is interpreted as a functional disturbance of Vata Dosha, specifically Udana Vayu, which governs respiration, vocal projection, and confidence. Disruption is framed as unstable movement within communicative pathways (Nadis). Moving beyond standard twelve-tone scales, the framework introduces Shruti-based micro-tonal patterns as high-resolution signals to stabilize neural timing networks and breath-speech

coordination. The system's core is an adaptive AI layer that constructs individualized constitutional profiles (Prakriti) using speech features and physiological data. This AI prescribes raga-Shruti combinations to counter Vata patterns, utilizing a closed-loop feedback mechanism for real-time refinement. By bridging traditional diagnostic models with modern computational intelligence, this framework outlines an unexplored interdisciplinary pathway for personalized sound-based cognitive regulation, intended to stimulate empirical research across neuroscience and health technology.

[111] Assessment of the Anxiolytic Effects of Mahapaishachik Ghrita Using Locomotor Activity and Elevated Plus Maze Models in Swiss Albino Mice

Dr. Nilima S. Dharkar, Dr. P.B. Thorat (Dr. D.Y .Patil College of Ayurved and Research Centre, Pune)

Abstract

Background: Anxiety disorders are among the most prevalent mental health conditions worldwide and are associated with significant psychosocial and physiological burden. Mahapaishachik Ghrita (MPG), a classical Ayurvedic formulation indicated for Unmada, has traditionally been used in various psychoneurological conditions. Objective: To evaluate the anxiolytic activity of Mahapaishachik Ghrita using the Elevated Plus Maze and Locomotor Activity models in Swiss albino mice. Materials and Methods: Twenty-four healthy Swiss albino mice (12 males and 12 females) were randomly allocated into three groups (n = 6 per group): normal control (normal saline), standard control (diazepam 5 mg/kg), and test group (MPG 5.2 ml/kg/day). Anxiety-related behavior was assessed using the Elevated Plus Maze and actophotometer at 30 and 60 minutes post-drug administration. Data were analyzed using one-way ANOVA. Results: MPG produced a statistically significant increase in open-arm entries and time spent in open arms, along with a reduction in locomotor activity compared to the control group ($p < 0.05$). The anxiolytic effect of MPG was comparable, though slightly less potent, than diazepam. Conclusion: Mahapaishachik Ghrita demonstrated significant anxiolytic activity in Swiss albino mice without observable adverse effects during the study period, supporting its traditional use and potential as a safer alternative for anxiety management.

[160] A Preliminary Study to Understand the Microbial Composition of Fresh Panchagavya Preparation

Snehal S. Funde (Poona College of Pharmacy), Hanmanthrao S. Palep (Medical Research Foundation Pvt. Ltd), Yogesh S. Shouche (National Centre for Microbial Resource)

Abstract

Fecal Microbial Transplant (FMT) has been emerging as a prominent therapeutics in modern science to modulate and correct the dysbiotic state of gut microbiome that leads to various metabolic and gastro-enteric diseases. A similar concept called “panchagavya prasahan” exists in Ayurveda. This technique, unlike the FMT, involves the use of five by- products of cow viz. Cow dung, urine, milk, curd, ghee mixed in a copper vessel. In this study we assess the microbial composition of this preparation before and after the mixing in the copper vessel. We used the 16S rRNA gene based amplicon sequencing approach to understand the bacterial composition in the panchagavya preparation. We observed significant decrease in the abundance of genera Pseudomonas and Streptococcus ($p<0.05$) and significant increase in abundance of genus Lactococcus after processing ($p<0.05$) the preparation in the copper vessel. The former two are known to belong to the pathogenic groups, while Lactococcus is known for its probiotic attributes and is widely used in the probiotic preparations. This certainly gives some insights into the potential benefits of Panchagavya. Thus, ‘Panchagavya prashan’ being a well-established technique in ayurveda may benefit by improving the gut microbial balance and understanding the mechanism through the gut microbiome perspective is necessary.

[209] Uncovering Poly-pharmacological Mechanisms of Sunidra Vati Against Insomnia: An Integrative Network Pharmacology and Molecular Docking Study

Rahul Tarafdar and Dr. Snehal Funde (Poona College of Pharmacy)

Abstract

Insomnia affects 10–30% of adults globally, with prevalence reaching 33% in India. The limitations of conventional hypnotics, including tolerance and cognitive impairment, have necessitated the exploration of safer alternatives rooted in traditional medicine. This study employed network pharmacology and molecular docking to investigate the poly-pharmacological mechanisms of sunidra vati, a Ayurvedic formulation composed of eight botanicals traditionally validated for sleep regulation. Phytoconstituents were identified from botanical components, and their predicted targets were obtained using Swiss Target Prediction, while insomnia-related genes were retrieved from GeneCards database. Twenty-five active phytoconstituents yielded 244 predicted targets, with 230 targets (3.7%) overlapping with 6,181 insomnia-related genes identified through Venn diagram analysis. Protein-protein interaction networks constructed using Metascape revealed 11 distinct MCODE clusters representing functional modules, with Bacoside A showing the highest target overlap (48 targets), followed by Deserpidine and Valeranone (46 each). Molecular docking demonstrated strong binding affinities ranging from -7.1 to -11.5 kcal/mol, with reserpine showing exceptional affinity (-11.5 kcal/mol) for ADORA1 receptor and withanolide A exhibiting -10.7 kcal/mol binding energy with PDE4B protein. GO/KEGG enrichment analysis identified key pathways including inflammatory response, circadian rhythm regulation, and neuroactive ligand-receptor interactions. These computational results suggest that Sunidra Vati may operate through a multi-component, multi-target framework. Preliminary docking and network analysis point toward the potential modulation of GABAergic, serotonergic, dopaminergic, and adenosinergic systems. These findings provide a theoretical molecular rationale for the synergistic efficacy of sunidra vati and warrant further in vivo optimization.

[233] AyurMind: Metadata-Filtered Multi-Agent RAG for Precision-Grounded Ayurvedic Consultation

Jasmeet Singh Bindra (IIT Mandi), Charan Sai Ponnada (Velagapudi Ramakrishna Siddhartha Engineering College, Kanuru, Andhra Pradesh), Amrita Sharma (IIT Mandi)

Abstract

Ayurveda embodies more than five thousand years of clinical reasoning in ancient Sanskrit texts. However, its computational tractability is still limited by the strong polysemy of the domain: words like Vata, Pitta, and Kapha have categorically different meanings depending on whether they refer to the constitutions, diseases, or treatments-ambiguities that cannot be resolved by semantic similarity alone. Standard Retrieval-Augmented Generation (RAG) models treat the knowledge base as a homogeneous space, retrieving contextually similar but semantically incompatible passages, which, rather than reducing hallucinations, increase them. We introduce AyurMind, a hierarchical multi-agent RAG system that simultaneously overcomes both limitations with typed semantic search: metadata-filtered search that limits each specialist agent-Prakriti Assessor, Dosha Imbalance Detector, and Treatment Recommender to its respective knowledge domain. A knowledge base of 8,227 chunks from the Charaka Samhita text is divided into three expert-defined categories (prakriti 49.9%, vikriti/dosha 25.3%, treatment 5.6%), managed by a rule-interpretation capable Orchestrator with Llama-3-8B inference for local patient data privacy and offline deployability. Relevance of answers ≈ 0.74, answer faithfulness ≈ 0.82, and context recall ≈ 0.79 are obtained through RAGAS evaluation for 40 clinical scenarios. Validation by a certified BAMS practitioner shows 75% response completeness, 8% hallucination rate, 4.6/5 safety score, and 75% clinical utility approval, compared to 37.5%, 25%, 3.5/5, 40% for single-agent RAG and 25%, 45%, 2.8/5, 15% for vanilla LLM. Ablation studies validate the importance of metadata filtering. This paper thus introduces AyurMind as a paradigm for precision critical traditional knowledge retrieval.

[356] Experience Dependent Limbic Prefrontal Remodelling in Adolescence: A Neurobehavioral Review of Indriya Nigraha and Achara Rasayana in the Enhancement of Emotional Intelligence

Saranya Raj, Haritha Chandran, Leena P Nair (Amrita School of Ayurveda)

Abstract

Adolescence represents a critical neurodevelopmental phase characterized by a functional mismatch between the early-maturing limbic system and the later developing prefrontal cortex. This imbalance contributes to emotional dysregulation, impulsivity, and a heightened risk of psychosomatic disorders, affecting approximately one in seven adolescents globally. This review explores an integrative neurobehavioral model to enhance emotional intelligence through the Ayurvedic principles of Indriya Nigraha (sensory regulation) and Achara Rasayana (ethical conduct).Modern neuroscientific evidence suggests that Indriya Nigraha aligns with prefrontal-mediated impulse control and attentional regulation, while Achara Rasayana corresponds to empathy and prosocial behaviours modulated by the hypothalamic-pituitary-adrenal (HPA) axis and oxytocin-mediated pathways. Leveraging the heightened neuroplasticity inherent in the adolescent brain, the implementation of structured interventions including Pranayama (regulated breathing), Dinacharya (daily routines), and Sattvavajaya Chikitsa (traditional psychotherapy)offers a cost-effective, culturally grounded strategy for remodeling limbic-prefrontal circuitry. While these traditional concepts provide a robust theoretical framework for mental health promotion, empirical validation through well designed observational and interventional studies is required to establish clinical efficacy and support integration into school-based wellness programs.

Regular Session 11:

RS11: Experiments on Human Subjects for IKS_6 + Indian Philosophy_6

Time: 15:00-17:00, Guest House Conference Hall

Session Chair: Dr. Amit Sethi and Prof. Sampadananda Mishra

Paper ID	Paper Titles	Authors
85	Human is not a resource: Motive and capability assessment tool for spiritual entrepreneurship	Snehal Junnarkar
100	Panchakosha Integration for Holistic Teacher Development: A Mixed-Method Study of Pre-service Teachers' Experiences	Dr. Mira Mishra, Prof. Ritu Sharma
306	Indian Knowledge System in Education: A Comparative Analysis of Ancient and Contemporary Teaching-Learning Methods	Anupam Agarwal, Mukul Saxena, Poonam Mehrotra
328	Food Habits and Personality Traits- A Qualitative Analysis on Bhagavad Geeta [Chapter 17]	Anshika Soni, Dr. Shuchi Srivastava
334	Neural Correlates of Rasa: An EEG Pilot Study of Sanskrit Classical Literature Processing	Roopa Narayan, Sunitha Ravi, Rajani Jairam, K Vijayalakshmi
352	Yoga Sutras as a Cognitive Framework for Pedagogic Capability: Linking Curriculum Appropriateness and Tech-Pro Teachers to the HR Scorecard Outcomes in Higher Education	Dr. Vartika Kanagat, Prof. Sunita Upendrakumar Sharma
313	A Neuro-Cognitive Deconstruction Model of Mano Nasa Integrating Advaita Vedanta and Contemporary Neuroscience	Priyadharshini Kanagaraj, Naachimuthu KP
340	Limitations of Repeated Addition: Reconceptualising Multiplication across Integers in Light of the Brahmasphuṭasiddhānta	Mohit Gour, Harendra Dudi, Govind Maurya
348	The Nature of Consciousness as Delineated in the Upaniṣads	Aviva Robibo
363	Mapping the Inner Mind: A Scriptural Framework of Mental Attributes and Therapeutic Insights from Indic Texts	Yogi Shah, Jiya Shah, Dr. Hitesh Shah
368	The Architecture of Distributed Cognition: How the Antahkarana Sustains Civilisational Memory	Medini Bhat
370	Toward a Paradigm Shift in Indian Clinical Practice: Guru–Shishya Dynamics, Indigenous Authority, and the Reworking of Therapeutic Boundaries	Mansha Gupta, Riya Rohilla, Subhash Meena

[85] Human is not a resource: Motive and capability assessment tool for spiritual entrepreneurship

Snehal Junnarkar (Indian Institute of Management, Mumbai)

Abstract

Human resource has long been acknowledged as an important proximate measure of entrepreneurial performance. Yet, research into its antecedent remains scarce. Through a longitudinal study of two-tailed multiple case studies, we examine in-depth the relationships between human traits and entrepreneurial success. Our data show that daivī guṇas (ethical traits) and spiritual understanding of karma can act as catalysts in developing and managing sustainable enterprises. The motive and capability assessment tool we develop from the findings offers five human motives and six mechanisms relating decision heuristics to enterprise performance. Additional longitudinal data provide evidence for a positive relationship between higher karmaśāstra understanding and the probability of long-term success, laying the foundation of karmaśāstra-driven entrepreneurship theory in management literature.

[100] Panchakosha Integration for Holistic Teacher Development: A Mixed-Method Study of Pre-service Teachers' Experiences

Dr. Mira Mishra, Prof. Ritu Sharma (Manav Rachna University)

Abstract

The proposed mixed-method research aims to examine the experiences of pre-service teachers who participated in a Panchakosha-based holistic development learning intervention. The Panchakosha concept provides a comprehensive meth-od of education which takes into consideration physical, energetic, mental, intel-lectual, and spiritual aspects of learning. A 5-day intervention was introduced among 53 pre-service teachers in a teacher educator institution. The convergent parallel mixed-methods design was used in data collection with the self-constructed questionnaire and semi-structured interviews using a purposive sam-ple. Descriptive statistics and inferential tests were applied to quantitative data and thematic analysis based on Braun and Clarke was used to analyze the qualitative data. Quantitative results showed that experiences are significantly positive in all of the five Panchakosha layers with the greatest level of satisfaction present in the Anandamaya Kosha (bliss body) and Pranamaya Kosha (energy body) do-mains. The qualitative analysis revealed six key themes, including holistic self-awareness, pedagogical transformation, stress reduction and well-being, im-proved interpersonal relationship, integration challenges and sustainable practice intentions. Pre-service teachers expressed an enhancement in the teaching compe-tencies, emotional control, and more knowledge about learner-centred pedagogy. The Panchakosha model shows a great potential of the transformation of teacher education by meeting the many faceted needs of pre-service teachers. The results favors the use of holistic pedagogical methods in teacher preparation programs in the process of producing more self-aware, resilient, and effective teachers. There are implications to curriculum design, faculty development and educational policy.

[306] Indian Knowledge System in Education: A Comparative Analysis of Ancient and Contemporary Teaching-Learning Methods

Anupam Agarwal, Mukul Saxena, Poonam Mehrotra (Bundelkhand university jhansi)

Abstract

The Indian Knowledge System (IKS) embodies a tradition that fuses philosophy, ethics, science, and experiential pedagogy, as seen in Vedic Gurukulas and universities such as Takshashila and Nalanda. Amid India’s push for educational equity under NEP 2020, scholars increasingly advocate reviving these roots to counter modern pitfalls like rote learning and student burnout. This paper offers a comparative analysis of ancient versus contemporary teaching-learning methods, drawing on Yadav (2018), Mishra & Aithal (2023), Bhat & Javaid (2024), Gupta & Dhingra (2025), Pandya et al. (2024) and archival texts. Despite the emphasis placed on Indian Knowledge Systems

(IKS) in the National Education Policy, scholarship remains fragmented. Studies usually examine ancient Indian education systems and modern education separately, and only rarely attempt to connect or compare them. This gap makes it harder to design blended or hybrid education models.
This study uses a qualitative approach, analyzing classical texts such as the Upanishads and sutras along with modern policy documents like NEP. By comparing the two perspectives, the findings suggest that ancient educational methods were effective at fostering self-motivation, deep thinking, and emotional well-being. Modern education systems are more efficient and can reach many learners, but they often struggle to keep students engaged, as evidenced by low completion rates in online courses (Reich & Ruipérez-Valiente, 2019). Overall, the study indicates that IKS-based approaches can complement modern education to enhance dialogue-based learning, practical understanding, and student well-being. However, these conclusions are based only on existing literature and policy analysis, not on direct classroom research.

[328] Food Habits and Personality Traits- A Qualitative Analysis on Bhagavad Geeta [Chapter 17]

Anshika Soni, Dr. Shuchi Srivastava (MAULANA AZAD NATIONAL INSTITUTE OF TECHNOLOGY)

Abstract

This paper examines the relationship between food habits and personality traits through a literary and qualitative framework derived from Bhagavad Gita Chapter 17, Verses 8–10. These verses classify food into three categories: sattvic, rajasic, and tamasic corresponding to the three gunas that shape human temperament. Sattvic foods are described as life-promoting, nourishing, and conducive to clarity and well-being (Bhagavad Gita 17.8); rajasic foods are excessively stimulating and associated with restlessness and discomfort (17.9); tamasic foods are stale and impure, contributing to inertia and dullness (17.10). Using this typology as a conceptual framework, the study employed semi-structured interviews with randomly selected thirty participants to explore whether contemporary dietary patterns reflect identifiable personality characteristics. Thematic analysis revealed consistent parallels between food preferences and self-reported behavioral tendencies. Participants consuming fresh, balanced diets commonly described themselves as calm and disciplined, aligning with sattvic attributes. Those favoring highly spicy or stimulating foods reported ambition and emotional intensity, reflecting rajasic qualities, while irregular or processed food consumption corresponded with lethargy and reduced motivation, consistent with tamasic traits. Supported by classical Ayurvedic insights from Charaka Samhita and Sushruta Samhita, which link diet to mental balance, the findings suggest that food habits function as embodied expressions of psychological disposition. The study underscores the continuing relevance of classical Indian philosophical frameworks in contemporary discussions of personality and behavioral science.

[334] Neural Correlates of Rasa: An EEG Pilot Study of Sanskrit Classical Literature Processing

Roopa Narayan (JAIN University), Sunitha Ravi (JAIN University), Rajani Jairam (JAIN University), K Vijayalakshmi (BMS College of Engineering)

Abstract

The Sanskrit Classical Literature of India called Nātyaśāstra is unique in defining the experience of profound happiness called Rasa, a positive emotional state similar to that experienced during meditative and flow states. The inbuilt structure of the language, the purpose of literature, and the experience of the mental state of rasa result in fluidity of perspectives. It develops the ability for purposeful multiple solutions, integrating emotive and analytic reasoning. As per our knowledge, this is a pioneering pilot study to examine real-time changes in the brain activity of Sanskrit clas-sical literature with participants having proficiency in Sanskrit and/or English. The mean changes observed were +4.9 in occipital, -2.9 in frontal, and +3.9 in parieto-occipital regions and -1.7 in occipital, -3.9 in frontal, and -0.9 in parieto-occipital regions of Sanskrit and English participants respectively. The before and after change was significant in the right frontal and right parieto occipital region in Sanskrit participants. The overall outcomes could indicate cognitive resonance and ease of semantic processing of Alamkaras in Sanskrit participants

compared to English participants. In the silent reading activity, the changes were negligible in both groups. The study outcomes encourage further cognitive studies to understand Rasa [positive emotion] in real-time, thereby Sukha [pleasure], which Bharatamuni posits as a more stable quality, leading to an equi-librium state of mind, resulting from the linguistic framework.

[352] Yoga Sutras as a Cognitive Framework for Pedagogic Capability: Linking Curriculum Appropriateness and Tech-Pro Teachers to the HR Scorecard Outcomes in Higher Education

Dr. Vartika Kanagat, Prof. Sunita Upendrakumar Sharma (M.S. Patel Institute of Management Studies, The Maharaja Sayajirao University of Baroda)

Abstract

This study examines the role of curriculum appropriateness and tech-pro teachers in strengthening learner outcomes and institutional effectiveness in higher education and interprets these constructs within the Indian Knowledge Systems (IKS) framework and the Four Sama padas of the Yoga Sutras. While factor analysis is applied to empirically derived constructs 'Tech pro Teachers' and 'Curriculum Appropriateness', so the present paper further interprets these constructs through an indigenous philosophical lens. Curriculum appropriateness (CA) is aligned with Samadhi Pada, representing clarity of purpose, value orientation and stability in curriculum and Tech-pro teachers (TPT) are aligned with Sadhana Pada, reflecting disciplined, reflective and mindful pedagogic practice in the use of technology. The growing learner capabilities derived from the empirical findings are interpreted through Vibhuti Pada, signifying higher-order developmental attainments arising from appropriate curriculum and pedagogic engagement. Finally, holistic learner development is viewed through Kaivalya Pada, emphasising long-term institutional resilience. The HR Scorecard is placed as a strategic framework connecting IKS with institutional processes in higher education. A sample of 1,949 students is surveyed, and descriptive statistics, factor analysis, reliability analysis, t-tests are done and results reveal that students hold an above-average and favourable perception toward both constructs — TPT and CA. Significant differences are observed across various demographics like gender, age groups, medium of instruction and programme levels. The study further highlights implications for higher education through the HR Scorecard perspectives linking pedagogy, curriculum and institutional outcomes.

[313] A Neuro-Cognitive Deconstruction Model of Mano Nasa Integrating Advaita Vedanta and Contemporary Neuroscience

Priyadharshini Kanagaraj, Naachimuthu KP (PSG College of Arts & Science)

Abstract

Advaita Vedanta, as expounded by Adi Shankaracharya, offers a profound understanding of the dissolution of ego identity through the concept of Mano Nasa. This process represents the irreversible dissolution of false identification with the mind, a transformative experience that transcends the superficial understanding of self in modern science. Unlike contemporary neuroscience, which reduces the sense of self to complex neural processes such as the Default Mode Network (DMN), limbic emotional responses, and autobiographical continuity, Advaita Vedanta provides a deeper, more holistic perspective. It views the mind as a transient, conditioned illusion that obscures the true nature of the self (Brahman). This paper proposes integrating Mano Nasa with neuroscience, offering a Neural Identity Triad model suggesting ego identity emerges from the interaction of three neural systems: DMN-mediated narrative processing, limbic emotional binding, and hippocampal-prefrontal temporal continuity systems. Within this framework, Hebbian plasticity is proposed as a key mechanism reinforcing ego-identity and enabling gradual deconditioning through contemplative practice. Reinterpreting Manah Shuddhi, Mano Laya, and Mano Nasa as progressive stages within this triad highlights the limitations of a purely materialistic view of identity. Advaita Vedanta's methodology, focused on transcending the ego and realising the oneness of the self, offers a more comprehensive understanding of identity dissolution that modern neuroscience cannot fully capture. This framework encourages deeper interdisciplinary dialogue between Indian philosophy and contemporary science and opens the

door for empirical research into neural correlates of spiritual experiences, grounding ancient wisdom in modern cognitive neuroscience research paradigms.

[340] Limitations of Repeated Addition: Reconceptualising Multiplication across Integers in Light of the Brahmasphuṭasiddhānta

Mohit Gour (VDRO Educational Association), Harendra Dudi (VDRO Educational Association), Govind Maurya (CISTS, HSS, IIT Bombay, Mumbai)

Abstract

The traditional definition of multiplication as repeated addition is intuitive for counting and teaching, but fails to extend coherently beyond the domain of positive integers. When multipliers become negative quantities, the notion of “adding multiplicand by multiplier times” becomes conceptually and operationally ambiguous, leading to reliance on axiomatic sign rules that lack explanatory depth. This paper proposes a generalised operational model of multiplication that preserves repetitive addition intuition, extending to all integers and the real numbers. The model reconceptualises multiplication as the accumulation or removal of multiplicand into or from zero, depending on the sign of the multiplier. This allows the definition of both positive and negative numbers within a unified framework. Drawing on insights from the \textit{Brahmasphuṭasiddhānta}, where zero is understood as a state of numerical equilibrium rather than absence, the proposed model aligns with fundamental algebraic laws, resolves conceptual limitations of the classical definition, and provides a mathematically rigorous yet pedagogically accessible foundation for understanding multiplication across number systems.

[348] The Nature of Consciousness as Delineated in the Upaniṣads

Aviva Robibo (International Meditation Institute)

Abstract

The four states of consciousness are intrinsic to the human mechanism. The introduction and exposition of these states in ancient Indian scriptures, particularly the earliest Upaniṣad, the Bṛhadāraṇyaka, hold significant relevance for any ensuing philosophical discourse on the nature of consciousness. This paper presents the initial examination from the Bṛhadāraṇyaka Upaniṣad of the four states of consciousness, which, in later Upaniṣads, such as the Māṇḍūkya (as well as in the subsequent Indian philosophical tradition), are referred to as jāgrat avasthā (the waking state), svapna avasthā (the dream state), suṣupti avasthā (the deep sleep state), and turīya (the fourth state). The discussion of the fourth, or caturthā, is presented against the backdrop of Brahman as the indivisible, indestructible reality. This concept of the fourth is accentuated in the Māṇḍūkya Upaniṣad and further developed by Gauḍapāda in his commentary on the Māṇḍūkya. The distinctive feature of the discussion on the four states of consciousness, as articulated by the enlightened sage, Yājñavalkya, in the Bṛhadāraṇyaka Upaniṣad, and the sage of the Māṇḍūkya, is their emphasis on the elimination of avidyā, or ignorance of the Self, via the realization of the fourth state, or turīya. This discussion is presented from the perspective of Advaita Vedānta.

[363] Mapping the Inner Mind: A Scriptural Framework of Mental Attributes and Therapeutic Insights from Indic Texts

YOGI SHAH (GMERS, M S University), JIYA SHAH (Sri Sri Ravishankar Vidya Mandir, Anand), HITESH SHAH (G H Patel College of Engineering & Technology, Vallabh Vidyanagar)

Abstract

The human psyche is governed by a fourfold internal architecture—the processing mind,the discerning intellect, the storehouse of consciousness, and the ego-identity. This paper explores this Antahkaran framework as the primary catalyst for both psychological bondage and emotional liberation. Integrating classical and post-classical Indic wisdom, the study addresses the fundamental problem of cognitive volatility, famously articulated by Arjuna in the Bhagavad Gita (6.34) as chanchalam hi manaḥ—comparing the restless, turbulent mind to the uncontrollable wind. Departing from conventional suppressive therapies, this research introduces an innovative "Displacement Model of Mental Regulation." Drawing from the Vachanamrut (Gadhada I-32), it analyzes the mind's inherent tendency to "fidget" without purpose (vina prayojan), much like a child or a monkey. The text posits that control is achieved not

through forced suppression, but through a dual-mechanism of Metacognitive Detachment (Vairagya) and Persistent Reprogramming (Abhyasa). By recognizing the Tri-Guna (Sattva, Rajas, Tamas) shifts within the Antahkaran, the practitioner is taught to observe cognitive "noise" as a witness (Sakshi) rather than a participant, thereby neutralizing the "restlessness" confirmed in Gita 6.35. This principle of Divine Displacement reframes the mind not as something to be forcefully restrained, but as a functional vacuum that naturally seeks engagement. When left unoccupied, the mind gravitates toward restlessness; when meaningfully engaged, it settles. Regulation, therefore, occurs not through suppression but through conscious redirection.

[368] The Architecture of Distributed Cognition: How the Antahkarana Sustains Civilisational Memory

Medini Bhat (Indian Institute of Management Kozhikode)

Abstract

Contemporary theories of mind frequently entangle the mechanics of thought with the substrate of consciousness. The Dharmic framework resolves this by drawing a definitive boundary. It conceptualizes the intellect not as a sovereign architect, but as a bounded instrument—a localized lens constrained by strict epistemological limits. Acknowledging that a single mind remains structurally blind to the totality of its environment, the Indian tradition bypasses the vulnerability of centralized design. The preservation of its civilizational knowledge does not rely on the oversight of a master node. Instead, institutional memory emerges organically, sustained across centuries through the continuous, rule-bound interactions of these localized minds. By mapping the micro-mechanics of the inner instrument (antahkarana) to the stabilizing protocols of lineage and conduct (parampara and achara), this paper models the Dharmic episteme as a complex adaptive system, demonstrating how decentralized cognitive networks achieve historical resilience.

[370] Toward a Paradigm Shift in Indian Clinical Practice: Guru–Shishya Dynamics, Indigenous Authority, and the Reworking of Therapeutic Boundaries

Mansha Gupta, Riya Rohilla, Subhash Meena (University of Delhi)

Abstract

In India's hierarchical, collectivist culture, the sacred guru-shishya parampara shapes how clients unconsciously structure therapeutic relationships, projecting onto therapists the role of omniscient spiritual guide. This qualitative study examined the lived experiences of 20 mental health professionals navigating such dynamics in Indian clinical practice. Thematic analysis revealed six core themes: friction between Western-trained frameworks and Indian relational expectations; indigenous cultural and philosophical lenses as clinical tools; manifestations of idealization, dependency, and agency surrender; boundary crossings rooted in cultural norms rather than deliberate violations; adaptive navigation strategies including the "warm container" approach and culturally resonant redirection; and therapist self-awareness as an ethical imperative. Findings suggest that guru projection functions as both a therapeutic resource, building rapid alliance, and a systemic risk when left unexamined. Culturally attuned practice requires integrating indigenous relational frameworks with professional ethics, rather than wholesale adoption of Western models.

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[6] Quantifying Reincarnation Belief: A Fuzzy-Logic Consciousness Model Based on Insights from 108 Meditative Practitioners

BK Ritu Thakkar (Brahma Kumaris World Spiritual University)

Abstract

This study presents a quantitative and qualitative investigation into reincarnation belief using a fuzzy-logic consciousness model derived from the experiential insights of 108 long-term Raja Yoga meditation practitioners. Grounded in the Brahma Kumaris framework of soul-consciousness, the research examines how individuals understand the continuity of the soul, the influence of karma and sanskars (impressions), and the lived experience of identity beyond the physical body. The study integrates demographic profiling, thematic analysis of experiential narratives, and fuzzy membership function scoring to measure the strength and variability of reincarnation-related

awareness. Findings indicate that belief in reincarnation among practitioners is not merely doctrinal but emerges as a cognitively processed and experientially reinforced understanding shaped by meditation practice, introspective clarity, and spiritual discipline. The fuzzy-logic model reveals nuanced gradations between low, medium, and high levels of reincarnation belief, highlighting the continuum of consciousness-based interpretations rather than binary acceptance. Overall, the study contributes a structured empirical approach to the Science of Reincarnation by demonstrating how subjective spiritual experiences can be analyzed using systematic computational frameworks within consciousness research.

[8] Traditional knowledge on Ethnobotany and its evaluation from the veiled villages of Kasha-Pat, Shimla, North-West Himalaya-A road to biodiversity conservation

Astha Chauhan (MLN College, Yamunanagar, Haryana), Vaneet Jishtu (ICFRE-HFRI, Shimla)

Abstract

Renowned worldwide for its traditional wisdom and floristic abundance, India holds a prominent place in global biodiversity. Among its regions, Himachal Pradesh is particularly blessed with exceptional plant diversity and a colourful tapestry of cultural traditions. Association of plants with man has been known from centuries and are believed to anchor man to their habitat. The current research for the first time records 110 plants from 49 families and 92 genera in addition to the traditional knowledge associated with them from the hidden Himalayan villages of Kasha and Pat of district Shimla, Himachal Pradesh. Plant parts such as wood, flowers and leaves were predominantly used by the local people for numerous purposes like medicine, timber, fuel, fodder, etc. Along with the qualitative analysis, several quantitative indices such as Use Value (UV), Informants Consensus Factor (ICF) and Fidelity Level (FL) were also studied. Multiple reconnaissance surveys were carried out and a questionnaire was framed to document the traditional knowledge from the region. Documenting such indigenous knowledge and traditional practices of the native communities is crucial for sustainable management of resources and biodiversity conservation. Therefore, traditional knowledge not only provides information on plant diversity but also aids in preserving the rich cultural heritage of local communities especially of lesser studied regions.

[13] Effect of Shodhita Shilajatu and Rajata Bhasma on Anxiety – A vitro study

Suchitra Patil (SVYASA)

Abstract

Background: Shilajatu and Rajata are important mineral drugs having medhya property. There are studies available on the effect of shilajatu on diabetes, obesity and anxiety also, Rajata bhasma have proven to increase memory, concentration. The main objective of the study was to observe the effect of Shodhita Shilajatu and Rajata Bhasma on anxiety in mice. Methods: Shodhana of Shilajatu was carried out by suryatapi method/, Shodhana of Rajata was carried out according to classical texts by using taila,takra,gomutra, kanji, kulattha kwatha. Rajata Bhasma was prepared using Kumari swarasa Bhavana as per Ayurveda Prakasha. Organoleptic characteristics, ash value analysis, SEM analysis of Rajata and Shilajatu were carried out according to standards. Anti Anxiety activity was analyzed by using light and dark test, open and closed arm activity test on four group of mice Results: Both Rajata and Shilajatu group rats have showed highly spent more time in light chamber 105.3±6.296, 114.8±6.215 respectively and open space against control group with Diazepam (94.0±2.39) and standard groups (30.5±1.50) $p<0.001$/ Locomotor activity was more in Shilajatu and Rajata Bhasma groups (429.2±3.73,437.7±6.31) when compared to Normal saline and Diazepam group (289.3±5.07,374.7±4.83) Conclusion: Rajata Bhasma and shuddha Shilajatu improved significantly the time spent in light chamber and locomotor activity when compared to normal saline and Diazepam groups of mice suggesting the good Anti Anxiety effect..

[19] Repairing the Epistemic Fracture: Reflections from a 'Native' Researcher of the Himalayan Healing Traditions

Vineet Gairola (Indian Institute of Technology Hyderabad)

Abstract

This paper seeks to reflect on the epistemic "fracture" that Ramakrishna Rao describes between one's academic and personal self under the influence of Western categories and explores how this disjunction may be repaired through deeper engagement with Indigenous modes of knowing. Drawing on experiences as a 'native' researcher studying the ritual journeys of local mountain Goddesses and the bakkyās (oracles) of Garhwal, Uttarakhand, the paper engages with this problem ethnographically. The paper will discuss how turning towards the Indian terroir and its psychological, cultural, and spiritual ground offers possibilities of repair. The paper argues that a researcher's subjectivity serves as a bridge to understanding culturally grounded, lived ritual practices, which are often considered a source of bias in conventional psychology. Through an auto-ethnographic reflection, the paper will revisit moments from fieldwork where dreams, deity possession, and embodied experience become a significant source of insight, revealing the Indigenous notions of well-being, healing, and divine presence. Rather than treating such experiences as idiosyncratic, the paper sees them as a dialogical encounter with a living tradition that unsettles the detached stance of modern psychology. Furthermore, the paper reflects on questions of academic freedom, epistemic plurality, and non-Western knowledge systems, drawing from long-term ethnographic engagement with Himalayan ritual and healing traditions. This contribution seeks to decolonize psychological inquiry in India and beyond by reorienting research as a relational and participatory process. The paper invites scholars to approach subjectivity and emotions not as a limitation, but rather as a vital instrument for attunement, which opens a correspondence between indigenous epistemologies rooted in ritual, embodiment, and bhāva (sentiment/feeling) and contemporary psychology.

[25] AI-Driven Natural Language Processing for Sanskrit Texts: Enhancing Cognitive Insights through Computational Linguistics

Jasleen Kaur (Indian Institute of Forest Management Bhopal)

Abstract

This paper presents a novel AI-driven framework for Natural Language Processing (NLP) of classical Sanskrit texts, aiming to bridge ancient Indian Knowledge Systems (IKS) with contemporary cognitive science research. We develop a hybrid computational model combining transformer-based architectures (BERT variants) with rule-based Sanskrit morphological analyzers to process structured and unstructured textual corpora from domains such as Yoga, Ayurveda, and Indian philosophy. The model achieves state-of-the-art performance in semantic role labeling, sentiment analysis, and concept ontology extraction from Sanskrit literature. Additionally, we introduce a novel attention mechanism that captures contextual nuances specific to philosophical and contemplative discourse. Our results demonstrate significant improvements in accuracy and interpretability over existing multilingual NLP models when applied to Sanskrit texts. The framework enables automated extraction of cognitive and psychological patterns embedded in IKS, offering scalable methodologies for research in consciousness studies, contemplative psychology, and preventive wellness. This work underscores the potential of computational linguistics to unlock empirical insights from traditional knowledge systems, fostering interdisciplinary dialogue between AI researchers, neuroscientists, and humanities scholars.

[40] Antipsychotic-Induced Metabolic Syndrome: A Case Series Highlighting the Effect of Integrated Yoga and Ayurveda

Dr. Subana R. Samad; Dr. Umesh Chikkanna; Dr. Kavyashree Kulamarva; Dr. Hemant Bhargav; Dr. Kishore Kumar Ramakrishna; Dr. Venkataram Shivakumar; Dr Bharath Holla (all from NIMHANS)

Abstract

Metabolic syndrome (MetS) frequently emerges as a clinically relevant complication of prolonged antipsychotic treatment, contributing to increased cardiometabolic risk and posing challenges to long-term treatment adherence. Complementary non-pharmacological strategies, including Integrated Yoga and Ayurveda (IYA), may offer a holistic approach to addressing these metabolic disturbances. This case series presents the clinical effects of IYA in individuals with schizophrenia who developed antipsychotic-associated MetS. Four individuals diagnosed with chronic schizophrenia according to ICD-10 criteria (3 males and 1 female; age range 22–38 years; illness duration 12–15 years), who were clinically stable on antipsychotic medication for a minimum of 8 weeks and fulfilled criteria for MetS, were included. Baseline assessment revealed excess body weight in all participants, with a mean BMI of 29.1 ± 3.1 kg/m². Biochemical evaluation demonstrated dyslipidemia, with raised total cholesterol (200 ± 55.3 mg/dL), LDL (123 ± 39.1 mg/dL), and a median triglyceride concentration of 212 (176–523) mg/dL. The intervention comprised an IYA program incorporating individualized Ayurveda-based detoxification (Panchakarma Shodhana), followed by Shamana therapy using metabolism-modulating herbal formulations. This was supplemented with structured yoga practices focused on improving metabolic balance and stress regulation over a 2–3-week period. Following the intervention, improvements were noted in metabolic indices, including reductions in mean BMI (27.8 ± 2.88 kg/m²), total cholesterol (184 ± 60.1 mg/dL), and LDL (106 ± 46.8 mg/dL). Psychiatric symptom burden decreased, with SAPS scores declining from 17.8 ± 5.25 to 11.8 ± 3.3 and SANS scores from 31.3 ± 10.8 to 22 ± 10.4. No adverse events or clinical deterioration were observed. These preliminary findings indicate that IYA may serve as a feasible and safe adjunctive intervention for antipsychotic-induced MetS in schizophrenia.

[45] COGNITIVE TRANSFORMATION THROUGH NIṢKĀMA KARMA: INSIGHTS FROM THE BHAGAVAD-GĪTĀ FOR MODERN NEUROSCIENCE CONCIOUSNESS

Arpita Paul (Patna University)

Abstract

Karmaṇye vādhikāraste mā phaleṣu kadācana |
Mā karmaphala-heturbhūr mā te saṅgo’stvakarmaṇi || (Gītā 2/47)
The Śrīmad-Bhagavad-Gītā introduces Niṣkāma Karma—selfless action without attachment to outcomes—as a pathway to liberation and clarity. This paper examines Niṣkāma Karma as both a spiritual discipline and a cognitive-neuropsychological framework relevant to modern theories of consciousness, stress regulation, and executive function. Contrasted with Sakāma Karma (desire-driven action), Niṣkāma Karma emphasizes detachment from results, reducing anxiety and fostering equanimity. Neuroscience parallels show that attachment activates reward circuitry and stress pathways, while detachment modulates the amygdala and pre-frontal cortex, lowering stress responses and enhancing executive control. Acting without attachment mirrors cognitive reappraisal strategies, reframing situations to reduce distress and promote resilience. The study also links Niṣkāma Karma to flow states, where concentrated yet detached action fosters creativity, reduced self-consciousness, and optimal performance. Neuroimaging evidence from mindfulness and altruistic behavior supports these parallels, showing enhanced connectivity in net-works governing attention and emotional regulation. Comparisons with Cognitive Behavioral Therapy (CBT) and Mindful-ness-Based Stress Reduction (MBSR) highlight its practical relevance in clinical and organizational contexts. The synthesis underscores Niṣkāma Karma as a timeless model for cognitive transformation, bridging ancient wisdom with modern science. The paper concludes that Niṣkāma Karma is not merely a spiritual ideal but a scientifically relevant paradigm, offering insights for consciousness studies, neuro-ethics, mental health, leadership and cognitive transformation.

[50] Quantifying Reincarnation Belief: A Fuzzy-Logic Consciousness Model Based on Insights from 108 Meditative Practitioners

Aratrika Patnaik, Vaibhav Tripathi (Jadavpur University)

Abstract

Music is known to evoke a broad range of emotions and influence cognitive processes in listeners (Piccardi et al., 2024; Zaatar et al., 2023). However, much of the research is limited to Western participants and Western music. Hindustani Classical Music (HCM) is a culturally rich medium for exploring its influence on cognitive processes. HCM, with its structural features such as the tonal system (shudh-komal), temporality, microtonal alterations, and ornamentation, has historically been associated with the evocation of a plethora of emotions, linked to memory-based practices, eliciting vivid imagery, and embodied pedagogical practices. These practices provide a foundation for exploring empirical evidence revealing the connection between HCM and these cognitive processes. The current review aims to examine behavioral, physiological, and neural research on this connection, integrate it with traditions of Hindustani music pedagogy, and highlight gaps and prospective avenues for future work.

[57] Artificial Intelligence Enabled Ayurveda for Holistic Healthcare and Cognitive Wellness

Sharma, R, Verma, S., Singh, A., Patel, N, Kumar, M., Rao, P, Mehta, D, Iyer, S (DRONACHARYA COLLEGE OF ENGINNERING, GURUGRAM)

Abstract

Ayurveda is one of the oldest holistic healthcare systems, emphasizing balance between body, mind, and environment. In recent years, Artificial Intelligence (AI) has emerged as a powerful tool for data-driven decision-making, personalization, and predictive analysis in healthcare. This research paper explores the integration of AI techniques with Ayurvedic principles to enhance cognitive health, preventive care, and therapeutic interventions. The study focuses on how machine learning, natural language processing, and data analytics can be applied to classical Ayurvedic concepts such as Prakriti, Dosha imbalance, and lifestyle-based treatment planning. The proposed framework aims to improve diagnostic accuracy, treatment personalization, and holistic wellness outcomes.

[58] The Problem of Selfhood in Visual Experience: An Advaitic Resolution

Raj Kishore Patra, Pintu Das, Manas Ranjan Murmu (Rajendra University)

Abstract

This paper examines the emergence of the notion of self through the structure of visual perception. It begins with an exploration of the visual system and mechanisms and shows how subjectivity has evolved from perceptual organization and critically evaluates from the less prominent accounts such as monocular self, binocular self, and Gestalt theories of selfhood. Despite their insights, these approaches fail to resolve key problems, including perceptual continuity, visual binding, and reflexivity. The relationship between the seer and the seen has failed to be established as they are treated as belonging to ontologically two distinct domains. The self has been epistemologically neglected by considering it as an alien entity that is disconnected with the world it perceives. This paper tries to explain the formation of self from the biological and cognitive structure of human visual perception and tries to highlight and fix the problem that arises in joining the two (seer and seen). The study argues that these unresolved issues point to a deeper limitation in explaining selfhood solely in sensory or neuro-cognitive terms. To address this, the paper proposes a conceptual reconstruction grounded in Advaita Vedānta, where the self is understood not as a product of perceptual integration but as the constant witnessing principle that makes such integration possible. This framework offers a coherent resolution to the phenomenological and metaphysical problems surrounding vision and selfhood.

[63] Perceptual Recalibration as a Function of Prediction Error Size

Aakshi Arora, Richa Nigam (Thapar Institute Of Engineering and Technology)

Abstract

Expectations have been shown to bias perception [1]. In the domain of auditory perception, higher expectations lead to higher perceived loudness and lower expectations lead to lower perceived loudness on tasks with binary

expectation manipulations (high vs low; [2], offering limited insights. It remains unclear how increasing levels of prediction error balance between expectation- driven and stimulus-driven perception. The present study thus aimed to examine a) how graded prediction errors influence auditory loudness perception and b) whether there exists a tipping point effect or boundary at which expectation-based bias collapses, and the overall perceptual judgement shifts towards its actual intensity. The study includes 30 healthy young adult volunteers (Mean age: 23.7 years) from Thapar Institute of Engineering and Technology, Patiala (Punjab). They were anchored to three reference tones: 2 (low), 5 (medium), and 8 (high) loudness. In the main task, participants completed standard auditory discrimination task with the only difference being that the target stimulus (a 1000 Hz pure-tone) deviated from the pre-occurring numerical cue (1–9) biasing perception at varying intermittent degrees of prediction error which the participants rated ona1–9scale reporting their loudness perception. Analysis of the magnitude of prediction error revealed a graded increase in perceptual error with increasing mismatch ($\beta = +0.571$, $p < .001$), indicating a boundary effect rather than a simple linear relationship. Smaller mismatches allowed expectations to bias perceptual representation, whereas larger prediction errors recalibrate perception toward the actual stimulus intensity thereby supporting the hypothesis

[70] Cognitive attention inspired models of text- classification

Vaishnavi Singh, Dr. Vaishali Dixit (Dronacharya College of Engineering)

Abstract

Many standard deep learning models have trouble identifying the most informative words inside lengthy and complex sentences, despite the fact that text categorization is a key problem in natural language processing. This research suggests a cognitive attention-inspired neural network for text classification, which is motivated by the idea of selective attention in human cognition. The suggested model combines a Bidi-rectional Long Short-Term Memory (Bi-LSTM) network with an attention mecha-nism that lessens the impact of less significant phrases while giving contextually rele-vant words more weight. This method replicates how humans read, focusing their attention on important details to extract meaning. A publicly accessible sentiment analysis dataset is used to evaluate the model and compare it to baseline models like convolutional neural net-works and ordinary LSTM. Experimental results show that the attention-enhanced model improves accuracy and F1-score, implying greater representation of semantic and emotional content in text. Additionally, by focusing on terms that have a big impact on classification choices, the attention mechanism offers accessibility. According to the results, incorporating cognitive attention concepts into neural networks improves transparency and performance, which makes the method appropriate for a range of text classification tasks in artificial intelligence applications.

[71] Sanskrit NLP for Extracting Consciousness Models: Bridging Ancient Wisdom and Modern AI

Nancy Sharma, Dr. Vaishali Dixit (Dronacharya College of Engineering)

Abstract

Current developments in Artificial Intelligence have reached a "semantic plateau." Large Language Models (LLMs) are good at matching patterns in syntax, but they do not truly understand subjectivity and consciousness. In contrast, the Sanskrit linguistic tradition, especially the Paninian framework and Darshana texts, offers a detailed and systematic view of human awareness. This paper suggests a new neuro-symbolic NLP framework aimed at closing this gap by pulling formal, computable models of consciousness from ancient Indian Knowledge Systems (IKS). The research tackles the "Morpho-Syntactic Gap" by using Panini's Ashtadhyayi as a formal metalanguage. This helps to resolve complicated Sandhi and Samasa and ensures accurate parsing of metaphysical texts like the Yoga Sutras and Upanishads. By linking these parsed results to a focused "Shastric Knowledge Graph," we go beyond mere translation. We aim to identify the functional structure of the mind, including concepts like the Antahkarana (inner instrument) and the Drig-Drishya (Subject-Object) relationship. The main goal of this study is to transform qualitative philosophical ideas into quantitative data structures, specifically JSON-LD and First-Order Logic (FOL). These structures can be incorporated into modern cognitive systems. The conclusion highlights how developing these "Sattvic" models paves the way for Explainable AI (XAI) and ethical value alignment. By viewing Sanskrit as a

"Linguistic Operating System" for the mind, this study offers a fresh approach to AI that is both computationally robust and deeply linked to the science of consciousness.

[74] The Informational Continuity of Consciousness: A Quantum and Epigenetic Framework for Non-Local Identity Persistence

Tushar verma, Saanvi singh, Dr. Vaishali dixit (Dronacharya College of Engineering)

Abstract

Contemporary neuroscience predominantly models consciousness as an emergent property of neural computation confined to a single biological lifespan. However, this framework encounters limitations when addressing documented anomalies such as persistent identity traits across discontinuous biological states, non-local cognitive correlations, and continuity of subjective experience beyond neural degradation. This paper proposes a theoretical framework for informational continuity of consciousness, integrating principles from quantum information theory, epigenetic inheritance, and systems biology. Rather than asserting empirical proof, the model offers a conceptual synthesis in which consciousness is treated as a conserved informational structure, locally instantiated but not strictly generated by neural substrates. The framework is positioned as a falsifiable and extensible hypothesis, intended to guide future experimental inquiry into identity persistence, memory encoding, and non-local cognitive phenomena.

[76] Inattentional Blindness to Social Threat Under Dual Attentional Load

Joshua Lavy, Sanket Pawar, Amrendra Singh (Centre of Behavioural and Cognitive Sciences (CBCS))

Abstract

Human attention has limited capacity, often resulting in inattentional blindness (IB), whereby salient but task-irrelevant stimuli fail to reach awareness under high task demands (Simons & Chabris, 1999). Social threat signals (angry faces) are theorized to receive prioritized processing (Hansen & Hansen, 1988b; Calvo et al., 2006); however, whether such prioritization survives dual load remains unresolved (Matias et al., 2022). In the present ongoing study, we aim to measure social threat detection sensitivity and decision bias under combined perceptual and cognitive load using the inattentional blindness paradigm. 24 participants (10 Male; Mage=21.08 years) completed 128 trials per condition: low/high perceptual load × low/high cognitive load. Participants reported target geometric shapes embedded among other shapes. Perceptual load was manipulated by distractor number & heterogeneity (low load: 2 homogeneous distractors; high load: 6 heterogeneous distractors). Cognitive load was manipulated by taxing working memory (low load: fixed shape–key mapping; high load: conditional “both-targets/none” rule). In each condition, 5% of trials were critical trials, included to maintain the unexpected nature of the stimulus and ensure IB, in which an unexpected face (angry, sad, neutral or schematic) appeared; only on these trials were participants asked whether they noticed anything unusual and to identify the facial expression. Repeated-measures ANOVA revealed a significant perceptual × cognitive load interaction, $F(1,23) = 4.67$, $p = .041$, $\eta p^2 = .17$ on sensitivity (d'). Criterion (c) similarly showed a significant interaction, $F(1,23) = 8.74$, $p = .007$, $\eta p^2 = .28$, with a liberal response bias selectively under high dual load. These findings suggest that under IB, social threat signals do not bypass attentional capacity limits; instead, attentional overload induces criterion shifts reflecting decision-level compensation in the absence of robust perceptual evidence.

[81] Prayer in Indian Knowledge Systems as a Preventive Tool for Mental Health: Clinical and Psychological Perspective

Dr. Madhavi Gohel (BAPS Swaminarayan Research Institute, Akshardham, New Delhi), Dr. Hardik Solanki (Senior Programme Officer, PATH)

Abstract

Background: Prayer occupies a central place in the Indian Knowledge System (IKS), where it is understood not merely as a religious act but as a disciplined psycho-spiritual practice aimed at harmonizing mind, body and consciousness. This review examines prayer as a preventive and curative tool for mental health through

contemporary empirical research. Method: We followed a qualitative approach searching scientific evidence in an electronic database – PubMed and Google Scholar using the key words ‘prayer’, ‘mantra’, ‘chanting’, ‘well-being’, ‘mental health’ and employed snow bowling in the referencing of the studies. The literature was listed and performed thematic analysis. Analysis: Psychological and clinical studies reported regular prayer is associated with reduced symptoms of anxiety and depression, lower perceived stress, improved emotional regulation, and greater subjective well-being. From the physiological perspective, such devotional practices are linked to enhanced parasympathetic activity, reduced cortisol, indicating a stabilized stress response. Parenting research indicated that spiritual parents report higher patience and meaning in caregiving. Conclusion: Anchored in IKS, prayer is conceptualized as a culturally embedded, accessible and cost-effective strategy for primary and secondary prevention of mental health disturbances. This literature review highlights future systematic review and meta-analysis to translate ancient wisdom into culturally sensitive and clinically relevant preventive mental health strategies.

[82] ASSESSING THE ROLE OF 528HZ SOLFEGGIO FREQUENCY MUSIC IN ALLEVIATING STRESS AND ENHANCING QUALITY OF LIFE IN PATIENTS RECEIVING TREATMENT FOR INFERTILITY

Suganya. A, Alapati Lohita Chowdary, Damal Chandrasekar Mathangi (Sri Ramachandra Institute of Higher Education and Research, Porur, Chennai)

Abstract

AIM: To understand the impact of the 528hz solfeggio frequency music on the depression, anxiety, stress, sleep quality of life among patients under treatment for infertility. METHODOLOGY: A total of 30 participants undergoing infertility treatment were enrolled in this prospective interventional study between the age group of 21-45. Intervention with 528hz solfeggio frequency music was given as intervention for one month. Pre and post intervention assessments were done using validated tools for depression, anxiety, stress (DASS-21), sleep quality (Sleep Quality Survey) and fertility quality of life(Ferti QOL) in addition to the autonomic function assessment using heart rate variability. RESULTS: Solfeggio frequency significantly reduces psychological distress and sleep quality. Fertility related quality of life and shift in autonomic nervous system towards parasympathetic were observed, though not statistically significant. CONCLUSION: Results of the study support the hypothesis that 528 hz solfeggio frequency music has a measurable impact on psychological, physiological and quality of life outcomes in individuals, undergoing infertility treatment. Future research should include larger sample sizes, longer intervention durations and mechanistic exploration using neuroimaging and neuroendocrine markers.

[88] IMPACT OF KATHAKALI TRAINING ON EMOTIONAL REGULATION

Sahil Suresh (IILM University, Greater Noida), Dr. Satarupa Deka (Assam Down Town University, Panikhaiti, Guwahati)

Abstract

Kathakali, a classical dance-drama tradition from Kerala, is a highly structured and emotionally demanding art form that combines elaborate costumes, precise hand gestures (mudras), controlled facial expressions, and rigorous body discipline. Training in Kathakali requires years of intensive practice, during which performers master the nine emotions (navarasas), memorize complex narratives, and maintain strict emotional control during long performances. This process places significant demands on emotional regulation, cognitive control, and identity management, as performers shift between personal identity and character roles. Despite its cultural importance, the psychological processes underlying emotional regulation in Kathakali practitioners remain under-explored. This study adopts a mixed-methods explanatory sequential design to examine emotional regulation, awareness, discipline, and personal development in a practitioner. In the quantitative phase, the Emotion Regulation Questionnaire (ERQ) and Difficulties in Emotion Regulation Scale (DERS) were used. Results indicated high use of cognitive reappraisal and expressive suppression, alongside difficulties in emotional clarity and impulse control in daily life. The qualitative phase involved semi-structured interviews, revealing four themes: emotional awareness, regulation strategies,

discipline, and personal growth. Findings suggest that Kathakali training enhances emotional awareness, strengthens regulation through performance discipline, and fosters self-control and reflective thinking. Overall, the study highlights a dual emotional system—effective performance-based regulation alongside everyday emotional challenges—suggesting that Kathakali functions as both a performance tradition and a structured system of emotional training.

[90] EFFECT OF NAAMA JAPA (DIVINE NAME RECITATION) ON SUSTAINED ATTENTION IN ANXIETY DISORDERS - A CROSSOVER PILOT STUDY

Dr. Mahadeshwari Mahesha; Dr. Kishore Kumar Ramakrishna; Dr. Umesh Chikkanna; Dr. Hemant Bhargav; Dr. Shantala Hegde; Dr. N Manjunatha (NIMHANS)

Abstract

Introduction: Anxiety is characterized by feelings of apprehension, tension, or uneasiness arising from the anticipation of perceived internal or external threats. Globally, approximately 4.4% of the population is affected by anxiety disorders, making them the most prevalent group of mental disorders worldwide. Naamajapa (divine name recitation) is a spiritual practice rooted in Bhakti Yoga as well as in Daivavyapashraya chikitsa in Ayurveda. Previous studies on mantra or divine chanting have demonstrated beneficial effects such as reduction in anxiety, enhancement of the relaxation response and attention. Objective: To examine the immediate effects of Naamajapa on cognitive performance measured using the Continuous Performance Task (CPT), and anxiety status in individuals with anxiety disorders, in comparison with number repetition. Methods: Fourteen participants diagnosed with anxiety disorders according to ICD-11, and with Bhakti Yoga orientation scores greater than 40%, were recruited. Participants were randomized into two groups in a crossover design, Group A practiced Naamajapa initially, while Group B performed number repetition for 10 minutes. CPT was assessed pre and immediately post-intervention. Following a washout period of 10 minutes, the groups crossed over to receive the alternate intervention, followed by reassessment. Results: A trend toward reduced impulsivity was noted following Naamajapa, though this did not reach statistical significance. Both interventions resulted in reduced inattention scores, with the number repetition showing marginally better performance compared to Naamajapa. Conclusion: Naamajapa demonstrated early trends toward improvement in anxiety-related psychological parameters. Given the small sample size, these findings are preliminary and warrant further investigation through larger, adequately powered studies to better elucidate the effects of Naamajapa on cognitive performance in anxiety disorders.

[97] Regular Practice of Bhramari Pranayama Enhances Calmness During High-Stakes Examinations in Adolescents

Amitash Ojha, Urvashi, Shramana Singha Roy, Riya Jain (IIT Jammu)

Abstract

High-stakes examinations often trigger strong anxiety among adolescents, marked by heightened sympathetic nervous system activity and reduced parasympathetic regulation, commonly reflected in lower heart rate variability (HRV) (Thayer & Lane, 2000; Lehrer & Gevirtz, 2014). This study examined whether regular practice of Bhramari Pranayama, a slow breathing technique involving humming exhalation, helps students remain calmer during examinations. The study involved 120 high school students from Jammu and Kashmir. Sixty students practiced Bhramari Pranayama daily for 10-12 minutes over six months, while sixty students in the control group did not follow any structured breathing or relaxation practice. During the pre-examination period, heart rate, Galvanic Skin Response (GSR), peripheral body temperature, and self-reported calmness were recorded. One-way ANOVA revealed significant group differences across all physiological measures. The experimental group showed lower heart rate, $F(1,118) = 53.46$, $p < .001$, and lower GSR levels, $F(1,118) = 96.82$, $p < .001$, indicating reduced stress-related arousal. Peripheral body temperature was significantly higher in the experimental group, $F(1,118) = 22.17$, $p < .001$, suggesting stronger parasympathetic influence. Effect sizes ranged from moderate to large. Subjective responses supported these findings, with students in the experimental group reporting greater calmness before examinations. Although HRV was not measured directly, the combination of reduced cardiac and electrodermal arousal, combined

with increased peripheral temperature, is consistent with improved vagal regulation and better autonomic balance, mechanisms typically associated with higher HRV (Thayer et al., 2012; Shaffer & Ginsberg, 2017). The findings suggest that regular Bhramari Pranayama practice can support physiological calmness during anxiety-inducing academic situations.

[103] Mind–Body–Consciousness Axis in Ayurveda: Role of Triguṇa

Dr. Sheetal Roman, Dr. Rutuja Shah, Dr. Gayatree Madhwai (Dr. .D.Y.Patil College of Ayurved and Research Centre, Pimpri, Pune)

Abstract

Ayurveda provides a holistic framework for understanding human health through the harmonious interplay of Sharira (body), Manas (mind), and Atma (consciousness). This triadic relationship forms the mind–body–consciousness axis, which governs perception, cognition, emotions, behaviour, and overall well-being. In contrast to contemporary biomedical models that primarily link mental functions to neurobiological processes, Ayurveda views consciousness as an essential, non-material principle that influences both mind and body. Central to this understanding is the theory of Triguna- comprising Sattva, Rajas, and Tamas-which represents the intrinsic qualities of the mind that regulate mental states and levels of awareness. Triguna serves as the core regulatory mechanism of the mind-body-consciousness axis in Ayurveda. The dynamic balance of Sattva, Rajas, and Tamas explains variations in mental states, behaviour, decision making, emotional regulation, and levels of awareness. This poster supports the Ayurvedic view that mental imbalance often precedes physical manifestations through psychosomatic pathways. Distinct patterns of mental functioning emerge based on Triguṇa predominance, influencing perception, cognition, emotional responses, behavioural tendencies, and levels of awareness. The findings indicate that variations in Triguṇa dominance are systematically associated with specific mental states and behavioural expressions The present study underscores Triguṇa as a foundational regulatory principle of the mind–body–consciousness axis in Ayurveda.Rather than functioning in isolation, Sattva, Rajas, and Tamas dynamically interact to shape mental health, emotional regulation, and conscious experience.. Maintenance of Triguṇa balance is central to psychological well-being and prevention of psychosomatic disorders.

[106] A Conceptual Synthesis of Sanskrit Linguistics, Consciousness Traditions, and Cognitive Neuroscience

Parag Kulkarni (Dr D Y Patil College of Ayurved & Research Centre, Pune)

Abstract

For centuries, Indian knowledge systems have maintained that sound (śabda), rhythm, and intentional repetition do more than convey meaning—they actively shape mental processes. Within these traditions, Vedic mantras, characterized by precise phonetic and rhythmic organization, are understood to support cognitive faculties such as buddhi (intellect) and smṛti (memory). While such claims were historically framed within philosophical discourse, contemporary neuroscience has begun to identify measurable correlates that invite renewed examination. This paper brings classical Sanskrit perspectives into dialogue with modern cognitive research, examining mantra chanting as a structured cognitive–linguistic practice that connects traditional theories of consciousness with current insights into attention, memory, and emotional regulation.

[107] Ayurvedic Perspectives on Cognitive Health: Classical Foundations, Experimental Evidence, and Neuroscientific Integration

Parag Kulkarni (Dr D Y Patil College of Ayurved & Research Centre, Pune)

Abstract

Ayurveda conceptualizes cognition through Manas, Buddhi, and Smriti, with mind–body equilibrium central to health. Classical texts treat cognition as a systemic process regulated by Dosha balance, Triguna, and preventive

lifestyle discipline rather than a localized cerebral function. As cognitive decline and stress-related disorders increase, holistic preventive models are gaining relevance; however, Ayurvedic cognitive frameworks remain weakly integrated with modern cognitive science and neuroscience. Contemporary neuroscience likewise views cognition as an emergent property of distributed brain networks, emphasizing integrated brain–behaviour relationships. This paper critically reviews classical Ayurvedic literature alongside contemporary experimental and clinical studies on Ayurvedic interventions for cognitive health. Core concepts of Manas, Buddhi, and Smriti described in classical texts are examined and aligned with modern evidence related to neuroprotection, stress modulation, and cognitive regulation]. Experimental studies indicate that Ayurvedic formulations demonstrate antioxidant, adaptogenic, and neuroprotective effects, while clinical findings suggest improvements in memory, attention, and emotional balance, particularly in preventive and supportive care contexts. Neuroscience research further shows that chronic stress adversely affects cognition through plastic changes in prefrontal and limbic networks, reinforcing the relevance of stress-adaptive and preventive approaches. Despite promising evidence, gaps persist in mechanistic validation and conceptual translation, and this review proposes an integrative roadmap positioning Ayurveda as a preventive cognitive science framework within mind–brain–consciousness research and Indian Knowledge Systems.

[116] Consciousness(cit) in Classical Indian Philosophy: A Philosophical Inquiry

V Sujata Raju (Daulat Ram college, University of Delhi)

Abstract

This paper undertakes a systematic philosophical inquiry into the central issues concerning the nature of Consciousness as articulated in classical Indian Philosophy. It addresses a series of foundational questions: What is Consciousness, and how is it to be distinguished from the internal organs, namely the mind, intellect, ego, and memory that function within empirical cognition? In what manner does Consciousness manifest itself, and how is its mode of appearance to be theoretically understood? Framed in disputational terms, the paper examines whether Consciousness is self-illumined (svaprakāśa) or whether its illumination is dependent upon another principle (paraprakāśa). It further explores the problem of intentionality by asking whether Consciousness is saviṣayaka or nirviṣayaka. In addition, the study engages with a set of interrelated questions concerning the form, structure, and content of Consciousness that have been extensively debated by Indian philosophers. These include whether Consciousness is with form (sākāra) or without form (nirākāra), and whether it possesses a locus (āśraya) or, being all-pervasive, is free from spatial and temporal cognates (nirāśraya). Such questions are not merely metaphysical but have significant implications for theories of selfhood, knowledge, and liberation. To critically examine these issues, the paper comparatively analyses the positions advanced by the Cārvāka, Nyāya, Sāṃkhya, and Advaita Vedānta schools of classical Indian Philosophy. The paper places these doctrines within a broader conceptual and polemical framework in order to highlight both points of divergence and underlying continuities in their respective accounts of Consciousness. It seeks to demonstrate how these schools account for the relationship between empirical cognition and transcendental awareness, thereby contributing to a deeper understanding of Consciousness within the landscape of Indian philosophical inquiry.

[118] CONSCIOUSNESS THE CURSE OF SELF-AWARENESS

P.Poobalan, Damal Chandrasekar Mathangi (Sri Ramachandra Institute of Higher Education and Research, Porur, Chennai)

Abstract

Introduction: Consciousness is an essential state in philosophy, spirituality, and psychology. It’s defined as the things we experience each day and individual awareness of our unique thoughts, memories, feelings, sensations, and environments. All of these require self-awareness, which is impossible without consciousness. In the path to understand what consciousness really is, every mind pins down to a single question “WHY” and this makes humans think about the meaning of life, essence of human existence, reality of death and choices we make alongside. This unanswered thinking over time turns into anguish feeling leading to existential anxiety. Objective: To address the feeling of meaninglessness which develops into existence anxiety. therefore incorporating a mindful practice like

Dhyana to preserve inner tranquility. Methods: A combined literature review was done using Pub med, Springer Natural Link, “The courage to be” book by Paul Tillich to understand the prevalence of anxiety and its coping mechanism. Results: a study conducted over students of Saudi university with an average age of 21 years shows the prevalence of Existential Anxiety was 71.1% (23.7% with mild, 35.01% with moderate, and 12.3% with severe). Most participants (94.8%) were single, and 93% resided with their families. No significant differences were found between the EA scores based on sex. Conclusion: Study outcomes suggest practicing dhyana helps in expanded consciousness, inner tranquility, and heightened self-awareness. Regular practice of dhyana for 10-15 minutes daily help humans to cope up against anxiety and acceptance of not knowing the answers still worth living a good life.

[129] Experience Driven Tri-Gunas: Leadership and the Indigenous Model of Tri-Gunas in the IT Industry

Vidya Bhate (MIT ADT University, Pune), Vidya Chandrasekaran (Independent Researcher, Pune), Parnika Mehrotra (Symbiosis Institute of Health Sciences, Symbiosis International (Deemed University), Pune)

Abstract

The study examines leadership from the personality theory perspective, through the indigenous psychological model of the Tri-Guna. The model envisages leadership as an evolving process shaped by an individual's health, personality and experiences. The Tri-Guna theory explains personality through the combination of Sattva, Rajas and Tamas Guna. The study stands on the thought that early career stages might be marked by Rajasic Guna, tendency towards ambition and activity or Tamasic Guna, inclination towards lethargy and rigidity. However increasing professional experience leads to a transition towards Sattvic Guna, tendency towards peace, emotional stability and serenity. This study investigated the relation between Tri-Gunas and professional experience of leaders in the IT sector. The sample was leaders from the IT Industry with more than 10 years of experience. The sample was a purposive sample of 91 leaders working in leadership positions in Pune, India. Dr. Wolf’s Vedic Personality Inventory and Mind garden’s MLQ- 5X questionnaire were used for the study. Statistical analysis was conducted using SPSS (version 25.0). Pearson correlation analysis was applied to explore the relationship between work experience and the Tri-Gunas in these leaders. The Rajas Guna ($r= -0.08$, $p= 0.41$) and Tamas Guna ($r= -0.14$, $p= 0.18$) did not show any significant correlation with industry experience; however, the Sattva Guna depicted a significant positive correlation with work experience ($r= 0.21$, $p= 0.03$). The results may reflect leadership orientation moving from Tamasic and Rajasic tendency shifting with a larger work experience towards the Sattvic balance and clarity. Overall the findings imply that the Tri-Guna theory may reflect a meaningful indigenous structure for understanding the gradual development of leadership consciousness in the IT sector. The connectivity of ancient Indian wisdom with organizational psychology demonstrates its applicability in Industry.

[130] EEG Correlates of Action Observation in trained Dancers: Implications for dance-based interventions

Pooja Ojha, Mahesh Arjundan Gadhvi (AIIMS Jodhpur)

Abstract

Dance has been found to induce inter- and intra-hemisphere synchrony besides the sensorimotor coordination and neuroplastic changes. Mu rhythm, recorded through the Electroencephalogram from central regions overlying the somatosensory region of the brain has been associated with motor activities and action observation tasks. Observ-ing movement activates sensorimotor circuits, as indicated by reductions in Mu rhythm power (8–13 Hz) observed in EEG data. Contemplatively, how dance training shapes brain plasticity and neural functions can be investigated through changes in Mu rhythm power in individuals with dance training. We aimed to explore how prior dance training affects Mu rhythm dynamics during observation of dance movements. EEG recordings were obtained from trained dancers and individuals without dance experience (N=40) in resting state and while they viewed dance videos. Spectral analyses demonstrated significantly stronger Mu rhythm suppression in dancers when observing dance sequences, particularly over central sensorimotor regions (C3, Cz, C4). The results imply that extensive motor training refines the sensorimotor system’s responsiveness, likely through strengthened internal motor representations

and mirror neuron network activity. The enhanced neural engagement observed in dancers sug-gests that combining action observation with dance-based exercises could support neuroplasticity and motor recovery in clinical populations with neurodegenerative diseases. Future studies will focus on evaluating the long-term benefits of integrating dance observation into individualized rehabilitation programs

[142] Engineering Indigenous Cognitive Architectures: Translating Antaḥkaraṇa-Vṛtti Frameworks from Vedic Philosophy into Contemporary Mental Health Pedagogy

Neelam Kumari (Department of Sanskrit, Panjab University, Chandigarh), Vivek Sharma (Government College Solan)

Abstract

Western mind-body dualism finds no exact parallel in Indian philosophy, where manas constitutes a subtle material evolute of prakṛti, while consciousness (cit/caitanya) remains non-material. Antaḥkaraṇa (inner instrument) mediates between the conscious entity—termed dehī (Śrīmadbhagavadgītā), ātman (Nyāya-Vaiśeṣika, Vedānta), or puruṣa (Sāṃkhya-Yoga)—and external reality, constituting the substrate for all cognitive processes. Despite sophisticated theoretical articulations across darśanic schools, operational frameworks demonstrating how this Indigenous psychology addresses contemporary mental health challenges remain undeveloped. This research employs Design Science Research (DSR) methodology to treat classical Sanskrit texts as engineering blueprints rather than philosophical speculation. This project proposes to synthesize comparative darśanic analyses into a unified Inner Cognitive Architecture (ICA) model, then engineer an Aesthetic-Cognitive Regulation System (ACRS) drawing from Bharata's Nāṭyaśāstra, Abhinavagupta's rasa theory, and the Śrīmadbhagavadgītā's ethical-cognitive pedagogy. This system transforms afflictive emotions (kleśa) into contemplative equanimity through structured vṛtti-transformation protocols. Methodologically, this study will integrate qualitative research designs: (1) Delphi consensus with interdisciplinary expert panels, (2) in-depth semi-structured neurophenomenological interviews capturing first-person experiential accounts, and (3) systematic Interpretative Phenomenological Analysis of lived vṛtti-transformation experiences (n=15-20). Expected deliverables include validated ICA models with cross-darśanic synthesis, manualized 8-week ACRS intervention protocols integrating rasa-based aesthetic engagement with Gītā-informed cognitive reframing, rich phenomenological evidence of experiential transformations, and methodological templates for translating Sanskrit textual knowledge into evidence-based mental

[143] IGNITING VALUES THROUGH INDIAN TRADITIONAL TOYS IN STORYTELLING PEDAGOGY

Kunkalagunta N Revati, Damal Chandrasekar Mathangi (SriRamachandra Institute of Higher Education and Research)

Abstract

Introduction: Indian mythology carries the spirit of Community values. Story telling through patta chitra, Kondapalli bommalu, Etikoppaka toys, and Mythological figurines can foster cultural appreciation and imaginative engagement, incorporating values of friendship, Charity, Truth, Obedience by relating these to Indian epics : ‘The Ramayana’, ‘The Mahabharata’s Objective: 1. To Promote value based education by inclusion of Indian mythology in NEP. 2.To Promote Indian culture and traditional toys. 3.To generate employment for Indian Artisans Methods : A literature review approach was employed on how value based education can help in developing character and positive emotions like empathy and gratitude through Indian Mythology. Results : Findings reveal that incorporating story telling with toys made of Indian mythological characters can deeply involve the students to understand the human values they carry, enhancing their cognitive flexibility, supporting classroom engagement and self-regulation. Conclusion : Indian mythology carries age old wisdom. Their revitalisation promotes a holistic model of wellbeing, augmenting cultural preservation. These programs present a culturally grounded, cost-effective strategy linking wellbeing with heritage preservation. Simultaneously, we can achieve SDG- Sustainable Development Goals SDG-3

(Good Health and Wellbeing), SDG-4 (Quality Education) and SDG-11(Protecting culture and natural heritage), by integrating NAPT (National Action Plan for Toys) with NEP (National Education Policy).

[154] Gut–Brain Axis Dysregulation in Mild Cognitive Im-pairment: An Integrative Ayurvedic–Neurobiological Framework Centered on Bacopa monnieri (Medhya Rasayana)

Dr. Sagarika Jamadade, Dr. Jayshree Changade (Dr. D. Y Patil College of Ayurveda and research centre)

Abstract

Mild Cognitive Impairment (MCI) is a medical condition characterized by a noticeable, objective, and measurable decline in cognitive function—such as memory, language, or executive function—that is greater than expected for a person's age. In classical texts, Ayurveda conceptualizes cognitive decline as a systemic disorder involving Agni impairment, Ama accumulation, Vata aggravation, and Majja Dhatu depletion. However, no integrative framework currently bridges these paradigms. This paper aims to develop a novel integrative Ayurvedic–neurobiological conceptual model linking gut–brain axis dysregulation in MCI with the mechanistic potential of Bacopa monnieri (Medhya Rasayana) and to identify translational research gaps within this interdisciplinary domain. A structured evidence synthesis was conducted using biomedical databases (2000–2026) to review literature on gut microbiota alterations in MCI, systemic and neuroinflammatory pathways, and pharmacological mechanisms of Bacopa monnieri. Classical Ayurvedic texts were analyzed to contextualize Medhya Rasayana, Maj-ja Dhatu, Agni, and Vata within a systems-based interpretation of cognitive decline. Findings were integrated into a conceptual framework through thematic mapping and mechanistic pathway alignment. Reconceptualizing MCI as a systemic gut–neuroinflammatory disorder provides a biologically plausible bridge between Rasayana theory and contemporary microbiome research. This integrative framework generates testable hypotheses and offers a translational roadmap for interdisciplinary research at the intersection of neuroscience and Ayurveda.

[155] Influence of Personality Traits, Emotional Intelligence, and Ayurvedic Psychotypes on Domain Selection among Management Students: A PLS-SEM Approach

Dr. Farida Virani, Prof. Sandesh Akre (MET - Institute of Management -Mumbai)

Abstract

Choosing a career domain is one of the most important decisions for management students, as it influences their professional growth, job satisfaction, and long-term success. While career choices are often explained by aptitude, interests, and market demand, this view does not fully capture the deeper psychological and emotional factors that shape why individuals feel naturally suited to certain roles. This study adopts a more holistic approach by examining how personality traits, emotional intelligence, and Ayurvedic psychotypes (Vata, Pitta, and Kapha) together influence career preferences. Data were collected from management students through structured questionnaires and analyzed using Partial Least Squares Structural Equation Modelling (PLS-SEM). Personality was assessed using the Big Five framework, emotional intelligence through validated emotional competencies, and psychotypes through established psychophysiological indicators. Career domains included Marketing, Finance, Human Resources, Operations, and Analytics. The findings show that personality traits strongly influence emotional intelligence, which plays a key role in shaping career choices. Emotional intelligence acts as a bridge, helping individuals align their emotional strengths with suitable domains. Ayurvedic psychotypes provide additional insight, suggesting that natural physiological and psychological tendencies also influence specialization preferences. By integrating Western personality theory with traditional Ayurvedic understanding, this study offers a deeper and more human-centered perspective on career decision-making. The results have important implications for career counselling and management education, enabling students to make more emotionally intelligent and psychologically aligned career choices, ultimately enhancing both their performance and sense of fulfillment.

[173] A Comparative Phonetic Analysis of Major World Languages: Evaluating the Structural Organization of Sanskrit Phonemes

Mohit Gour; Kartik Iyer; Utkarsh Singh; Ruchi Gour; Ravindra Gour (Vigyan Darshan Research Organisation, VDRO Educational Association, Mumbai)

Abstract

The phonetic system of Sanskrit presents a uniquely systematic and articulatorily organized framework among the world's languages. Unlike many modern linguistic systems in which phonemes display contextual variability and composite realization, Sanskrit phonemes are defined through a precise and internally coherent classification based on place of articulation (sthāna), manner of articulation (prayatna), and phonetic effort. The traditional Sanskrit phonetic system reflects a highly structured articulatory science. Each varṇa (phoneme) is defined through a minimal and distinct articulatory configuration, forming a stable phonetic unit within the system. This structural precision reduces contextual ambiguity and enhances phonetic clarity. The Paninian grammatical tradition presents phonological elements as systematically defined minimal units within a formal analytical framework. The Sanskrit sound inventory is arranged in a manner that exhaustively maps articulatory possibilities of the human vocal apparatus, forming a maximally organized phonetic grid. While modern phonological theory recognizes distinctive features as universal components of language, the Sanskrit phonetic system uniquely integrates these distinctions into a complete and symmetrical structural arrangement. In this sense, Sanskrit phonemes may be regarded as structurally indivisible within defined articulatory parameters and broadly representative of systematic speech organization. Thus, rather than asserting metaphysical universality, this study proposes that Sanskrit offers a structurally exhaustive and analytically coherent phonetic model that serves as a valuable comparative framework for evaluating phonological systems across languages.

[174] Curiosity Inside the Headset: Cognitive Mechanisms of Engagement and Learning in Immersive AR/VR

Ria Gurdatta, Saurabh Grover, Sonali Aatrai (SGT University)

Abstract

AR(Augmented Reality), VR(Virtual Reality), and XR(Extended Reality) are growing in use in higher learning as immersive technologies to improve engagement and learning effectiveness. Nevertheless these settings are highly reliable to enhance interactivity and the richness of experience, the cognitive processes by which the immersion is turned into sustained learning are poorly understood. The results of empirical studies are always positive, showing an increase in the behavioral and emotional interaction manifested in the increased attention, pleasure, and presence. But sustained attention, conceptual integration, and long-term retention have a lower percentage of gains, and it was indicated that immersion would not be a guarantee of meaningful learning results. The current theoretical developments place epistemic curiosity and cognitive load regulation at the center of immersive learning. Epistemic curiosity: specifically, the difference between information-seeking(I-type) and knowledge-gap-based(D-type) curiosity leads attentional resources to the resolution of uncertainty, thus facilitating more profound processing when scaffolded in a proper manner. At the same time, the immersive systems are very demanding in terms of cognitive load. The Integrated Model of Cognitive Load and Motivation in XR(IMCLM-XR) states that meaningful learning takes place in cases where extraneous load is reduced, and the cognitive resources are directed towards germane processing instead of perceptual overload. The synthesis is based on constructivist and embodied learning views and states that immersive technologies do not serve as engagement enhancers per se, but rather as cognitive regulation systems that coordinate curiosity, attention, and cognitive effort. It is necessary to bridge cognitive theory with immersive design to turn immersive novelty into long-term intellectual development and pedagogically sound learning outcomes.

[182] Integrative Approaches for Managing Chronic Liver Diseases: Clinical Insights

Tanuja Rawat, Vedpriya Arya, Ashwani Kumar (PATANJALI HERBAL RESEARCH DIVISION PATANJALI RESEARCH FOUNDATION HARIDWAR)

Abstract

Hepatic diseases comprise a spectrum of liver disorders, including hepatitis, fatty liver disease, cirrhosis, and hepatocellular carcinoma, that progressively impair liver function and contribute to nearly 2 million deaths annually, accounting for about 4% of global mortality. Conventional medicine controls disease progression and complications, but often does not address metabolic imbalance or overall systemic health. In contrast, an integrative approach combining Ayurveda, Yoga, and Naturopathy addresses metabolic disturbances, enhances detoxification, and supports hepatic regeneration. Ayurvedic hepatoprotective formulations such as Arogyavardhini Vati, Livamrit Advance, and others comprising Phyllanthus niruri, Tinospora cordifolia, Picrorhiza kurroa, Boerhavia diffusa, Andrographis paniculata, and Phyllanthus, along with yogic practices including Kapalbhati and Anulom-Vilom and naturopathic measures like therapeutic diet and liver packs, have been shown to improve liver function and systemic well-being. For instance, two cases of liver cirrhosis were successfully treated using integrated approach comprising Ayurvedic interventions such as Vardhman Pippali Karma, Arogyavardhini Vati, Punarnavadi Kvatha, and herbal formulations, together with mild Virechana and regulated Pathya Ahara, showed marked reductions in serum bilirubin and liver enzymes, improvement in serum albumin, and significant clinical recovery. Similarly, a patient with alcoholic liver disease treated with NABB Swarasa, Arogyavardhini Vati, Phalatrikadi Kashaya, Patolakaturohinyadi Kashaya, and dietary regulation exhibited notable improvement in liver parameters and symptoms, demonstrating enhanced hepatic function. These findings indicate that integrative management provides a holistic, safe, and effective strategy that complements conventional therapy, addressing both liver pathology and systemic health, and offers superior outcomes in chronic hepatic disorders.

[183] Gyan Samvaad: Scaling of Instruction Fine-Tuning Datasets for Yoga via Interactive Chatbot

Rajat Verma, Vriti Sharma, Tarun Sharma, Venkatapathy Subramanian, and Rohit Saluja (IIT Mandi)

Abstract

The integration of traditional Indic knowledge systems into modern artificial intelligence emphasises the importance of cultural preservation and motivation among AI researchers and cultural preservationists. This requires the development of high-fidelity, domain-specific datasets. This research presents YogaIFT600, an IFT dataset on Yoga prepared in two phases. The first phase involves the systematic curation of 200 gold-standard question-answer pairs by recognised Yoga and Sanskrit subject-matter experts from yoga-based manuscripts. The second phase involves developing the Gyan Samvaad, a conversational chatbot that collects diverse user conversations, which are subsequently processed and refined by experts to expand the IFT dataset to 600 QA pairs. This expert-guided, user-enhanced pipeline ensures the resulting dataset is both technically robust and domain-accurate. By bridging the gap between expert knowledge and real-world user interaction, Gyan Samvaad provides a scalable dataset for developing specialized Instruct AI models. We have evaluated Instruct Models on the test set of YogaIFT600 and observed a 6.8% increase in Token-F1 score after QLoRA finetuning of the best-performing model.

[188] Quantum Contextual Entropy in Human Cognition: A Density-Matrix Model of Emotional Cognitive Interference

Dr. Vibhav Narayan Singh, Dr. Oshin Dixit (IILM University)

Abstract

Classical models of human cognition and decision making often fail to explain contextual effects, moreover they are very context dependent, order dependent, and emotionally biased. While quantum probability models have provided successful explanations for several cognitive anomalies, most existing approaches focus primarily on probability amplitudes and measurement outcomes. Neglecting the psychophysical and cognitive components that might have an effect on the overall contextual development. In this work, we propose a novel framework that introduces quantum

entropy as a central quantity for modeling cognitive uncertainty and emotional interference, which further effects the overall decision making and Cognitive states which are represented by density matrices in a Hilbert space of mental observables, while emotional contexts are modeled as quantum channels inducing decoherence and entropy changes. We define a cognitive entropy measure based on von Neumann entropy and demonstrate how emotional influences increase uncertainty and reduce cognitive coherence. The proposed framework naturally accounts for order effects, preference reversals, and ambiguity under emotional load, thus affecting the heuristics and everyday decision making.

[193] Sensor-Level Oscillatory Modulation During Jalandhara Bandha with Internal and External Breath Retention: An EEG-Based Study

Dharma Thobhani (IIT Mandi)

Abstract

Jalandhara Bandha is a classical yogic throat lock described as contracting the throat and pressing the chin firmly against the chest during breath retention (kumbhaka). This posture mechanically engages the anterior neck region, which contains major vascular, autonomic, and endocrine structures, and may influence cerebral hemodynamic and cortical excitability. However, its electrophysiological correlates remain insufficiently characterized. In this study, we investigated sensor-level spectral power changes during internal retention, external retention, and resting state. We recorded EEG from six healthy participants. Power spectral density was computed using EEGLAB and FieldTrip, and band-limited power was extracted for delta (1–4 Hz), theta (4–8 Hz), alpha (8–13 Hz), beta (13–30 Hz), and gamma (30–40 Hz). Power values were log-transformed (dB). Within-subject contrasts were evaluated using cluster-based permutation testing with 1000 Monte Carlo randomizations (cluster-level $\alpha = 0.05$, corrected). Compared to the rest, external breath retention significantly reduced posterior alpha power (8-13 Hz, 15 electrodes, cluster-level $p = 0.001$) and theta-alpha power (6-12 Hz, 11 electrodes, $p = 0.001$). Internal retention similarly reduced alpha power (12 electrodes, $p = 0.011$) and theta-alpha power (17 electrodes, $p = 0.014$). Significant clusters were predominantly distributed over centro-parietal and occipital regions. No significant differences were observed in delta, theta, beta, or gamma bands for either contrast. Direct comparison between internal and external retention revealed no statistically significant cluster-corrected differences across frequency bands (all $p > 0.05$). These findings demonstrate that breath retention during Jalandhara Bandha suppresses posterior alpha oscillations relative to the resting state, suggesting reduced resting-state cortical synchronization and altered neural dynamics during controlled breath retention.

[195] The Therapeutic Potential of Gayatri Mantra: A Multidimensional Synthesis of Psychological, Cognitive, and Neurophysiological Recovery

Pragya Bargoti, Vedpriya Arya (Patanjali Herbal Research Division, Patanjali Research Foundation, Haridwar)

Abstract

Rising levels of anxiety, chronic stress, and cognitive decline have intensified the search for culturally grounded, non-invasive approaches to recovery and mental well-being. As conventional interventions continue to show limitations in addressing these complex and multidimensional challenges, attention has increasingly shifted toward integrative practices rooted in traditional knowledge systems Within this context, the Gayatri Mantra emerges as a multidimensional modality influencing psychological, cognitive, and physiological domains of human functioning. Research consistently shows that regular GM practice contributes to emotional regulation and stress reduction across diverse populations, including high-performance individuals and those undergoing clinical recovery. Across these demographics, the integration of traditional chanting with modern neurophysiological monitoring such as EEG and fMRI has revealed a consistent trend toward emotional regulation and stress reduction. This is further confirmed by improvements in cognitive markers like memory and attention, as well as favorable shifts in biomedical indicators including heart rate variability and inflammatory responses. Collectively, the findings suggest that culturally grounded practices promote holistic recovery and improved quality of life, with enhanced attention, faster reaction time, and better memory performance. Neurophysiological findings revealed emotional-awareness related brain

activation, increased gamma and beta activity, reduced galvanic skin response, and lower inflammatory markers. Although methodological quality varied across studies, the overall trend indicated positive multidimensional effects. Gayatri Mantra practice supports emotional stabilization, cognitive enhancement, and aspects of physiological regulation, positioning it as a promising integrative tool for stress and recovery-oriented mental health interventions.

[202] Diurnal Modulation of Neural Oscillations During Meditation in Experienced Practitioners

Shaktija Mishra and Ramajayam Govindaraji (IIT Mandi)

Abstract

Classical contemplative traditions propose that early-morning meditation enables deeper cognitive-affective regulation, yet empirical neurophysiological evidence comparing time-of-day effects remains limited. Prior research indicates that meditation modulates large-scale oscillatory activity associated with attention, self-regulation, and thalamo-cortical integration. Circadian rhythms influence cortical excitability and cognitive performance, suggesting that neural responses to meditation may vary across the day. To evaluate differences in oscillatory brain dynamics between early-morning and afternoon meditation in experienced practitioners. Fifty meditators with ≥5 years of regular practice completed two EEG sessions using a 64-channel ANT Neuro system: an early-morning session (04:00–05:00AM) and an afternoon session (12:00–13:00PM). Each session included open-eye meditation and a matched open-eye resting baseline. Participants avoided stimulants, maintained stable sleep, and followed standard EEG preparation procedures. Data was processed using a custom EEGLAB/Fieldtrip pipeline. Meditation–rest contrasts were assessed using cluster-based permutation statistics with multiple-comparison correction (1,000 permutations; $\alpha < 0.05$). Early-morning meditation produced widespread significant modulation across frequency bands. Delta(decrease), theta, alpha, and theta–alpha ranges showed extensive clusters ($p < 0.001$) spanning frontal, central, parietal, and occipital regions. Beta and gamma bands also exhibited significant clusters ($p < 0.01$), primarily over frontal and central areas, consistent with enhanced top-down control reported in experienced meditators. In contrast, afternoon meditation yielded no significant clusters in delta, beta, or gamma bands ($p > 0.05$). Significant theta and alpha effects ($p < 0.01$) were spatially restricted to posterior regions.

[203] Using SSVEPs to Investigate Continuous Attention: Linking Neural Entrainment to Behavioral Performance

Ruchi Singh, Vaibhav Tripathi (IIT Gandhinagar)

Abstract

Steady-State Visually Evoked Potentials (SSVEPs) index continuous attentional engagement via frequency-specific neural entrainment. This study examined the relationship between SSVEP amplitude and behavioral performance, alongside intrinsic oscillatory and aperiodic dynamics. EEG was recorded from 20 participants performing a continuous flicker task (13.85, 25.71, 36 Hz) with target detection, and resting-state data were also acquired. SSVEP power showed a consistent negative correlation with reaction time (RT) across frequencies (13.85 Hz: $r(110) = -0.19$, $p = 0.043$; 25.71 Hz: $r(115) = -0.24$, $p = 0.008$; 36 Hz: $r(113) = -0.24$, $p = 0.009$), indicating faster responses with stronger entrainment. Alpha power did not relate to RT ($r(318) = 0.05$, $p = 0.350$), but negatively correlated with SSVEP amplitude ($r(318) = -0.11$, $p = 0.046$), as did peak alpha frequency ($r(318) = -0.14$, $p = 0.011$). The aperiodic exponent positively correlated with RT ($r(318) = 0.12$, $p = 0.029$) and SSVEP amplitude ($r(318) = 0.19$, $p = 0.001$). These findings establish SSVEP amplitude as a robust marker of attention–behavior coupling, modulated by intrinsic neural dynamics.

[206] Neurocognitive Advantage of Musical Training: Ancient Indian Textual Evidence and Its Convergence with Contemporary Neuroscience - A Systematic Review and Theoretical Framework

Vaishnavi Rajagopalan Anand, Arnav Bhavsar (IIT Mandi)

Abstract

Recent years have seen an increase in neuro-scientific research on musical training and its direct connection to improved cognitive function. However, the origins of this idea can be found in ancient Indian treatises that existed for several centuries before contemporary empirical research. Sophisticated understandings of how disciplined musical practice (sādhanā) cultivates heightened faculties of memory (smṛti), concentration (dhāraṇā), emotional state of being (bhāva) based on aesthetic flavour (rasa), and aesthetic sensitivity and sharpness through sustained engagement with tonal systems (svara), rhythmic frameworks (tāla), and melodic modes (rāga) are articulated in classical Indian texts such as the Nāṭyaśāstra of Bharata Muni, the Saṅgītaratnākara of Śārṅgadeva, and verses from the Vedas and Upaniṣads. Neuroscientific research on musicians is overwhelmingly confined to Western classical practitioners. Studies on Indian music address only passive rāga listening effects. There are very few neuroimaging studies that have examined the brains of trained Indian classical musicians, in comparison to novice learners and non-musicians — a critical lacuna in cognitive neuroscience and ethnomusicology. This paper reviews Western neuroimaging literature and its cultural limitations, looks for evidence of intuitive neurological understanding in ancient Indian musicological texts, and suggests a theoretical framework for the first systematic neuroscientific study of the brain of an Indian classical musician. Systematic empirical investigation will aid in the establishment of these ancient principles within contemporary scientific frameworks.

[213] Integrative Ayurvedic Management of Post–traumatic stress disorder: A Case Report

Dr.Vaishali R Chaudhari, Dr.Swagata Tavhare (Dr. D Y Patil College of Ayurved & Research Centre,Pimpri, Pune)

Abstract

Post-traumatic stress disorder (PTSD) is a mental disorder that arises in a person who has been exposed to distressing events. The estimated lifetime prevalence for women is approximately 10-12% and for men 5-6%. In the present case, a 75-year-old female patient presented with symptoms of flashbacks of traumatic events, negative thoughts, and irritable sleep disturbance and was diagnosed with post-traumatic stress disorders as per DSM-IV Criteria. Its management was planned with the integrative treatment comprising ayurvedic panchakarma like oleation, sudation, shirodhara (dripping herbal oil on forehead) with Satvavajay (psychotherapy) and daiwavyapashraya (spiritual healing). This intervention treatment showed a reduction in sprint scale from 17 to 8 and there was also an improvement in symptoms Hence integrated ayurvedic management has shown effectiveness in the management of PTSD.

[214] Comparative Effects of Nādānusandhāna and Deep Relaxation Technique on Heart Rate Variability: A Within-Subject Repeated-Measures Study

Kondi Amrutha Ramamurthy, Sourabh Suman, Sufiya Parveen, Ramajayam Govindaraji (IIT Mandi)

Abstract

Stress-related autonomic imbalance is increasingly observed in young adults, highlighting the need for simple, evidence-based relaxation strategies that enhance parasympathetic regulation. Yogic techniques such as Nādānu-sandhāna (A-U-M chanting), described in classical texts like the Haṭhayo-gapradīpikā and Yoga-sūtras, and the Deep Relaxation Technique (DRT) have individually demonstrated beneficial effects on heart-rate variability (HRV), stress, and emotional regulation. However, comparative evi-dence within the same participants remains limited. This pilot study was conducted in five healthy adults (18–40 years) using a counterbalanced within-subject design. Each session included a 5-minute baseline, 20-minute intervention, and 5-minute post-intervention recording. Lead-II ECG (1000 Hz) was analysed for RMSSD, pRR50, LFnu, HFnu, and the LF/HF ratio. Paired-samples t-tests were used to compare HRV outcomes during practice with baseline. Both Nādānusandhāna and DRT significantly increased RMSSD and HFnu and decreased LFnu and the LF/HF ratio ($p < 0.05$), indicating enhanced va-gal

modulation and reduced sympathetic dominance. pRR50 showed no significant change. Frequency-domain shifts during practice compared with baseline were greater in DRT than in Nādānusandhāna. Possible mechanisms include prolonged exhalation and laryngeal resonance during chanting, slow diaphragmatic breathing with pulmonary stretch-receptor activation, reduced hypothalamic–pituitary–adrenal activity, and modulation of limbic and default-mode networks. Both techniques produced immediate autonomic improvements, suggesting low-cost, accessible stress-management tools. Larger studies with longer fol-low-up and EEG-based brain–heart interaction analyses are needed to clarify the durability, neural correlates, and clinical relevance of these effects.

[215] Immersive Mindfulness: How AR/VR Changes the Mechanisms of Attention, Presence, and Stress Regulation.

Aditya Adhikari, Ria Gurdatta, Sonali Aatrai (Shree Guru Gobind Singh Tricentanary University)

Abstract

The phenomena of stress and anxiety increasingly become more common in both modern online and academic settings and the need to find an effective and accessible solution, though engaging, mental health interventions is on the rise. Mindfulness-based interventions have been extensively apparent to be effective in facilitating emotional regulation and reducing stress; nevertheless, the traditional audio-guided mindfulness meditation exercises tend to be highly tasking on self-regulated attention that is prone to mind-wandering, loss of engagement and dropout especially among new practitioners. New technology of augmented reality (AR) and virtual reality (VR) presents immersive and interactive systems that can potentially mitigate these limitations by providing extraneous aid to attentional focus, better sensory involvement and improved experiential presence. Though recent findings indicate a potential ability of immersive and mindfulness intervention to curb a number of cognitive and motivational obstacles inherent in the traditional format of mindfulness training, a coherent synthesis of their psychological importance and cognitive processes is still wanting.

[216]Purusha and the Problem of Self: Revisiting Sāṃkhya in Contemporary Consciousness Studies

Shivani Sharma (Central Sanskrit University Delhi)

Abstract

The problem of the self remains a foundational concern in contemporary consciousness studies. While prevailing cognitive and neuroscientific approaches often interpret selfhood as a constructed or emergent property of neural processes, classical Sankhya philosophy advances a rigorously dualistic ontology that sharply distinguishes pure consciousness from mental structures. This paper revisits Sāṃkhya's theory of self to contribute to current philosophical debates on subjectivity, awareness and identity. The Sāṃkhya Kārikā characterizes Purusha as pure witnessing consciousness. Purusha is the seer, mere seeing, intrinsically pure and inactive, yet appearing to observe mental modifications. In contrast, Prakriti, constituted by the three guṇas—sattva, rajas and tamas—evolves into buddhi, ahamkara and manas, collectively forming the antaḥkaraṇa. The empirical sense of "I" is thus identified with ahamkara, not with pure consciousness. Sāṃkhya locates existential and psychological disturbance in misidentification between Purusha and Prakriti. Through erroneous superimposition, the witnessing consciousness appears bound to pleasure, pain and agency. The dynamic model of triguṇa further clarifies fluctuations in cognitive and affective states. Mental clarity, agitation and inertia are properties of Prakriti, while consciousness remains unchanged. This layered ontology resonates with contemporary distinctions between minimal self and narrative self, while challenging reductive physicalist accounts that equate consciousness with brain processes. By positing awareness as ontologically independent and irreducible, Sāṃkhya provides a philosophically coherent and non-materialist account of subjectivity. Re-examining Sāṃkhya within modern consciousness discourse reveals a sophisticated solution to the self-problem: the self as pure witness distinct from cognitive constructs, enriching cross-cultural philosophy of mind.

[219] Wellness Through Play: A Mixed Method Study of a 5-Day

Dramatherapy Intervention

Ishmeet Kaur (Rekhi Foundation for Happiness)

Abstract

Dance Movement therapy has been proven to be effective for reducing interpersonal anxiety and for improving quality of life (Dewan & Tara, 2023; Mogili et al., 2024). However, it has not been paired with play and embodiment as tools to improve mental well-being. This study examines the outcomes of a five-day drama and movement therapy intervention on mental well-being, anxiety, and emotional distress. This was conducted with six participants who voluntarily joined this programme in Chandigarh. Through the five days, participants met for a 2 hour- session that utilised games, role-play, clay, and other such modalities to facilitate emotional expression and change. Quantitative findings revealed significant improvements in both anx-iety and mental well-being. The State Anxiety mean scores calculated using STAI decreased from a mean of 49 pre-intervention to 41 post-intervention. The mean scores calculated using Warwick-Edinburgh Mental Well-being Scale (WEMWS) scores increased from 45.5 to 52.33, indicating enhanced well-being. This was in line with the qualitative data where participants reported experiences of calmness, confidence, belonging, and the ability to be vulnerable in a safe environment. Participants highlighted increased connection with themselves and others. It is easy to conclude that drama and movement therapy can be a promising intervention for enhancing resilience, emotional safety, and interpersonal connection in small group contexts.

[SS9_P1] Conscious Communications in the Age of AI

Mani Maheshwari

Abstract

The increasing integration of Artificial Intelligence (AI) in communication has enhanced efficiency but has also contributed to mechanistic and emotionally detached interactions, particularly in leadership contexts. This paper explores the concept of *Conscious Communication* as a human-centered leadership approach rooted in Indian Knowledge Systems, specifically the Vāk theory described in the Rigveda. The paper argues that modern communication practices primarily focus on external expression while neglecting internal clarity, intention, and emotional alignment. Drawing upon the four levels of Vāk—Parā, Pashyanti, Madhyama, and Vaikhari—it proposes a framework in which authentic communication originates from conscious intent before manifesting as spoken expression. Through leadership feedback scenarios, the study illustrates how conscious communication fosters psychological safety, trust, employee engagement, and organizational resilience, whereas reactive communication contributes to disengagement and reduced productivity. The paper further highlights the relevance of integrating ancient contemplative wisdom with modern leadership practices in the AI era. It concludes that conscious, intent-driven communication is essential for creating humane, ethical, and high-performing workplaces where authentic human connection remains central despite technological advancement.

Special Session 13:

SS13: Patanjali		
June 4, 2026 17:00-19:00 Venue: Hall A		
Session Chair: Dr. Kanak Soni		
Time	**Speakers**	**Events**
17:00-17:10	Dr. Kanak Soni	**Opening Remarks**
17:10-17:35	Dr Anurag Vashney	**Invited talk-1**
17:35-18:00	Dr Ashwani Thakur	**Invited talk-2**
18:00-18:25	Dr. Kanak Soni	**Invited talk-3**

18:25-18:50	Dr. Ishu Arora	**Invited talk-4**
18:50- 19:00		**Closing Remarks** by session chair

Special Session 14:

SS14: Consciousness-Aware AI for Mental Health: Integrating Brain Signals, Meditation, and Machine Learning		
June 4, 2026 17:00-19:00 Venue: Hall B		
Session Chair: Dr. Sushil Chandra		
Time	**Speakers**	**Events**
17:00-17:10	Dr. Sushil Chandra	**Opening Remarks**
17:10-17:40	Dr. Shobhika	**Invited Talk-1**
17:40-18:10	Dr. Sushil Chandra	**Invited Talk-2**
18:10-18:40	Dr. Ramajayam Govindaraji	**Invited Talk-3**
18:40-18:50		**Closing Remarks** by session chair

Theme of the session:

The rapid rise of mental health challenges across the world demands innovative and interdisciplinary solutions. Artificial Intelligence has already begun to transform healthcare, yet most current AI systems focus primarily on behavioral data and clinical records. There is a growing need to explore deeper dimensions of human cognition and consciousness in order to develop more holistic mental health technologies. This special session proposes to explore the emerging concept of Consciousness-Aware AI, which integrates brain signal analysis, meditation-based cognitive practices, and machine learning techniques to support mental wellbeing. Recent advances in EEG and neuro-sensing technologies have enabled researchers to study brain patterns associated with stress, attention, emotional regulation, and meditative states. At the same time, meditation practices such as mindfulness and Rajyoga have demonstrated measurable effects on neural activity, emotional balance, and resilience. By combining these insights with modern machine learning and AI models, it is possible to design intelligent systems capable of recognizing mental states, predicting emotional imbalance, and providing personalized mental health interventions. This special session will bring together researchers, psychologists, neuroscientists, meditation practitioners, and AI experts to discuss how consciousness-oriented approaches can enrich the development of next-generation mental health technologies. Topics of interest include brain–computer interfaces for mental health monitoring, AI models for detecting stress and emotional patterns from neural signals, the impact of meditation on brain dynamics, ethical aspects of consciousness-aware systems, and the development of AI tools that promote psychological resilience and wellbeing. The session aims to create a collaborative platform for interdisciplinary dialogue, encouraging innovative research that bridges technology, neuroscience, and contemplative practices. By integrating insights from meditation traditions with advanced AI and neurotechnology, the session aspires to contribute toward the development of human-centered, ethical, and consciousness-informed AI solutions for mental health care.

Day 3- June 5, 2026

Chaturthi, Jyeshtha, Krishna Paksha, Vikram Samvat 2083 - Friday

Morning Session

Time	Event	Session Chair	Venue
6:15-7:15	**Yoga Session**	Jahnava Sundari	Yoga Room
7:30-8:30	Breakfast		Lawn
8:30-9:10	Keynote Talk 9: **Topic: Seeing all Philosophy, Science, Mathematics and Technology etc. through the eyes of Indian Raga Music** **Speaker: Pandit Ajoy Chakrabarty**	Dr. Archi Banerjee	Auditorium
9:10-9:50	Keynote Talk 10: **Topic: Brain Implants, AI and Biophysics** **Speaker: Prof. Dimitris A. Pinotsis**	Prof. Laxmidhar Behera	Auditorium
9:50-10:30	Keynote Talk 11: **Topic: Neural Noise, Quantum-Like Dynamics, and Testable Markers in Single Neurons** **Speaker: Prof. Partha Ghose**	Dr. Pushpendra Singh	Auditorium
10:30-10:40	Tea break/Networking		Foyer
10:40-11:20	Keynote Talk 12: **Topic: Performance as Metaphor and Technique** **Speaker: Prof. Shekhar P Seshadri**	Prof. Partha Ghose	Auditorium
11:20-12:00	Keynote Talk 13: **Topic: Musical Biofeedback and Virtual Embodiment: Modulating Mind, Body, and Social Interaction** **Speaker: Prof. Pieter-Jan Maes**	Prof. Laxmidhar Behera	Auditorium
12:00-13:00	Panel Discussion 3: **Elevated Consciousness for Nation Building**	Prof. Ganti S. Murthy	Auditorium
13:00-14:00	Lunch break		Lawn

Panel Discussion 3

Title: Elevated Consciousness for Nation Building

Moderator: Prof. Ganti S. Murthy, IIT Indore, IKS National Coordinator

Date: Jun 5, 2026

Timing: 12:00-13:00

Venue: Auditorium

Panelists:

1. **Prof. Ganti Murthy** (National Coordinator, IKS-MoE & Professor, IIT Indore)
2. **Prof. Sisir Roy** (Honorary Visiting Professor & Homi Bhabha Fellow, NIAS, Bangalore)
3. **Dr. Abhishek Ghosh** (Dean, Faculty of Dharma Studies, Somaiya Vidyavihar University, Mumbai)
4. **Prof. Shekhar P Seshadri** (Former Director, NIMHANS)
5. **Mahamahopadhyaya Bhadreshdas Swami ji,** Sanskrit scholar and an ordained monk of the Bochasanwasi Akshar Purushottam Swaminarayan Sanstha (BAPS)

Day 3- June 5, 2026

Chaturthi, Jyeshtha, Krishna Paksha, Vikram Samvat 2083 - Friday

Afternoon Session

Time	Event	Session Chair	Venue
14:00-15:00	Invited Talk 2: **Topic: From Mind Mapping to Consciousness Mapping: An Indian Knowledge Systems Perspective** **Speaker: Mr. Mahesh Lohar**	Prof. Varun Dutt	Auditorium
	Invited Talk 3: **Topic: Topic: Flourishing and Consciousness** **Speaker: Prof. Mala Kapadia**		
	Invited Talk 4: **Topic: Clinical Evidence of Panchamahabhuta-Based Therapies in Mind-Body Disorders** **Speaker: Dr. Kanak Soni**		
15:00-17:00	Competition_Final Round (Music, Sanskrit & Yoga)	Dr. Archi Banerjee, Dr. P Nirmal Harish, Dr. Krishna Panda, Mr. Satyam Tiwari	Auditorium
15:00-19:00 (In Parallel)	Special Session 15: **Re-reading Indian Cosmology Today: Purāṇic and Siddhāntic Perspectives in Dialogue with Modern Science (No 7)**	Dr. Venketeswara R. Pai and Dr. V Ramanathan	A10-1A
	Special Session 16: **Theory of Quantum Emotion (TQE): Quantum Emotion: Exploring Coherence in Mind, Brain, Consciousness and Digital Identity (No 14)**	Dr. Mahesh Sakharam Lohar	A10-1B
	Special Session 17: **Exploring Consciousness: Bridging Science, Philosophy, and Indian Knowledge Systems for an Inclusive and Sustainable Society (No 16)**	Dr. Pooja Gupta & Dr. Vikas Kumar Saxena	CCE Mini Auditorium

15:00-17:00 (In Parallel)	Key Thematic Special Session on **Gita and its relevance to Personal and Professional Excellence_3**	Prof. N. Ravichandran	CCE Conference hall
	Special Session 18: **Sound, Movement and Awareness: Mind Body Practices in Indian Music and Dance (No 12)**	Dr. P Nirmal Harish	Hall A
	Special Session 19: **Reincarnation, OBEs and Afterlife communication**	Prof. Kunal Mooley & Prof. Laxmidhar Behera	Hall B
	Regular Session 12: **Track 13: Cognitive Science and AI_2 (Theme A)_2 + Track 8: Contemplative Psychology (Theme B)_8**	Dr. Ramana Vinjamuri, Dr. Tharun Reddy Bollu & Dr. Richa Chopra	Hall C
	Regular Session 13: **Track 5: Brain Computer Interface and Application_1 (Theme A)_10**	Prof. Ram Bilas Pachori	CnP 1 (Hall D)
	Regular Session 14: **Track 2: Sanskrit_2 (Theme B)_4 + Track 14: Mega Hz Signal and Nanobrain (Theme C)_6**	Dr. Krishna Panda, Dr. Pushpendra Singh & Dr. Rama Jayasundar	CnP 2 (Hall E)
17:00-17:45	**Session:** Role of IKS in innovation from IIT Mandi Catalyst & **Announcement of winners of IKS startup challenge**	Prof . Dipankar Deb	Auditorium
17:30-19:30	Poster presentation /High Tea	Dr. P Nirmal Harish	Foyer
17:30-18:30	Invited Talk 5: **Dr. Willy Colier (Artinis Medical Systems)**	Prof. Varun Dutt	Hall A
	Invited Talk 6: **Dr. Martijn Schreuder (ANT Neuro)**		
	Invited Talk 7: **Dr. Shubhajit Roy Chowdhury** (iHub, IIT Mandi)		
19:30-21:30	Gala Dinner and Sankirtan		Lawn

Special Session 15:

SS15: Re-reading Indian Cosmology Today: Purāṇic and Siddhāntic Perspectives in Dialogue with Modern Science		
June 5, 2026 15:00-19:00 Venue: A10-1A		
Session Chair: Dr. Venketeswara R. Pai and Dr. V Ramanathan		
Time	**Speakers**	**Events**
15:00-15:10	Dr. Venketeswara R. Pai and Dr. Sumanta Rudra	**Opening Remarks**
15:10-16:10	Dr. V Ramanathan	**Keynote Talk 1**

	Prof. R N Iyengar	**Keynote Talk 2**	
	Prof. M D Srinivas	**Keynote Talk 3**	
16:10-18:50	**Authors**	**Contributory Paper Presentations**	**Paper ID**
	Dr. Atharv Kadam, Dr. Nilima Dharkhar	Revisiting Swapna (Dreams) in Ayurveda Through the Lens of Cognitive Neuroscience: Toward an Integrative Model of Consciousness and Prognosis	474
	Lochan Jolly, Sujata Alegavi, Archana Belge, Jitendra Chavan, Amit Maurya	Reviving Ancient Indian Astronomy through Modern Tools for Experiential-Learning	452
	Punit Bhalla, Laxmidhar Behera	Mathematics as Mediator: Reconstructing the Dialogue Between Purāṇic and Siddhāntic Cosmos	440
	Punit Bhalla, Pandu Santhoju, Laxmidhar Behera	The value of “ghaṭikā” in the Bhāgavata Purāṇa: An exploratory study	267
	Rohit Dasrapuria	The Śaṅku in Indian Astronomy: Determining Directions, Latitude, and Declination	172
	Pandu Santhoju, Prof Laxmidhar Behera, Dr. Venketeswara R. Pai	Reconstruction of the Simplified Epoch-Based Longitude Calculations from Sūryasiddhānta in the light of Vivaraṇa commentary of Parameśvara	166
	S. Govindkrishna, Ramesh Vasudeva Rao	Tattvas and Quantum Fields : A Comparative Analysis of Causal Evolution in Vedic Cosmology and Modern Physics	128
18:50-19:00		**Closing Remarks** by session chairs	

Theme of session:

Bridging Ancient Indian Space Science with Modern Astronomy to someone trained in modern science, ancient Indian descriptions of the universe (found in the Puranas and Siddhanta/Jyotisha texts) might seem like confusing myths or fairy tales. Some parts even seem to contradict each other. This workshop is designed to change that view. We aren’t looking at these ancient texts as just religious stories, but as logical and organized systems of thought based on real-world observations. We want to show that ancient wisdom doesn't have to fight with modern science. Instead, it can offer fresh ideas and "missing pieces" to our current understanding of the universe. We want to avoid two extremes:

I. Believing religious ideas blindly without questioning and
II. Dismissing everything ancient just because it isn't "modern science."

We want to explore how these traditions can expand our understanding of reality—going beyond what our five senses usually tell us. We aim to clear up the confusion between different ancient texts and see how they can work together with modern discoveries. In short, we are trying to bring scientists and traditional scholars together to see how these "two worlds" can learn from each other to create a bigger, clearer picture of the cosmos.

[474] Revisiting Swapna (Dreams) in Ayurveda Through the Lens of Cognitive Neuroscience: Toward an Integrative Model of Consciousness and Prognosis

Dr. Atharv Kadam, Dr. Nilima Dharkhar (Dr. D Y Patil College of Ayurved Pimpri Pune)

Abstract

Contemporary neuroscience increasingly investigates the neural correlates of cognition, perception, and consciousness through experimental, computational, and theoretical models. Parallel to these advances, classical Ayurvedic literature offers a structured understanding of Swapna (dreams), viewing them as reflections of mental activity, constitutional tendencies, and prognostic indicators of disease. Methods: This conceptual study reinterprets the doctrine of Swapnavishayaka Arishta described in the Charaka Samhita within the framework of modern cognitive neuroscience. Ayurvedic dream classifications—particularly Bhavika (predictive) and Doshaja (disease-related)—were analytically correlated with contemporary concepts including REM sleep physiology, neural circuitry, sensory disengagement, memory consolidation, emotional regulation, and predictive processing models. Results: The analysis reveals notable conceptual parallels between Ayurvedic dream theory and neuroscientific findings. Doshaja dreams correspond to neurophysiological dysregulation affecting sleep architecture and limbic activation, while Bhavika dreams align with predictive coding mechanisms and interoceptive processing. The Ayurvedic emphasis on stored impressions (Samskaras) parallels hippocampal–cortical memory reactivation during REM sleep. Conclusion: An integrative neurophenomenological model bridges classical Ayurvedic insights with contemporary neuroscience, situating dream analysis at the intersection of consciousness studies, psychosomatic medicine, and translational research. This interdisciplinary approach offers new perspectives for clinical prognostication and future empirical investigation.

[452] Reviving Ancient Indian Astronomy through Modern Tools for Experiential-Learning

Lochan Jolly, Sujata Alegavi, Archana Belge, Jitendra Chavan, Amit Maurya (Thakur College of Engineering and Technology)

Abstract

The study of the cosmos has been one of the prime interests of human curi-osity since the formation of the first civilizations of the world, and in India, astronomy emerged as a profound scientific field closely laced with cultural practices and social evolution. Ancient Indian savants like Aryabhata, Varahamihir, Brahmagupta, Lallacharya, and Bhaskaracharya founded mathematical astronomy by combining real life observations with logical rea-soning and practical experimentation. Their landmark works, including Ary-abhata [1], delved into concepts such as Earth's sphericity, its rotational and orbital periodicities, positioning of planetary bodies, and orbital geometry and celestial reference systems. Today, this huge repository of knowledge offers more than historical in-sight, it provides a framework for creating new educational tools that bring together ancient science and modern technology. By bringing ancient astro-nomical principles into digital design platforms such as Fusion 360 and fabricating physical models using 3D printing, educators can create interactive, hands-on learning materials that make abstract concepts tangible and engag-ing to learners. These modern representations will not only help students visualize complex astronomical phenomena but also highlight the timeless rele-vance of ancient Indian scientific thought. This approach also agrees with the intent of NEP 2020, with learning from experience, encouraging critical thinking, and facilitating collaboration across disciplines. The present chapter thus illustrates how ancient Indian astronomy informs the design of modern educational tools and, in this manner, advances technological innovation and a deeper appreciation for India’s intellectual heritage and its continuing rele-vance to addressing contemporary scientific challenges.

[440]Mathematics as Mediator: Reconstructing the Dialogue Between Purāṇic and Siddhāntic Cosmos

Punit Bhalla, Laxmidhar Behera (IKSMHA Centre, Indian Institute of Technology Mandi)

Abstract

This study reconstructs the history of virodha-parihāra—the reconciliation of apparent contradictions—between Purāṇic cosmography and Siddhāntic astronomy (khagola–bhūgola), and proposes mathematics as their shared lingua franca. Perplexity about Purāṇic cosmology long predates modern science: early Siddhāntic astronomers already struggled with, and sometimes rejected, elements of Purāṇic world-models while still revering the Purāṇas as

theological authorities. A millennium of efforts at reconciliation—from Lalla's Śiṣyadhīvṛddhidatantra (8th–9th c. CE) to Jñānarāja's Siddhāntasundara (c. 1500 CE), which rereads Purāṇic claims through astronomical precision—reveals a durable hermeneutical practice within Sanskrit cosmology. Classical commentators often addressed "discrepancies" not by dismissal but by differentiating domains of interpretation, allowing a plural metaphysics of simultaneity. In this framework, the Purāṇic universe functions as a sacred theatre of location and relationship, oriented toward mokṣa, whereas the Siddhāntic universe operates as a predictive, dynamical system calibrated for calendrical and horological accuracy. Rather than opposing frameworks, they become complementary modes of cognition—darśana (vision, intuitive revelation) and gaṇanā (calculation, quantitative analysis)—each authoritative within its own pramāṇa-scope. The cosmos thus appears multilayered and pramāṇa-indexed, responsive to the consciousness of its knower. Focusing on the Bhāgavata Purāṇa, whose cryptic yet systematically quantitative cosmology remains understudied, the paper sketches an integrative model in which the Purāṇa supplies meaningful cosmic architecture, Siddhānta furnishes operational geometry, and mathematics mediates their dialogue. Such a synthesis highlights the Indian tradition's sustained effort to reconcile revelation and reason within a single, internally coherent epistemic

[267] The value of "ghaṭikā" in the Bhāgavata Purāṇa: An exploratory study

Punit Bhalla, Pandu Santhoju, Laxmidhar Behera (IIT Mandi)

Abstract

Concerning defining the various units of time represented in the Śrīmad- Bhāgavatam (SB), the ghaṭīkā has been described in intricate detail. Deriving the value of other time units stated therein depends upon ascertaining the value of the ghaṭikā. This paper delves into this description of the ghaṭīkā using linguistic analyses and tabulations of various experiments. Original English translations of the commentaries in Sanskrit and Bengali for verses from the SB, sourced from twelve esteemed ācāryas, offer valuable insight into both the nuanced usage of the Sanskrit language and the scientific temperament of these commentators. It is interesting to note that the commentators for the Bhāgavata- Purāṇa ascribe a value to the ghaṭikā to suggest a value of both 24 minutes and 30 minutes. The study does not seek to adjudicate between these conventions; rather, it documents the evidence for their coexistence and considers its implications for metrological clarity in Bhāgavata studies. It further notes that making unit-assumptions explicit can be useful in dialogues on Purāṇa–Jyotiṣaśāstrayor bhūgola–khagola virodha-parihāra, where apparent mismatches sometimes arise from differing conventions rather than substantive disagreement. It is hoped that establishing a clear, reproducible framework for these units may assist future work in assessing such issues more precisely.

[172] The Śaṅku in Indian Astronomy: Determining Directions, Latitude, and Declination

Rohit Dasrapuria (IIT Mandi)

Abstract

In the contemporary world , the determination of cardinal directions and geographic latitude relies on satellite-based Global Positioning Systems (GPS) and many complex instruments. However, in Indian astronomy , the same quantities were measured using minimal physical apparatus. Central among these instruments was the śaṅku (gnomon), a simple vertical rod whose shadow provided a direct observational interface between terrestrial space and solar motion. The śaṅku (gnomon) occupies a foundational role in Indian observational astronomy. It functioned as a geometric instrument capable of determining cardinal directions, local latitude (akṣāṃśa), solar declination, and day-length. There are references to astronomical instruments in various Indian works, from the Kātyāyana Śulbasūtra dated earlier than 350 BCE, the Siddhāntas like the Sūryasiddhānta, Āryabhaṭīya, Brāhmasphuṭasiddhānta, and later technical manuals like Yantraprakāśa. They describe systematic procedures for establishing the East–West line through simple shadow observations using a sankhu and computing latitude (akṣāṃśa) from equinoctial noon shadows, and estimating declination. In the present study, we experimentally reconstruct these classical methods using a perpendicular stick placed on a leveled surface. Empirical measurements of shadow length and direction were recorded over multiple observation sessions at multiple locations. From these data, true cardinal directions, local latitude and declination were determined and compared with modern GPS-derived values. The results demonstrate

that the śaṅku, when employed with careful geometric construction, yields remarkably accurate estimates of direction, latitude and declination, confirming the robustness of traditional Indian observational techniques. The results may become more accurate by applying the correction terms given in other works.

[166] Reconstruction of the Simplified Epoch-Based Longitude Calculations from Sūryasiddhānta in the light of Vivaraṇa commentary of Parameśvara

Pandu Santhoju, Prof Laxmidhar Behera (IIT Mandi), Dr. Venketeswara R. Pai (IISER Pune)

Abstract

The Sūryasiddhānta, regarded as the most authoritative among the Indian siddhāntas of classical jyotiṣa-śāstras, presents a comprehensive astronomical framework across its fourteen chapters, encompassing cosmology, geog-raphy, instrumentation, calendric, and planetary computations. The opening chapters offer foundational expositions on the mean and true motions of the planets relative to the zodiacal constellations, outlining both their kinematic behaviour and the corrective mechanisms necessary to obtain true longi-tudes. Following an overview of traditional time units—from vināḍi and nāḍi to larger epochs such as yuga, manvantara, and kalpa—the text enumerates the revolutions of the planets, including their mandocca, śīghrocca, and pāta cycles within a caturyuga. It then details the computational procedure for deriving mean longitudes using accumulated solar days elapsed (ahargaṇa) from the beginning of creation. To facilitate practical calculation, the Sūryasiddhānta introduces a simplified method that replaces the primordial epoch with more recent reference points such as the commencement of the 28th Kṛtayuga or Kaliyuga, using the planetary positions at these epochs as druvakas (fixed reference longitudes). Referring to the source text of the Sūryasiddhānta and to Śrī Parameśvara's Sūryasiddhānta-Vivaraṇa com-mentary, the present study examines this simplified computational scheme, formally reconstructing the algorithmic steps for deriving planetary longi-tudes using these later epochs. It further investigates alternative plausible druvakas and corresponding epochs, evaluating their suitability for consistent and practical longitude determination within the traditional siddhānta framework.

[128] Tattvas and Quantum Fields : A Comparative Analysis of Causal Evolution in Vedic Cosmology and Modern Physics

S. Govindkrishna (AugmentedSCM Pvt Ltd), Ramesh Vasudeva Rao (NAL (Retd.))

Abstract

This paper critiques the reductive classification of Vedic cosmology as purely mythological by demonstrating its rigorous, field-centric architecture. We argue that the 23 Tattvas described in the Bhāgavata Purāṇa and Bhagavad Gītā serve not as primitive elements, but a sequential set of Kṣetra (fields) whose workings correspond to the actual mechanisms of modern Quantum Field Theory (QFT). By analyzing the three primary causal chains—Prākṛta, Vikṛta, and Vaikṛta—we frame the evolution of the universe as a continuous process of Pariṇāma (transformation) from primordial potential (Kāraṇa) to manifest reality (Kārya). Our synthesis posits that the Pañcamahābhūtas function as the essential enablers for fundamental phenomena, including interaction dynamics, the recombination era, and stellar nucleosynthesis. Furthermore, we interpret the coordination of these fields by Abhimānī Devatās (presiding intelligences) as an ontological resolution to the "Fine-Tuning" problem, offering a model where universal stability is an experientially discovered configuration rather than a mathematical accident.

Special Session 16:

SS16: Theory of Quantum Emotion (TQE) Quantum Emotion Exploring Coherence in Mind, Brain, Consciousness and Digital Identity
June 5, 2026 15:00-19:00 Venue: A10-1B
Session Chair: Dr. Mahesh Sakharam Lohar

Time	Speakers	Events	
15:00-15:10	Dr. Mahesh Sakharam Lohar	**Opening Remarks**	
15:10-15:30	Padmshree Padmabhushan Dr.Vijay Bhatkar	**Keynote Address 1**	
15:30-15:50	Dr. Rohit Sharma	**Keynote Address 2**	
15:50-16:10	Dr Suvrokamal Dutta	**Keynote Address 3**	
16:10-18:20	**Authors**	**Contributory Paper Presentations**	**Paper ID**
	Dr. Neera Sharma, Dr.Shilpa Mestry, Mahesh Lohar , Dr.Vijay Bhatkar, et al.	The Chemistry of Emotions: An Integrative Neurochemical and Indian Knowledge Systems Perspective on Human Feelings	SS16_1
	Neha Satam, Nisargendru Bhatt, Manisha BoralePatil, Mahesh Sakharam Lohar	Navarasa and Neurochemical Regulation: A Transdisciplinary Consciousness-Based Model Integrating Indian Knowledge Systems and Affective Neuroscience	SS16_2
	Vijay Borle Patil, Shivang Mishra, Neha Satam, Mahesh Sakharam Lohar	Astrological Emotional Quotient (AEQ): A Birth-Chart-Based PsychometricFramework for Emotional Intelligence	SS16_3
	Roshni Patel, Ajit Padmnabh, Nisgendru Bhat, Neha Satam, Mahesh Sakharam Lohar, Dr. Vijay Bhatkar	Bhāva-Centric Communication Architecture: Integrating Field-Based Affective Dynamics, Semiconductor Cognitive Systems, and Consciousness Frameworks for Next-Generation Human–Technology Interaction	SS16_4
	Mahesh Sakharam Lohar, Dr. Shrikant Waghulkar, Neha Satam, Dr. Vijay Bhatkar	Bhava as a Pre-Cognitive Field of Consciousness: A Transdisciplinary Model of Emotional Emergence Integrating Indian Knowledge Systems and Quantum-Inspired Frameworks	SS16_5
	Dr. Shrikant Waghulkar, Dr. Vinayak Chandrakant Shitole, Dr. Swapnali Bhosale	A Collective Emotional Field Model (QEFM): A Theoretical and Mathematical Formalization of the Theory of Collective Emotion Integrating Indian Knowledge Systems, Consciousness Science, and the Digital Self	SS16_6
	Dr. Mahesh Sakharam Lohar, Dr. Shrikant Waghulkar, Dr. Neha Nandkishor Satam	From Chidābhāsa to Turīya: An Integrative Vedānta–ISLF Model of Consciousness Transformation and Sustainable Human Systems	SS16_7
	Dr. Mahesh Sakharam Lohar, Dr. Neha Nandkishor Satam	THEORY OF QUANTUM EMOTION (TQE): An Integrative Framework Bridging Indian Knowledge Systems, Quantum Consciousness Science, and the Digital Self	SS16_8
	Neha Satam, Mahesh Sakharam Lohar, Dr. Laxmidhar Behar,Dr. Vijay Bhatkar	Bhava-Sutra: A Consciousness Architecture Model Integrating Bhakti Ontology, Emotional Intelligence, and Sustainable Ecology	SS16_9
	Neha Satam , Mahesh Sakharam Lohar, Dr. Jayashree Suryawanshi, Dr. Tushar	From Vrittis to Emotional Fields: Re-examining Human Emotion through Indian Knowledge Systems and Reflective Inquiry	SS16_10

	Suryawanshi, Dr. Vijay Bhatkar		
	Satyam Tiwari, Rudrakshi Tomar and Neha Satam	Remote Photoplethysmography for Emotion Recognition: A Comprehensive Review Integrating Indian Knowledge Systems	SS16_11
	Amrita Trivedi, Dr.Rohit Sharma, Neha Satam, Mahesh Sakharam Lohar, Dr. Vijay Bhatkar	"Quantum Emotional Semiconductors (QES): Integrating Neural Coherence, Semiconductor Physics, and Artificial Intelligence for Emotionally EmbeddedComputing Systems"	SS16_12
	Santosh Mahadeo Mestry, Mahesh Lohar, Harshad Salunkhe	Reframing Net Zero through Organisation Consciousness: Integrating ESG, Triple Bottom Line, Corporate Emotional Index, and 5P Sustainability using an IKS-Informed Systems Model	SS16_13
	Rudrakshi Tomar, Satyam Tiwari, and Deepti Navaratna	Prana-Emotion Coupling in Sagarbha and Agarbha Pranayama: A Conceptual Review Through Indian Knowledge Systems	SS16_14
	Dr. Shilpa Mestry and Dr. Mahesh Lohar	Trikayee: Holistic Health Management System: Book Synopsis Presentation	SS16_15
18:20-18:50	Dr. Mahesh Sakharam Lohar	**Panel Discussion:** Emotion as a Fundamental Variable	
18:50-19:00		**Closing remarks** by the session chairs	

Theme of the session:

Current research on mind and brain has reached a critical inflection point. While neuroscience, psychology, and AI have made significant progress in mapping neural correlates and cognitive mechanisms, emotion remains inadequately theorized as a fundamental organizing variable. At the same time, digitalization has introduced a new human condition, where individuals simultaneously inhabit:

• Biological self
• Psychological self
• Digital identity

This has resulted in identity fragmentation, emotional volatility, attention collapse, digital addiction, and widespread mental distress—particularly among younger generations. The Theory of Quantum Emotion (TQE) proposes that emotion functions as a coherent informational field mediating:

• Neural dynamics
• Conscious experience
• Digital behavior
• Individual and collective identity

Drawing from quantum coherence principles and Indian Knowledge Systems (Sāṃkhya, Yoga, Vedānta, Guna theory, Turiya), TQE positions emotion as the missing link connecting mind, brain, consciousness, and digital identity. This Special Session offers a focused academic platform to examine TQE as a unifying framework and to initiate a structured research trajectory aligned with MBCC's core mission.

[SS16_1] The Chemistry of Emotions: An Integrative Neurochemical and Indian Knowledge Systems Perspective on Human Feelings

Dr. Neera Sharma (I Smart life Foundation, Delhi University), Dr.Shilpa Mestry (I Smart life Foundation), Mahesh Lohar (I Smart life Foundation, Savitribai Phule Pune University), Dr.Vijay Bhatkar (Multiversity), et al.

Abstract

Emotions are complex experiential phenomena emerging from coordinated neurochemical, neural, cognitive, and consciousness-level processes. Advances in neuroscience and chemistry have revealed that emotions arise from complex neurochemical processes in the brain involving neurotransmitters, hormones, and neural networks. In parallel, Indian Knowledge Systems (IKS), including Ayurveda, Yoga, and Vedanta, conceptualize emotions as functional states of the mind shaped by Gunas, Doshas, and awareness of consciousness. Life Informatics further provides a systems-level framework in which emotions may be understood as bio-informational states arising from interactions between molecular signaling, cognitive processing, and conscious observation. Understanding emotional states through neurochemistry provides insight into mental health, emotional regulation, and therapeutic interventions. Here, we present detailed biochemical and mechanistic analysis of emotional regulation, focusing on major neurotransmitters and neurohormones including dopamine, serotonin, norepinephrine, gamma-aminobutyric acid (GABA), oxytocin, and cortisol. The molecular pathways underlying neurotransmitter biosynthesis, synaptic transmission, and neuromodulation are examined, along with their association with specific emotional states. This paper also presents an integrative framework that connects modern neurochemistry with traditional Indian perspectives on emotions. By aligning neurochemical signaling with Ayurvedic concepts of Gunas, Doshas, and Chitta Vrittis, this study positions emotions as multi-layered life-information processes rather than isolated biochemical reactions. These traditions describe emotions in terms of Gunas (Sattva, Rajas, Tamas), Doshas (Vata, Pitta, Kapha), and fluctuations of consciousness (Chitta Vrittis). Ayurvedic practices such as diet regulation, meditation, yoga, and ethical living influence neurochemistry indirectly by stabilizing mental states. We also explained Pharmacological agents act on the biochemical substrate (Annamaya kośa), modulate neural signaling (Prāṇamaya kośa), and thereby reshape emotional experience (Manomaya kośa), demonstrating a hierarchical but inseparable relationship between brain chemistry and emotion. By examining the molecular basis of emotions alongside Ayurvedic and consciousness-based models, the paper highlights convergences between ancient wisdom and modern science. Such an integrative approach offers a holistic understanding of emotional regulation, mental health, and human consciousness.

[SS16_2] Navarasa and Neurochemical Regulation: A Transdisciplinary Consciousness-Based Model Integrating Indian Knowledge Systems and Affective Neuroscience

Neha Satam (I Smart life Foundation, IIT Mandi), Nisargendru Bhatt (IIT Jodhpur), Manisha Borale Patil (I Smart life Foundation), Mahesh Sakharam Lohar (I Smart life Foundation, Savitribai Phule Pune University)

Abstract

The study of human emotions using traditional disciplinary approaches is well known, with modern neuroscience explaining the phenomenon in terms of the workings of neurochemistry, while Indian Knowledge Systems (IKS) explain human emotion in terms of organized manifestations of consciousness. In this research, I argue for a trans-disciplinary paradigm that integrates modern neuroscience and IKS by positing neurochemistry as the physical manifestation of deeper emotions of consciousness. Using the concepts of Navarasa as explained in the Natyashastra, the research outlines a multi-dimensional model that links the concept of Rasa (emotions), Bhava (states of consciousness), neurochemistry, energy flow, behavior, and consciousness. Modern affective neuroscience recognizes neurotransmitters like dopamine, serotonin, oxytocin, and cortisol as primary regulators of emotions (Panksepp, 1998; Damasio, 1999). These models tend to be highly reductionist and neglect aspects such as subjectivity and consciousness, which cannot be accounted for biologically. The concept of Navarasa in classical Indian texts describes a structured taxonomy of human emotions that emanates from the underlying cognitive and affective states, called bhavas. The ISLF Consciousness-Neurochemical Integration Model (CNIM) is introduced to classify emotions in terms of three interconnected levels: the ontological level (consciousness and bhava), the biological level (neurochemistry and neural functions), and the behavioral level (action and samskara). Another key concept in this study is harmonious chemicality, defined as the equilibrium state of neurochemical functioning consistent with balanced Navarasa manifestation. Thus, neurochemical dysfunction can be reinterpreted as disruption

in rasa manifestation, indicated by neurochemical imbalance. Another theoretical proposition put forward in the current paper is the Navarasa Neurochemical Recursive Loop, an integrative cycle whereby consciousness determines emotions, which determine neurochemistry, action, and samskara patterns, which eventually inform consciousness. It corresponds well with modern concepts of neuroplasticity and predictive coding (Friston, 2010; Doidge, 2007). Philosophical basis is further elaborated by drawing on the Devi Sukta from Rig Veda (10.125) that considers consciousness as an active universal field of energy. Neurochemistry in this context is explained as the localized expression of the said field. This provides a non- reductionist perspective on the experience of emotions. Applications of this framework are considered from the angle of regulatory approaches based on Indian knowledge systems. Such an approach includes the use of pranayama, meditation, seva and creative expression as the means of influencing neurochemical processes through conscious efforts (Brown & Gerbarg, 2005; Davidson et al., 2003). In this capacity, the paper represents a theoretical contribution to the consciousness studies literature. This contribution is made in the form of providing an integrative paradigm that combines traditional psychological approaches of India with the insights of neuroscience.

[SS16_3] Astrological Emotional Quotient (AEQ): A Birth-Chart-Based Psychometric Framework for Emotional Intelligence

Vijay Borle Patil (I Smart life Foundation), Shivang Mishra (Kanpur University), Neha Satam (I Smart life Foundation, IIT Mandi), Mahesh Sakharam Lohar (I Smart life Foundation, Savitribai Phule Pune University)

Abstract

Emotional intelligence (EQ) has emerged as a central determinant of human functioning across personal, relational, and organizational domains. Established frameworks such as the Bar-On EQ-i 2.0 and the Mayer-Salovey-Caruso ability model conceptualize EQ as a measurable construct shaped primarily through environmental conditioning, cognitive-emotional learning, and developmental experiences. However, a fundamental question remains insufficiently explored within contemporary psychological science: What determines the baseline emotional architecture of an individual prior to environmental influence? This paper introduces the Astrological Emotional Quotient (AEQ), a novel psychometric instrument developed by I Smart Life Foundation (ISLF), which derives a structured, multi-dimensional emotional intelligence profile from Jyotish (Vedic astrology) natal birth chart parameters. AEQ proposes that emotional intelligence is not solely an acquired capability but is rooted in a pre-configured probabilistic emotional baseline, encoded at the moment of birth. The theoretical foundation of AEQ is articulated through the Quantum Emotion Framework, which draws a conceptual parallel between quantum probability fields and emotional potential states. Within this framework, emotional tendencies are understood as existing in a state of superposition—multiple latent emotional possibilities—prior to their stabilization into consistent behavioral patterns through interaction with environment and consciousness. This leads to the formulation of the Emotional Baseline Hypothesis (EBH), which posits that individuals are born with a structured distribution of emotional predispositions that bias, but do not determine, their emotional responses. The AEQ instrument operationalizes six Jyotish-derived parameters into a standardized 100- point scoring system: (1) Moon Rashi strength as the core emotional baseline indicator; (2) Moon Nakshatra classification as the primary determinant of emotional patterning and dependability; (3) 4th Bhava condition as an index of emotional security and inner stability; (4) 7th Bhava condition as a measure of relational emotional intelligence; (5) elemental balance (Fire, Earth, Air, Water) as a macro-temperamental structure; and (6) Life Path number as a cross-system emotional thematic anchor. These parameters collectively generate both a composite AEQ score and five sub-dimensional scores corresponding to contemporary EQ constructs: self-awareness, empathy, relational intelligence, stress management, and emotional expressiveness. To demonstrate the discriminant validity and structural robustness of the AEQ model, this study presents five detailed case analyses derived from real natal charts: (1) Structured Regulator, characterized by high emotional control and stability with limited expressiveness; (2) Silent Observer, marked by deep internal emotional processing and observational intelligence; (3) Adaptive Empath, exhibiting dynamic emotional flexibility and context- sensitive relational engagement; (4) Expressive Connector, defined by high emotional fluidity and interpersonal attunement; and (5) Wise Regulator, representing a mature integration of emotional sensitivity, discipline, and relational wisdom. Despite comparable socio-cultural environments, these cases demonstrate significantly different AEQ profiles, supporting the hypothesis that emotional intelligence manifests as structurally

distinct emotional architectures rather than a unidimensional scale. Methodologically, the study adopts a mixed-methods approach combining qualitative case study analysis with a proposed quantitative validation framework. Planned validation includes correlation of AEQ scores with EQ-i 2.0 measures, inter-rater reliability testing across Jyotish practitioners, and predictive modeling for relational outcomes, stress resilience, and leadership behavior. The paper also introduces the concept of the AEQ–EQ Gap Index (ΔEQ), representing the difference between predicted emotional potential and observed emotional performance, thereby providing a novel metric for developmental assessment. The AEQ model contributes to three major domains. First, it advances consciousness studies by offering a probabilistic model of emotional emergence aligned with non-deterministic frameworks. Second, it bridges Indic knowledge systems and modern behavioral science, reframing Jyotish as a structured symbolic data system encoding psychological priors. Third, it provides practical applications in leadership development, relationship counseling, education, and personalized emotional growth frameworks. Importantly, this research does not position astrology as deterministic causation but as a probabilistic modeling framework that encodes latent emotional tendencies. The model remains fully falsifiable: AEQ would be invalidated if it fails to demonstrate statistical correlation with established EQ measures, inter-rater consistency, or predictive utility. In conclusion, the Astrological Emotional Quotient (AEQ) represents a novel interdisciplinary contribution that reconceptualizes emotional intelligence as a pre-configured, probabilistic emotional field interacting dynamically with lived experience. By shifting the paradigm from "emotion as acquired skill" to "emotion as emergent structure," AEQ opens new pathways for research, measurement, and application in the science of human behavior and consciousness.

[SS16_4] Bhāva-Centric Communication Architecture: Integrating Field-Based Affective Dynamics, Semiconductor Cognitive Systems, and Consciousness Frameworks for Next-Generation Human–Technology Interaction

Roshni Patel (I Smart life Foundation), Ajit Padmnabh (I Smart life Foundation), Nisgendru Bhat (IIT Jodhpur), Neha Satam (I Smart life Foundation, IIT Mandi), Mahesh Sakharam Lohar (I Smart life Foundation, Savitribai Phule Pune University), Dr. Vijay Bhatkar (I Smart life Foundation, Multiversity)

Abstract

Modern communication networks, which include not only digitized networks but also advanced technologies of artificial intelligence and the advent of quantum infrastructure, are all based on information flow, information processing, and information optimization. Although modern communication has reached levels of efficiency, effectiveness, and precision previously unheard of, it cannot overcome the fundamental limitations concerning its ability to transmit and receive emotions, or experiential dimensions of interaction between people. Under current scientific frameworks, including both affective computing and cognitive neuroscience, emotions are understood and constructed as the internal states of individuals based on various behavioral cues, physical indicators, and even probabilistic estimates. Such understanding does not take into account the context-specific, relationship- based, and co-constructive nature of human experiences. A critical gap exists in the literature concerning this topic, and this paper seeks to fill this gap by presenting a Bhāva-Centric Communication Architecture (BCCA), a completely new interdisciplinary paradigm that reconceptualizes emotion (Bhāva) in Indian Knowledge Systems (IKS) as a field-based, relational, and emergent process rather than an internal, isolating one. As part of classical Indian aesthetics and philosophy, especially in terms of Rasa theory discussed by Abhinavagupta, Bhāva is a concept that does not belong only to the person himself but is actually something that emerges because of shared experiences between people. This point resonates with current developments in fields such as embodied and enactive cognition, where experience is considered something emergent as a result of the organism interacting with its environment, rather than something internalized. On this basis, the paper goes further to develop a field-based affective dynamics framework, theoretically inspired by the ideas of non-local correlation, superposition of potential states, and witness dependent stabilization from quantum theory, yet clearly separating these from actual quantum phenomena. The key ideas within such a theoretical framework include: (1) Non-local affective dynamics, postulating that affective states are capable of demonstrating non-local relations outside immediate physical contact; (2) Coherence of relation, where bonded people have consistent affective states, akin to correlated systems; and (3) Witness dependent

stabilization, where meta-awareness or witness effect (Drishtra) is central to stabilization and transformation of affective states. It should be noted that the above ideas are not equivalent to those in quantum physics, but rather serve as a theoretical framework for relational affective dynamics. To translate this paradigm shift into a workable framework, the following architectural layers have been suggested: (1) the biological layer, which consists of physiological correlates of Bhāva via multimodal biosignals involving neural chemistry, autonomic nervous system, and interoception; (2) the semiconductor cognitive layer, which involves BECs that can convert biosignals into affective representations of high dimensionality; (3) the communication layer, which is responsible for transmitting Bhāva states encoded via BECs through sophisticated networking facilities, with possible implementation of quantum computing networks in the future; (4) the digital self interface layer, which entails using VR and AR technologies to represent the Bhāva state as an avatar and control it; and (5) the consciousness integration layer based on the I Smart Life Foundation (ISLF), which includes witnessing, reflecting, and sublimating experiences so as to ensure evolution through technological intermediation. One of the important advancements associated with this work pertains to the introduction of Bhava Vector Models (BVMs). In particular, the latter denotes a formalized representational model in which emotions are described through multidimensional vectors comprising multiple physiological, contextual, and relational parameters. Contrary to traditional approaches to representing emotions which rely on categorizing them into specific groups or using scalar notation, the proposed Bhava Vector Models help capture their complex nature and fluidity along with relational dependencies, allowing for a more sophisticated mapping of physiological data to experiential states. In addition, the notion of the Digital Self (Chaitanya Avatar) is explored as an interface that arises between the individual human consciousness and technological environments. Contrary to static avatars or symbolic representations, the digital self represents an active extension of one experiential identity and is modulated through the use of real-time Bhava inputs. As such, it becomes possible to create shared affective environments that would enable individuals to participate in collective experiential fields, thus facilitating innovative forms of intercommunication that transcend linguistic barriers. Additionally, the paper discusses a multifaceted research approach, including conceptual modeling, hardware prototyping, affective field dynamics simulation, and experimentation through studies of interpersonal synchronization and biosignals correlation. Special attention is given to quantifiable markers, such as heart rate variability (HRV), neuro-oscillatory patterns, and hormonal changes, thus ensuring the empirically substantiated nature of the introduced framework. The significance of this study is manifold. For communication technologies, the Bhāva transmission could contribute to mitigating semantic errors and improving communicational efficacy. In education, Bhāva-based learning environments could help in promoting engagement and experience-based learning. For health care, monitoring Bhāva dynamics would provide insights into emotional imbalances, thus allowing for timely preventive measures. For conflict resolution, affective field mapping could serve as a tool for identifying hidden conflicts and developing effective mediation tactics. Overall, the developed framework will promote the emergence of consciousness-based technological ecosystems, where systems are not only efficient but also aligned with the experiential and ethical aspects of human beings. Conclusion: The Bhava-centric Communication Architecture can be understood as a paradigm shift away from the information-centric model towards the experience-centric one. The integration of principles of Indian knowledge systems, cognitive science, and advanced technology in this work opens up exciting possibilities of an entirely new model of human-technology relationship which, apart from being intelligent, would also become conscious and empathic. Indeed, the ability to share lived experience through conscious technology will be the hallmark of a future digital civilization.

[SS16_5] Bhava as a Pre-Cognitive Field of Consciousness: A Transdisciplinary Model of Emotional Emergence Integrating Indian Knowledge Systems and Quantum-Inspired Frameworks

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Abstract

Present day theories of emotion, largely drawn from neurobiological and cognitive approaches, have made considerable progress in terms of scientific research of emotional experience. Nonetheless, their development faces the same issue, which is their incapability of addressing the ontological foundation of experience. Emotions are

always taken as basic occurrences that occur through neuronal activity or cognition and behavior. But then there remains an important issue, which is the very foundation of emotions in themselves. This is an even more general problem, especially in consciousness studies, which have been criticized because they cannot satisfactorily address subjectivity. This essay argues for an alternative paradigm through the introduction of the concept of Bhava, which arises from the Indian Knowledge System (IKS). The definition of Bhava relies on various ancient texts such as the Nāṭyashastra, Vedanta, Saṃkhya, and Kashmir Shaivism. While Bhava may be regarded as a precursor to emotion, this paper asserts that it is a priori ontological reality—a processual state that is dynamic and generative in nature. In this sense, Bhava can neither be classified as a mere affective state nor can it be considered as foundational to the emergence of emotion. In an attempt to express this view in a language that can be easily understood by today's world, the essay constructs a transdisciplinary approach wherein concepts of IKS can be placed in conversation with certain principles of structure taken from modern science, such as field theories, probabilistic structures, and non-linear dynamics. It must be noted that the employment of this scientific vocabulary is analogical and interpretive rather than deterministic, thus providing opportunities for bridging traditional epistemologies and modern paradigms of knowledge. The central premise of this approach is the division of Sakṣi and Draṣṭa. While Sakṣi refers to a witnessing consciousness that does not engage in action but only facilitates the revelation of experience, Draṣhṭa refers to the interpretative role played by consciousness in understanding experience. Through this differentiation, it is possible to establish an accurate explanation of how experience gets structured without assigning causality to consciousness. This study focuses on the intermediary function of the Antaḥkaraṇa, which consists of Manas (co-ordination of sensory perception), Citta (memory), Ahamkāra (identification with personal identity), and Buddhi (perception and discrimination), as the functional process for Bhāva to organize itself into coherent experience states. In this context, the idea of Saṃskāra is viewed differently as a conditioning structure that makes some experience structures more likely to stabilize based on probabilities rather than as a causative factor in Bhāva organization. In this way, emotion or Rasa can be seen as the unfolding and stabilization of potential within Bhāva through recursive interactions between awareness, conditioning, and structuring processes. In continuation of this ontological and processual approach, the study further applies the concept of Swa Dhim Jīvan presented by ISLF philosophy. As per this model, human development proceeds in terms of moving progressively away from identity-driven processing towards alignment with Sākṣī. "Swa" means self-awareness, and hence refers to greater identification with Sākṣī, & ;Dhim &; means intelligence, and hence refers to the development of Antaḥkaraṇa, and finally "Jīvan" means expression and hence refers to expressing stabilized Bhāvas. The paper then goes on to develop a notion of Digital Bhāva in order to consider the effect on the dynamics of experiential processes within the context of technological mediation. Modern digital systems are characterized by the presence of frequent stimuli which are algorithmically designed and interact with processes of attention and memory, thus affecting conditioning mechanisms and the stability of experiential processes. Though the theory developed is largely hypothetical in nature, the paper offers possible avenues of future exploration that include developing phenomenological tools to measure Bhāva sensitivity, exploring neuroscientific correlates of witnessing, and exploring the effect of digital environments on the structuring of experiences. The goal of such explorations would be not to objectivize the phenomenon of Bhāva, but to develop another avenue of conversation regarding it. In conclusion, the current study seeks to propose a theory on the emergence of emotions by giving precedence to Bhāva and arguing that the primacy accorded to emotions is misplaced and should be subsumed under the more basic phenomenon of Bhāva. The research paper adds to the body of knowledge in consciousness studies by providing an innovative framework of discussion based on Indian Knowledge Systems within the context of interpretation.

[SS16_6] A Collective Emotional Field Model (QEFM): A Theoretical and Mathematical Formalization of the Theory of Collective Emotion Integrating Indian Knowledge Systems, Consciousness Science, and the Digital Self

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Abstract

The nature of emotion remains only partially explained within existing psychological and neuroscientific frameworks, which primarily interpret it as a product of neural and cognitive processes. This study proposes the Collective Emotional Field Model (QEFM) as an integrative and analytical framework that reconceptualizes emotion

as a field-based phenomenon emerging from the interaction of multiple dimensions. Drawing from Indian Knowledge Systems, collective-inspired theoretical perspectives, and the contemporary influence of the Digital Self, the model positions emotional experience as an outcome of Consciousness Field, Antahkarana configuration, Samskara density, Observer awareness, and Digital influence. The study introduces a mathematical representation of emotional processes and aligns the conceptual framework with Structural Equation Modeling to enable empirical validation. It further incorporates principles such as emotional superposition, observer- dependent collapse, and relational entanglement to explain emotional variability and collective dynamics. The inclusion of digital factors extends the relevance of the model to modern contexts where emotional experiences are increasingly shaped by technological environments. The proposed framework contributes to bridging philosophical depth with analytical rigor and offers a structured foundation for interdisciplinary research in emotion, consciousness, and behavioral studies.

[SS16_7] From Chidābhāsa to Turīya: An Integrative Vedānta–ISLF Model of Consciousness Transformation and Sustainable Human Systems

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Abstract

The present study develops an integrative theoretical and analytical framework that bridges core constructs of Advaita Vedānta with an applied consciousness model under the ISLF paradigm. The research operationalizes key constructs such as Tādātmya (identity attachment), Chidābhāsa (reflected awareness), and Sākṣī (witness consciousness) to examine their structural relationship with sustainability orientation. Moving beyond purely descriptive literature, the study introduces a mathematical representation of consciousness transformation and aligns it with a Structural Equation Modeling (SEM) approach for empirical validation. The framework proposes that identity attachment acts as a constraining factor, reflected awareness as an enabling factor, and witness consciousness as a mediating mechanism that influences sustainable decision-making. Preliminary validation using pilot data indicates that Tādātmya negatively affects Sākṣī, while Sākṣī positively predicts sustainability orientation, supporting the mediation structure. The study contributes to consciousness research by translating philosophical constructs into measurable variables and establishing a process- based model of cognitive transformation. It also extends sustainability research by incorporating deeper internal awareness structures into behavioral analysis. The findings provide a foundation for future empirical studies and interdisciplinary research integrating Indian Knowledge Systems with modern analytical methodologies.

[SS16_8] THEORY OF QUANTUM EMOTION (TQE): An Integrative Framework Bridging Indian Knowledge Systems, Quantum Consciousness Science, and the Digital Self

Dr. Mahesh Sakharam Lohar (I Smart Life Foundation, Savitribai Phule Pune University), Dr. Neha Nandkishor Satam (I Smart Life Foundation, IIT Mandi)

Abstract

After more than a century of rigorous scientific exploration, the ontological basis of emotion continues to elude us. This paper presents the first-ever comprehensive theory called the Theory of Quantum Emotion (TQE). TQE proposes that human emotions are not only physiological but also a field-based phenomenon generated out of the ground of consciousness. The TQE theory is based on a unique synthesis of three streams: (1) Indian Knowledge Systems (IKS) involving the Antahkarana model of psychology (Manas, Chitta, Ahamkara, Buddhi); Spanda doctrine of Kashmir Shaivism and the Rasa theory of aesthetic consciousness; (2) science of quantum consciousness, including Orchestrated Objective Reduction (Orch-OR) of Penrose & Hameroff, idealist quantum paradigm of Amit Goswami, and heartMath's work on non-local coherence; and (3) emergence of the phenomenon of the Digital Self which refers to the limitless extension of human self via digital technology. This paper provides six fundamental propositions of TQE theory, introduces the AMPING Methodology, which is used as an operational and

transformative research model that emerged from the Mind Lab, broadens TQE into collective and organizational consciousness, and recognizes the Digital Self as a new horizon for immediate transdisciplinary research. This paper contends that the theory of TQE represents a paradigm shift in the study of emotion, providing insights for fields such as psychology, neuroscience, organizational studies, contemplative research, digital wellbeing, and human self-understanding.

[SS16_9] Bhava-Sutra: A Consciousness Architecture Model Integrating Bhakti Ontology, Emotional Intelligence, and Sustainable Ecology

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Abstract

In this paper, an integrative theoretical model entitled Bhava-Sutra is proposed to redefine Goloka, which is referred to as a metaphysical/ geographical phenomenon in texts such as the Srimad Bhagavatam and Brahma Samhita of Vaishnavism. Based on the teachings of the Gaudiya Vaishnavism philosophy through ISKCON and Rupa Goswami's theology, it is suggested in this thesis that the core of reality is Bhava (emotion as relational consciousness), not metaphysical or geographical existence. The primary hypothesis of this paper is that Goloka is an auto-organizational architecture of emotional consciousness, wherein everything represents one type of Bhava. As the primary dichotomy of Goloka, Radha represents Mahabhava (mother of emotional energy), while Krishna is the symbol of Rasa (relational field experience). Therefore, this dichotomy creates a cycle of generating emotional energy and experiencing relational fields, which is the main axis of the Bhava. Based on the ontological assumptions, the Bhava Formation Model (BFM) is adopted and developed in this paper to differentiate Goloka into several functional layers. Bhava Modulation Layer is occupied by Ashtasakhis whose main role is to act as regulators and designers of emotional communication in Goloka, thus controlling the relational dynamics in it. In addition, the paper considers another group of entities – Ashtamanjaris, mentioned in Gaudiya Vaishnava texts as egoless and intimate followers of Radha, representing subtle transmitters of fine Bhava. While the role of the Sakhis is to modulate emotional connections, the role of Manjaris is to transmit emotional experiences without distortion. Finally, Bhava Ecology Layer presents an important and understudied aspect of Goloka ontology – ecological awareness. Such entities as Kamadhenu (a sacred cow), cows in general, Vrinda Devi, and Yamuna River are considered as stabilizers of the emotional field, rather than only mythological characters or symbols. Based on the ontology developed above, we propose to understand "Cow Consciousness" as a non-transacted nurturing system maintaining emotional balance and harmony of relations. In the Participation Layer, Gopas & Gopis are interpreted as units of participatory consciousness. They participate actively in the creation of experiential reality using Bhava, demonstrating an open-ended approach to the nature of relational existence. In the Governance Layer, Goswami represents self-governance of consciousness in which self- mastery of senses makes personal experience congruent with the larger Bhava field. Narada belongs to the Communication Layer and works as a multi-dimensional activator of Bhakti across multiple dimensions of existence. The main contribution of this paper is the extension of Bhakti ontological framework into its applied version, called Bhava-Sutra. The three most important interpretative integrations in this extension are the following: First of all, Ashtasakhis should be understood as Emotional Intelligence Archetypes of Seva, representing functional competencies in the form of relational communication, assertive ethics, aesthetic awareness, and nurturing coordination. However, those competencies are not seen as expressions of egoic psychological characteristics but as manifestations of seva-bhava (relational intelligence). Firstly, the second stage involves the inclusion of Navarasa into the emotional spectrum as a way to understand the process of interpretation. In particular, Navarasa refers to the pre- bhāva layer, which denotes the raw emotional frequency, which then gets polished and elevated to a more advanced form within the Bhakti system. Secondly, in the third part, the concept of Bhava Transmission Micro-Dynamics is elaborated by means of a functional interpretation of Ashtamanjaris. While being committed to their traditional role of ego-less conveyors of Bhava, this work interprets their function as a micro-level process of continuity, polishing and resonance within a relational system. The final step involves the development of a multi-layered Bhava-Sutra process of forming the emotional consciousness: Bhava starts from its original energetic aspect (Radha), which then turns into a relational experience (Krishna), gets modulated (Sakhis), polished (Manjaris), stabilized (ecological consciousness), expressed (participatory agents), regulated (Goswami principle), and expanded (Narada). The result shows how emotion is not

a subjective feeling but rather an ontological force of relating. The ramifications of the framework outlined above have far-reaching implications for several fields. From an organizational standpoint, there is an opportunity for a leadership model that relies on an emotional fit as opposed to command and control approaches. Sustainability research will benefit from the inclusion of a consciousness-based ecological philosophy that rests on non-transactional compassion. Education can use the framework to establish experiential and relational learning models based on IKS. In summary, the paper presents a view of Bhava as more than a feature of consciousness; it is the architecture of consciousness that renders it relational, experiential, and sustainable. The Bhava-Sutra framework therefore provides an interesting contribution to the new discourse on consciousness studies that brings together the traditional Bhakti philosophy and system theory.

[SS16_10] From Vrittis to Emotional Fields: Re-examining Human Emotion through Indian Knowledge Systems and Reflective Inquiry

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Abstract

The scientific study of emotions in psychology and neuroscience continues to remain conceptually fractured, despite the wealth of literature that exists today. In the dominant psychological paradigm prevailing within the Western world, emotion is described as a form of affective state resulting from the interaction between physiological process, neural process, cognitive process, and sociocultural environment. This conceptualization of emotion is responsible for many of the advances we have made in the area of emotional regulation, emotional behavior, and psychological well-being; but this model tends to conceive of emotions as specific psychological events occurring within the individual organism as distinct entities. Such definitions have proven helpful in developing empirical knowledge about emotions but do not capture their complexity. Indian Knowledge Systems (IKS) provide another conceptual platform on which one may understand emotional experience. In the classical Indian schools of Yoga, Vedanta, and Ayurveda, the mind itself is conceptualized as a field of consciousness, or chitta. Vrittis are fluctuations of the mind, or mental and emotional activities that occur within the field of consciousness, affecting our perception, our cognition, and the way we relate to the world. Emotional tendencies are also influenced by our deeper impressions or samskaras formed as a result. This paper seeks to reconsider emotions as fields of consciousness in dynamic processes. Through the integration of knowledge from Indian systems and psychological research, this study defines emotional fields – enduring emotional orientations that influence cognition and behavioral actions within relationships over extended periods of time. These fields can be formed via repetitive experience, reflective thought and relational interactions. The study employs a reflective case inquiry based on the lived experience of a psychotherapist and researcher on consciousness who has extensive experience with children, family and development interventions. This case inquiry focuses on the formation of a deep maternal emotional field which is not biologically oriented. While biological factors and maternal hormonal activity as well as attachment theory have been used to explain the experience of maternal emotion, lived experience and cultural perspectives demonstrate that the state of maternal emotion can be attained in other ways through relational activity. In the Indian tradition, the notion of Matrutva or maternal consciousness encompasses the wider idea of motherhood and goes beyond the physiological concept of maternity. Matrutva implies a particular generative principle expressed in caring, protecting, feeding, and nourishing other beings with a view to helping them develop and thrive. The maternal emotional orientation is common to various cultural archetypes and religious practices where maternal presence implies not only the power of procreation but a nurturing force that helps sustain life. This paper offers an analysis of the emergence of a maternal emotional orientation as a result of extensive work done with children and teenagers during years of professional practice. For many years of engaging in educational and therapeutic practice, including working in the context of cognitive development initiatives and youth development programs, an emotional pattern based on the ideas of protection, development, and nurturing was revealed. It was not linked to any biological characteristics but rather helped make decisions and pursue certain scientific and social projects dedicated to helping young people develop their cognitive functions and personality. This particular emotional field led me to reflect on the nature of maternal emotions themselves. The emotional states in question seemed not merely to function as a result of biological triggers but as a generative field of consciousness, which was influencing my perception and relating style

as well as my creative actions in the world. Through reflective observation, difficult emotions resulting from my lack of biological motherhood were being increasingly connected with an understanding of the fact that maternal emotions could also express themselves through other ways of nurturing and development. In terms of Indian Knowledge Systems, such an experience could be considered a case of stabilization of specific emotional vrittis as a result of relational interaction and intentionality. Repeated engagement with the children, coupled with reflective observation and socially beneficial activities, might result in organizing certain emotional dispositions into relatively stable forms which would serve as an orientation in my everyday life actions. Thus, maternal emotions become transformed from biological to conscious and generative processes. In doing so, there is much to be gained by examining how emotions can affect other realms of human existence, such as creativity, morality, leadership, and transformation. Emotional fields have the potential to explain many of the areas of inquiry that are usually studied in the context of contemplative approaches, such as dreams, intuition, and transformations in one's life direction that occur via emotional introspection. Additionally, conceptualizing emotions as fields, rather than discrete states, opens up avenues for exploring innovative approaches to emotional education and therapy. Emotional practices inspired by Indian Knowledge Systems, which include reflection, relationships, and emotional orientation, may serve as a pathway for attaining emotionally transformative experiences that enhance psychological well-being and social contribution. Based on these insights gained through the reflective inquiry, it is possible to think about applying models of emotional field cultivation in contexts like psychotherapy, education, and leadership development. These models may assist people in understanding the impacts of prolonged emotional states on perception, imagination, and decision making at various developmental stages in life. Unlike offering a theory, this paper introduces a conceptual framework to understand emotions as transformative fields in human consciousness. Through combining reflective inquiry with philosophical insights from Indian Knowledge Systems, the paper offers an opportunity for a broader inter-disciplinary discussion on the subject matter. This will pave the way for more studies seeking practical strategies to cultivate constructive emotional fields to facilitate personal transformation. "This framework paves the way for further studies that seek to formulate practical frameworks to cultivate constructive emotional fields in psychotherapy, education, and consciousness studies." "Sometimes reality teaches us that profound emotions do not occur only because of biological occurrences, but they arise as generative forces in consciousness."

[SS16_11] Remote Photoplethysmography for Emotion Recognition: A Comprehensive Review Integrating Indian Knowledge Systems

Satyam Tiwari (IIT Mandi), Rudrakshi Tomar (National Institute of Advanced Studies, IISC, Bengaluru) and Neha Satam (I Smart life Foundation)

Abstract

The emergence of Remote Photoplethysmography (rPPG) has facilitated the acquisition of physiological signals from videos of the face. It offers a non-contact method for estimating vital signs such as heart rate (HR), heart rate variability (HRV), and respiratory rate (RR). Simultaneously, affective computing is striving towards accurate emotion detection through physiological and multimodal features. However, the current literature is largely confined to employing western psychology-based taxonomy. As a result, several other unique theories and frameworks from Indian Knowledge Systems (IKS) are being neglected. This paper provides a systematic survey of three domains (i) contemporary techniques in signal extraction and processing of rPPG, covering handcrafted, blind source separation, and deep learning techniques; (ii) popular emotion recognition methodologies in the domain of physiological and multimodal signals; and (iii) IKS frameworks concerning emotions and physiology, namely Navarasa, Prakriti, Prana Vayu, Nadi Pariksha, Sattvika Abhinaya, and Tridosha. A novel theoretical framework has been presented for linking physiological biomarkers acquired via rPPG with the concepts of IKS regarding emotions and physiology. The review paper also discusses essential limitations in the current literature, particularly the paucity of Indian population-specific rPPG data, skin tone-based bias in signal extraction, and the unexplored potential of Navarasa as a taxonomy of emotion for deep learning classification.

[SS16_12] "Quantum Emotional Semiconductors (QES): Integrating Neural Coherence, Semiconductor Physics, and Artificial Intelligence for Emotionally EmbeddedComputing Systems"

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Abstract

Incorporating emotional intelligence into computational models continues to be a fundamental problem in the fields of neuroscience, artificial intelligence, and semiconductor technology. Modern-day AI systems have shown remarkable prowess in the realm of pattern recognition, inference, and prediction modeling; however, their incorporation of emotion has been mostly representative rather than essential. Emotion is merely encoded or classified via symbols or probabilities, whereas its incorporation does not occur within the materiality of computation itself. This leads to a significant disjuncture between biological intelligence and artificial computing systems. In this paper, an innovative inter-disciplinary paradigm called Quantum Emotional Semiconductors (QES) is proposed for the embedding of emotional coherence in semiconductor-based computing devices. This paper argues that emotions exist as information states that arise due to phase coherence in synchronous oscillatory activity in neural circuits in the brain. Using recent advances made in neural cognition research, emotions can be identified by phase synchronization, cross-frequency coupling, and minimization of entropy across large-scale neural circuits. These informational processes have certain characteristics of a quantum phenomenon, such as non-linearity, probability distribution, and decoherence. It is not suggested that there is any literal quantum computation in the brain, but this quantum model is used to describe emotional states. The QES framework applies the biological rules to semiconductor architectures through new technologies such as memristors and neuromorphic computing systems. Contrary to conventional semiconductor circuits and architectures relying on transistors for computation, the architectures allow for continuous state modulation, state-memory dependent conduction, and adaptability. The research proposes the Affective Conductance (AC) as the measured value indicative of emotional coherence in the computational substrates. Emotional states are represented in terms of conductance rather than data structures. The architecture involves three levels; Neuro-Coherence Acquisition Level, Semiconductor Encoding Level, and AI-Q Computing Level. Emotional states are quantified through a Real Time Emotional Coherence Index (RECI) calculated from physiological signals like electroencephalography, heart rate variabilities, and cross-frequency coupling. These coherence values will then be used in controlling the semiconductor parameters allowing emotions to affect computation. The study presents an experimental design that combines physiological measurements and neuromorphic hardware interaction. Preliminary models show that coherence-based systems are more stable and efficient compared to classical designs. Emotionally Modulated Quantum Stability (EMQS) is proposed in this study. The QES model holds transformative significance for the realms of affective artificial intelligence, mental health technologies, human-computer interaction, and consciousness studies. By reconceptualizing emotions as modulable by hardware changes, this research creates a new paradigm for emotion-informed computing.

[SS16_13] Reframing Net Zero through Organisation Consciousness: Integrating ESG, Triple Bottom Line, Corporate Emotional Index, and 5P Sustainability using an IKS-Informed Systems Model

Santosh Mahadeo Mestry (I Smart life Foundation., MIT (Management college) Pune), Mahesh Lohar (I Smart life Foundation), Harshad Salunkhe (MIT (Management college) Pune)

Abstract

The global pursuit of Net Zero emissions, particularly within energy-intensive sectors such as power generation, has largely been framed as a technological and financial transition. In the Indian context, this transition is further embedded within the national vision of Viksit Bharat 2047 and the commitment to achieve Net Zero by 2070. While frameworks such as Environmental, Social, and Governance (ESG) and the Triple Bottom Line (TBL) have emerged as dominant paradigms guiding sustainability transitions, their implementation remains uneven, fragmented, and often reduced to compliance-driven reporting. This paper argues that the limitation does not lie in the absence of frameworks, but in the absence of an integrating inner dimension—a consciousness-based orientation within organizations that governs how decisions are perceived, valued, and enacted. Building upon the foundational work presented in the baseline study , this research introduces and expands the construct of Corporate Emotion {CE} into a more comprehensive and systemically grounded concept termed the Collective Consciousness Field (CCF). Unlike

traditional interpretations of organizational behavior that treat emotions as peripheral or individual-level phenomena, the Corporate Consciousness Field is conceptualized as a collective, emergent property of organizational systems, reflecting shared ethical alignment, stakeholder sensitivity, temporal responsibility, and ecological awareness. It acts as an invisible yet measurable force that mediates the translation of ESG intent into actual sustainability outcomes. The central thesis of this study is that Net Zero transition is not solely an energy or financial problem, but a consciousness transition embedded within socio-technical, Corporate emotional systems. Organizations operating with higher alignment in their Organisation Consciousness and Collective Consciousness Field demonstrate stronger coherence between sustainability intent and execution, leading to improved ESG performance, reduced resistance to change, and more efficient mobilization of sustainable finance. To operationalize this construct, the study proposes a novel quantitative metric termed the Corporate Emotional Index (CEI). The index integrates five key dimensions: ethical coherence, stakeholder empathy, governance transparency, human emotional alignment, and long-term sustainability orientation. These dimensions are not arbitrarily defined but are derived through an interdisciplinary synthesis of ESG indicators, behavioral finance theory, organizational psychology, and principles from Indian Knowledge Systems (IKS). The formulation of CEI enables the measurement of what has traditionally remained intangible—namely, the quality of intent and awareness embedded in corporate decision-making. Methodologically, the study adopts a mixed-methods approach combining quantitative ESG data analysis, behavioral surveys, and qualitative case studies of leading Indian power sector organizations. Companies such as NTPC, Tata Power, and Adani Power are analyzed not only in terms of their ESG disclosures and financial performance but also through the lens of their Collective Consciousness Field, as inferred from governance practices, stakeholder engagement patterns, and strategic decision timelines. Statistical techniques, including regression modeling and structural equation modeling (SEM), are used to examine the mediating role of CCI between ESG adoption and financial outcomes. A key contribution of this research is the development of an integrated systems framework termed the Corporate Emotion–ESG Consciousness Integration Model (CEECIM). This model situates ESG and TBL within a deeper consciousness layer, proposing a causal flow from inner organizational alignment (Collective Consciousness Field) to external sustainability performance (ESG outcomes), which in turn influences financial efficiency and accelerates Net Zero alignment. The model bridges the gap between measurable sustainability metrics and the underlying behavioral drivers that determine their effectiveness. The study further enriches this framework through a structured integration of Indian Knowledge Systems. Concepts such as ṛta (cosmic order), dharma (ethical duty), and karuṇā (compassion) are mapped onto ESG dimensions, offering a culturally rooted yet universally applicable lens for understanding sustainability. Additionally, the Panchakosha model (five layers of human existence) is adapted to organizational systems, providing a multi-layered interpretation of corporate functioning—from physical infrastructure (Annamaya) to deeper states of awareness and purpose (Anandamaya). This integration not only enhances theoretical depth but also positions sustainability as a form of conscious conduct, rather than merely regulatory compliance. The findings of the study indicate that organizations with higher Collective Consciousness Index scores exhibit significantly better ESG performance, stronger investor confidence, and lower cost of capital. More importantly, these organizations demonstrate a reduced gap between sustainability commitments and actual implementation, suggesting that consciousness alignment plays a critical role in overcoming behavioral and institutional inertia. The research also highlights the role of digital technologies such as AI, IoT, and blockchain in enhancing ESG transparency, while emphasizing that technology alone cannot compensate for the absence of ethical and emotional coherence within organizations. From a policy perspective, the study recommends the incorporation of behavioral and consciousness-based metrics into ESG reporting frameworks such as SEBI's Business Responsibility and Sustainability Reporting (BRSR). It also calls for the development of transition finance instruments that account for organizational readiness at a behavioral level, rather than relying solely on financial indicators. For corporate leaders, the research underscores the need to cultivate emotional intelligence, ethical clarity, and long-term thinking as core competencies for sustainability leadership. In conclusion, this paper reframes the discourse on Net Zero by introducing a multi-dimensional, consciousness-integrated approach that connects inner organizational states with external sustainability outcomes. By bridging ESG, TBL, Corporate Emotion, and Indian Knowledge Systems within a unified analytical framework, the study offers both a theoretical advancement and a practical pathway for accelerating sustainability transitions in complex sectors such as power generation. The proposed Collective Consciousness Index and CEECIM model provide scalable tools for researchers, policymakers, and practitioners seeking to align economic development with ecological balance and human well-being.

[SS16_14] Prana-Emotion Coupling in Sagarbha and Agarbha Pranayama: A Conceptual Review Through Indian Knowledge Systems

Rudrakshi Tomar (National Institute of Advanced Studies, IISC, Bengaluru), Satyam Tiwari (IIT Mandi), and Deepti Navaratna (Manipal Academy of Higher Education, Manipal)

Abstract

Classical Indian texts lay out two primary methods of breath regulation: Sagarbha (“with seed” i.e, breath integrated with bija mantra, visualisation, and meditative elements) and Agarbha (”without seed” i.e, only breath control). This distinction, although the most fundamental taxonomic classification in the yoga corpus, is completely lacking in current pranayama research, resulting in unmeasured confounding variables in clinical trial design. This conceptual review reconstructs the Sagarbha–Agarbha framework from primary IKS sources and proposes the Sagarbha-Agarbha Differential Processing (SADP) model of prana-emotion coupling. The Gheranda Samhita (5.47–53) describes Sagarbha as the control of breath combined with the bija mantra (A-U-M), visualisation of deities, and imagery of the elements during the three phases of breathing. The Shiva Purana (Vayaviya Samhita, Uttara XXXVII.34) regards Sagarbha as ”a hundredfold superior” to Agarbha, a statement substantiated by the Mrigendratantra (Yogapada 28–29) given its unmatched ability to stabilise the mind. The theoretical foundation for this superiority is found in the Hatha Yoga Pradipika’s principal axiom (HYP 2.2): cale vāte calaṃ cittaṃ, niścale niścalaṃ bhavet which translated as- When the breath (vata) moves, the mind (chittam) moves. The Taittiriya Upanishad (Brahmananda Valli 2.3–2.4) provides the structural framework: Manomaya Kosha (mind-emotion layer of the body) constitutes the inner self of Pranamaya Kosha (breath-vital force), making the breath layer the natural access point for emotional modulation. The Shiva Swarodaya (vv. 50–62) correlates nostril dominance with emotional valence, Ida/left as cooling-parasympathetic and Pingala/right as activating-sympathetic, a correlation later substantiated by empirical studies. The suggested SADP framework suggests that there are two parallel processing pathways. The Agarbha pathway is unimodal: the rhythm of breathing changes Pranamaya Kosha, which has automatic effects that indirectly control Manomaya Kosha through the coupling of Prana and Manas. The Sagarbha pathway is multimodal: bija mantra adds respiratory entrainment (~6 bpm) and the cortical "mantra effect" visualisation engages default mode network suppression; and chakra-specific body focus (Sat Chakra Nirupana) constitutes a structured interoceptive curriculum, together engaging both koshas simultaneously. Neuroscience commentary on interoception, embodied cognition, and autonomic research serves as a supplementary layer that elucidates the IKS framework without providing confirmation to it. No empirical research has directly contrasted Sagarbha and Agarbha pranayama concerning emotional or autonomic outcomes. The SADP framework produces testable hypotheses and delineates a prioritised research agenda, encompassing a four-arm randomised controlled trial (RCT) incorporating heart rate variability (HRV), electroencephalography (EEG), and interoceptive accuracy metrics, thereby providing a theoretically robust foundation for the advancement of pranayama science.

[SS16_15] Trikayee: Holistic Health Management System: Book Synopsis Presentation

Dr. Mahesh S. Lohar & Dr. Shilpa Mestry (I Smart life Foundation)

Abstract

TRIKAYEE — Holistic Health Management is an original integrative framework pioneered by Dr. Mahesh S. Lohar through the I Smart Life Foundation that synthesizes Indian Knowledge Systems (IKS), Ayurveda, Yoga Darśana, Sāṃkhya philosophy, consciousness studies, and modern preventive health science into a unified and practical model of holistic living. The word Trikayee emerges from the Sanskrit roots Tri (three) and Kāya (dimensions/body), representing the three inseparable dimensions of human existence:

- Śarīra — the physical-biological body
- Manas — the mental-emotional system
- Cetanā — consciousness and witnessing awareness

The framework proposes that true health (Swastha) is not merely the absence of disease, but the conscious alignment and integration of these three dimensions.

This book presents a transformative approach to preventive and conscious health management through:

- Personalized nutrition and Āhāra wisdom
- Mind management through ManasYog
- Dinacharya and Ṛtucharya-based living
- Prakṛti and Vikṛti mapping
- Panchakosha and consciousness exploration
- Holistic assessment systems
- AI-assisted MindLab mapping and Shashwatanand architecture
- Integrated coaching and life-purpose alignment

The Trikayee model bridges ancient Indian wisdom with contemporary sciences including systems biology, psychoneuroimmunology, chronobiology, emotional intelligence, and consciousness research.

The book also introduces the ISLF's research-based 10-week holistic intervention model integrating:

- Personalized diet planning
- Lifestyle correction
- Breath and awareness practices
- Counseling and life coaching
- Digital and physical health mapping
- Consciousness-oriented preventive care

Research observations indicate significant improvements in physical, emotional, mental, and lifestyle well-being through this integrated methodology.

A unique contribution of the book is the concept of "Swa Dhim Jīvan" — life guided by awakened intelligence and conscious participation in existence. The work redefines health as self-establishment (Swa + Stha), restoring the deeper Indic understanding of human flourishing.

The framework further envisions:

- Conscious communities
- Preventive healthcare ecosystems
- AI-enabled holistic assessment
- I-Smart Coach training
- One World Sustainability and Harmony through inner transformation

The book is both philosophical and practical — serving as a guide for researchers, healthcare professionals, wellness practitioners, educators, leadership trainers, consciousness explorers, and individuals seeking integrated well-being.

TRIKAYEE ultimately presents a new paradigm where health is understood not as symptom management alone, but as the harmonious orchestration of body, mind, consciousness, and purposeful living.

Special Session 17:

SS17: Exploring Consciousness Bridging Science, Philosophy, and Indian Knowledge Systems for an Inclusive and Sustainable Society			
June 5, 2026 15:00-19:00 Venue: CCE Mini Auditorium			
Session Chair: Dr. Pooja Gupta & Dr. Vikas Kumar Saxena			
Time	**Speakers**	**Events**	
15:00-15:10	Dr. Pooja Gupta & Dr. Vikas Kumar Saxena	**Opening Remarks**	
15:10-15:30	Dr. Sangeeta Nehra	**Invited Talk 1**	
15:30-15:50	Dr. Anita Jain	**Invited Talk 2**	
15:50-16:10	Dr. Neelmani	**Invited Talk 3**	
16:10-18:20	**Authors**	**Contributory Paper Presentations**	**Paper ID**
	Crystal Osterbuhr	Integrating Ayurvedic Principles into Childhood Wellness Education: A Framework for Holistic Instructional Design	470
	Dr.Ashutosh Pareek	Exploring Cognition Through Panchkośas: Scriptural Foundations and Ārṣa Developmental Paradigm	471
	Professor Rajeev Gupta, Dr Pawan Gupta	Neurobiology, Physiology, and Scientific Model of Body, Mind, and Consciousness Integration	472
	Anoushka Chakravarti	Does AI Have a Subconscious? An Indian Computational Psychology Approach to Latent Representations via Chitta-Latent Correspondence (CLC) Framework	475
	Dr. Atharv Kadam, Dr. Nilima Dharkhar	Revisiting Swapna (Dreams) in Ayurveda Through the Lens of Cognitive Neuroscience: Toward an Integrative Model of Consciousness and Prognosis	474
	Arti Hadap, Vishal R. Panse	Quantum Entanglement and the Conscious Mind: Exploring Nonlocality, Cognition, and the Foundations of Reality	477
	VRINDA SHARMA, Anita Jain	Exploring Mind, Body, and Consciousness through Indian Aesthetic Theory and Cartesian Philosophy: Toward Ethical Living and a Sustainable Society	481
	Surbhi Dayal	Embodied Consciousness through Mithila Art: An IKS Approach to Sustainable Awareness	485
	Vishnu Tripathi, Neel Mani, Shastri Nimmagadda	Predictive AI for Personalized Spiritual Wellness: Data-Driven Insights from Wearable Stress Signals	SS17_1

	Davesh Sharma, Anita Jain, Vishant Gahlaut	Resolving the Consciousness-Matter Divide through Tantric Metaphysics and Theoretical Physics	SS17_2
	Gaurav Kumar and Neel Mani	The Spiritual Well-being Index (SWBI): A Multimodal AI Framework for Assessing and Supporting Spiritual Growth	SS17_3
	Prakhar Joshi, Pragyanand Saho, Neel Mani	The Karma of Code: Accountability and Responsibility in AI Systems	SS17_4
	Dr. Sangeeta Nehra	The Architecture of Reality: Cosmic Intelligence, Self-Identity, and Cosmic Love	SS17_5
	Ms. Medha Mishra, Dr. Pooja Gupta, Dr. Aanchal Chaudhary	Building Engaged Workforces: Psychological Capital, Mental Well-being, and the Role of Conscious Awareness	SS17_6
	Simarpreet Kaur and Chitra Kashyap	Comparative Study of Sattva, Rajas, and Tamas Among Alcohol Consumers and Non-Consumers	SS17_7
	Narendra Bhandari and Dilip Jain	Lingua Cosmica: Bhāshā Varganā as a Non-Electromagnetic Field Substrate for Consciousness and Cosmic Communication — A Jain Physics Framework with Modern Scientific Instrument Programme	SS17_8
18:20-18:50		**Roundtable Dialogue:** Invited experts and selected speakers	
18:50-19:00		**Closing remarks** by session chairs	

Theme of the session:

Ecological crises, social fragmentation, and ethical dilemmas across human civilization. Despite scientific and economic progress, societies across cultures continue to grapple with inequality, mental health challenges, leadership crises, and environmental degradation. These emerging challenges indicate not merely structural problems but a deeper understanding of consciousness of how individuals perceive themselves, others, nature, and the ultimate reality. Consciousness studies have emerged as one of the most substantial interdisciplinary frontiers of inquiry, engaging quantum science, philosophy of mind, psychology, cognitive science, neuroscience, artificial intelligence, and sustainability research areas. Simultaneously, Indian knowledge traditions particularly Advaita Vedanta, Sankhya, Yoga philosophy, and the Bhagavad Gita, have for centuries offered systematic explorations of awareness, selfhood, interconnectedness, ethical action (dharma), and liberation. This special session seeks to bring a rigorous interdisciplinary bridge between modern scientific research and Indian philosophical thoughts, thereby, examining how an integrated understanding of consciousness can contribute to inclusive growth, values, governance, ethical leadership, sustainable development, and harmonious coexistence. This session brings together academics, researchers, professionals, scientists, scholars, writers, social scientists, to explore consciousness as a foundational paradigm for holistic growth and societal transformation, rather than treating it solely as a metaphysical abstraction or neural phenomenon.

[470] Integrating Ayurvedic Principles into Childhood Wellness Education: A Framework for Holistic Instructional Design

Crystal Osterbuhr (Saybrook University)

Abstract

The purpose of this paper is to examine how Ayurvedic principles can be integrated with leading instructional design frameworks, such as ADDIE (Analyze, Design, Develop, Implement, Evaluate) and UDL (Universal Design for Learning), to support holistic wellness for children. how Ayurvedic medicine, as a whole integrative system, can be applied to the development of holistic wellness education for children. Specifically, this paper will examine how Ayurvedic principles—including individual constitution (doshas), yoga, dietary guidance, and daily routines (dinacharya)—can be translated into age-appropriate, evidence-based instructional content that supports the development of children's physical, spiritual, and emotional well-being. This paper will examine the existing research on how Ayurveda is applied in pediatric wellness and educational settings, review current efforts to bring yoga and mindfulness into school settings, and identify opportunities where instructional design can effectively integrate ancient Ayurvedic wisdom with contemporary childhood wellness education.

[471] Exploring Cognition Through Panchkośas: Scriptural Foundations and Ārṣa Developmental Paradigm

Ashutosh Pareek (Samrat Prithviraj Chauhan Government College Ajmer Rajasthan)

Abstract

Ancient Indian scriptures contain very rich in thoughts, empirically derived psychological spiritual theories that are however, intertwined with religious, cultural and philosophical content. This fact is unknown to the Western psychologists. Cognitive development through the Ārṣa system was fruitful to society. The theories of cognition contained in the ancient indigenous systems have the potential to modify and complement existing Western mainstream accounts of cognition. Five sheaths of Pancha Kosha, Yamas, Niyamas, Anvikshiki, Yoga, Dhyan, Karma & spiritual experience created the holistic approach for cognitive development. Recognising nature as well as brain efficiency through Ārṣa theories, create a ‘sentient symphony’ and balanced cognition that necessitate a transition in education, medicine and science from mechanical or physical interventions towards living organisms that restore relational coherence and resonance within the living system. This paper is a humble effort to elaborate scriptural foundations and developmental perspectives through the Ārṣa theories of cognition.

[472] Neurobiology, Physiology, and Scientific Model of Body, Mind, and Consciousness Integration

Rajeev Gupta, Dr Pawan Gupta (International Organisation of Integrated Health Practitioners)

Abstract

The relationship between the body, mind, and consciousness represents one of the most complex and enduring questions in science, bridging neuroscience, philosophy, and systems biology. Modern scientific advances have demonstrated that mental processes arise from dynamic interactions within neural networks, yet the subjective experience of consciousness remains incompletely explained. The concept of the “soul,” traditionally rooted in philosophical and spiritual traditions, is increasingly being examined through scientific frameworks that seek to explain awareness, identity, and self-perception . Emerging evidence suggests that consciousness is not localised to a single brain region but is instead an emergent property of complex, integrated biological systems involving neural, endocrine, and immune interactions. Advances in neuroimaging, computational neuroscience, and quantum theories have further expanded our understanding of how physical processes may give rise to subjective awareness. This article synthesised current scientific knowledge on the body–mind–consciousness continuum and evaluated leading models explaining consciousness. It also explored and developed how consciousness can be understood as a higher-order integrative phenomenon or as a fundamental property of reality using the GCIM model, a multi-layered integrative framework proposed to connect biological substrates with cognitive processes and conscious awareness.

[475] Does AI Have a Subconscious? An Indian Computational Psychology Approach to Latent Representations via Chitta-Latent Correspondence (CLC) Framework

Anoushka Chakravarti (ICMR-National Institute for Research in Bacterial Infections (NIRBI))

Abstract

AI systems process vast hidden states, but do they exhibit a functional analogue of a “subconscious”? Rooted in Indian Knowledge Systems, this paper proposes the Chitta Latent Correspondence (CLC) framework, translating Patanjali’s Yoga Sutras into measurable geometry of transformer representations from a functionalist stance. The central contribution, Sattva-cos, quantifies value- alignmed orientation aimed to serve as a computational marker for screening AI systems in therapeutic contexts. Following a pilot study on GPT-2 XL (OpenAI, 2019), the framework was evaluated in a cross-architectural comparison across three open-weight models , Pythia-6.9b (EleutherAI, 2023), Mistral-7B-v0.1 (Mistral AI, 2024), and Llama-3.1-8B (Meta AI, 2024), yielding five cross-architecture findings: (1) dispositional geometry peaks at 50% depth across all three models (d = 3.743–5.107), corresponding to the Vijnanamaya Kosha; (2) all 18 layer measurements exceed the large-effect threshold (d > 0.8), with dispositional geometry 4.25–52× stronger than sentiment; (3) nihilistic content produces negative Sattva-cos at every sampled layer in every model, confirmed prospectively; (4) ablation confirms dispositional meaningfulness across architectures (effect ratio 33–209× for Pythia/Mistral; statistically significant but below the pre-registered threshold in Llama-3.1-8B); and (5) a late-layer Rajasic-Tamas geometric crossover emerges uniquely in Llama-3.1-8B at 97% depth. Chitta is not empty, it is geometrically structured, value oriented, and measurable across three architectures (OSF: 10.17605/OSF.IO/63RB2).

[474] Revisiting Swapna (Dreams) in Ayurveda Through the Lens of Cognitive Neuroscience: Toward an Integrative Model of Consciousness and Prognosis

Dr. Atharv Kadam, Dr. Nilima Dharkhar (Dr. D Y Patil College of Ayurved Pimpri Pune)

Abstract

Introduction: Contemporary neuroscience increasingly investigates the neural correlates of cognition, perception, and consciousness through experimental, computational, and theoretical models. Parallel to these advances, classical Ayurvedic literature offers a structured understanding of Swapna (dreams), viewing them as reflections of mental activity, constitutional tendencies, and prognostic indicators of disease. Methods: This conceptual study reinterprets the doctrine of Swapnavishayaka Arishta described in the Charaka Samhita within the framework of modern cognitive neuroscience. Ayurvedic dream classifications—particularly Bhavika (predictive) and Doshaja (disease-related)—were analytically correlated with contemporary concepts including REM sleep physiology, neural circuitry, sensory disengagement, memory consolidation, emotional regulation, and predictive processing models. Results: The analysis reveals notable conceptual parallels between Ayurvedic dream theory and neuroscientific findings. Doshaja dreams correspond to neurophysiological dysregulation affecting sleep architecture and limbic activation, while Bhavika dreams align with predictive coding mechanisms and interoceptive processing. The Ayurvedic emphasis on stored impressions (Samskaras) parallels hippocampal–cortical memory reactivation during REM sleep. Conclusion: An integrative neurophenomenological model bridges classical Ayurvedic insights with contemporary neuroscience, situating dream analysis at the intersection of consciousness studies, psychosomatic medicine, and translational research. This interdisciplinary approach offers new perspectives for clinical prognostication and future empirical investigation.

[477] Quantum Entanglement and the Conscious Mind: Exploring Nonlocality, Cognition, and the Foundations of Reality

Arti Hadap, Vishal R. Panse (Department of Basic Science and Humanities, Mukesh Patel School of Technology Management and Engineering, SVKM’s Narsee Monjee Institute of Management Studies (NMIMS) Deemed-to-University, Mumbai)

Abstract

Quantum entanglement, a fundamental feature of Quantum Mechanics, reveals the existence of a nonlocal structure of reality in which spatially separated particles exhibit instantaneous correlations. This challenges classical notions of

separability and has inspired interdisciplinary inquiry into its possible connection with consciousness. This paper adopts a physics-oriented approach to explore the conceptual and theoretical intersections between entanglement and the conscious mind, drawing from Neuroscience and Philosophy of Mind. Key considerations include decoherence mechanisms, system size, and interaction with the environment. The work outlines a framework for evaluating whether quantum correlations could, in principle, play any role in neural processes, while maintaining consistency with established physical laws. This approach aims to delineate the boundary between scientifically grounded possibilities and interpretative extensions at the interface of physics and cognition.

[481] Exploring Mind, Body, and Consciousness through Indian Aesthetic Theory and Cartesian Philosophy: Toward Ethical Living and a Sustainable Society

VRINDA SHARMA (Banasthali Vidyapith), Anita Jain (Bansthali Vidyapith)

Abstract

Consciousness has long remained a central concern in both Indian and Western intellectual traditions, particularly in relation to mind, body, emotion, and ethical self-formation. In contemporary discourse, it has gained renewed significance as an interdisciplinary field connecting philosophy, psychology, aesthetics, and cultural knowledge systems. Within this framework, Indian aesthetic theory, especially the Nāṭyaśāstra and its interpretation by Abhinavagupta, explains how emotions are refined into rasa, a universalised and reflective mode of experience. Similarly, René Descartes, in The Passions of the Soul, presents passions as psycho-physical states arising from the union of mind and body, capable of being clarified and regulated through reason. The present paper aims to explore mind, body, and consciousness through a comparative study of Indian aesthetic theory and Cartesian philosophy. Its objectives are to examine how rasa and passion function not merely as emotional categories but as modes of consciousness that contribute to ethical formation and self-awareness, and to show how this dialogue enriches contemporary discussions of conscious living and ethical responsibility. The study's methodology is analytical, interpretive, and comparative. It undertakes a textual reading of Bharata's Nāṭyaśāstra, Abhinavagupta's aesthetic reflections, and Descartes' The Passions of the Soul, with attention to rasa, universalisation, passion, mind-body relation, and rational self-regulation. This paper argues that Indian aesthetics presents rasa as aesthetic consciousness achieved through the refinement and universalisation of emotion, whereas Cartesian philosophy interprets passion as embodied consciousness shaped through reflective rational control. The paper concludes that both traditions offer complementary models of conscious self-cultivation that contribute to ethical living, emotional balance, and a more inclusive and sustainable society.

[485] Embodied Consciousness through Mithila Art: An IKS Approach to Sustainable Awareness

Surbhi Dayal (INdian Institute of Management Indore)

Abstract

This paper explores Mithila (Madhubani) art as an embodied mindfulness practice situated within the framework of Indian Knowledge Systems (IKS), and examines its relevance for contemporary discussions on mind, brain, and consciousness. While modern mindfulness interventions are often derived from structured meditative techniques, this study foregrounds an indigenous artistic tradition as a lived, process-oriented pathway to cultivating awareness. Drawing on an experiential pedagogy implemented in a management classroom, the paper analyses how the slow, repetitive, and symbolically rich practice of Mithila art fosters attentional stability, sensory immersion, and reflective consciousness. The act of line-making, pattern repetition, and narrative visualization engages participants in a state of sustained presence, aligning with key constructs in mindfulness research such as non-judgmental awareness and cognitive quieting. Based on qualitative reflections, participant narratives, and classroom observations, the study demonstrates that engagement with Mithila art enables shifts from outcome-oriented cognition to process-based awareness, facilitating emotional regulation and introspective depth. Further, the practice embodies a culturally rooted epistemology where creativity, spirituality, and cognition are not treated as separate domains but as

interconnected modes of knowing. Positioning Mithila art within the broader discourse of consciousness studies, the paper argues that indigenous creative practices offer valuable, yet underexplored, pathways for understanding embodied cognition and mindful awareness. By bridging traditional art forms with contemporary consciousness research, this work contributes to expanding the scope of mindfulness beyond technique-driven models toward culturally embedded, experiential approaches, thereby fostering more sustainable and inclusive ways of engaging with self, work, and society.

[SS17_1] Predictive AI for Personalized Spiritual Wellness: Data-Driven Insights from Wearable Stress Signals

Vishnu Tripathi (Swami Rama Himalayan University, Dehradun), Neel Mani (Swami Rama Himalayan University, Dehradun), Shastri Nimmagadda (Dev Sanskriti Vishwavidyalaya, Haridwar)

Abstract

The fusion of artificial intelligence (AI) and spirituality heralds a transformative future for mental well-being through personalized faith-aligned interventions. This study presents a predictive analytics framework that assesses the impact of spiritual practices—meditation, yoga, prayer, and mantra chanting—on stress and emotional balance, leveraging the WESAD dataset's multimodal physio logical signals (EDA, BVP, TEMP) from wrist-worn wearables. Key features extracted over 60-second windows train a Random Forest model, achieving 94.4% accuracy in predicting stress states. Explainable AI, via SHAP, identifies electro dermal activity (EDA mean) as the most influential feature, offering transparent insights to guide spiritual routines. We introduce the Spiritual Wellness Index (SWI = 1– stress probability), a data-driven metric that quantifies wellness and enables tailored recommendations for faith-based practices. This framework bridges physiological data and spiritual growth, demonstrating the feasibility of wearable-AI integration for scalable, personalized spiritual wellness. As we look to the future, this research paves the way for innovative, evidence-based tools that harmonize technology with diverse faith traditions, fostering a holistic approach to well-being.

[SS17_2] Resolving the Consciousness-Matter Divide through Tantric Metaphysics and Theoretical Physics

Davesh Sharma (Banasthali Vidyapith, Rajasthan, GDC Nalagarh, Nalagarh), Anita Jain (Banasthali Vidyapith, Rajasthan), Vishant Gahlaut (Banasthali Vidyapith, Rajasthan)

Abstract

The question of whether reality is constituted by the observer (consciousness) or the observed (matter) has been a subject of philosophical discussion for centuries. This paper traces the development of Indian philosophy in relation to the Hard Problem of consciousness by exploring the history of non-dual monism in Kashmir Shaivism, through the Trika and Pratyabhijñā schools (Chalmers 1995; Dyczkowski 1987). Based on the Constructive-Engagement Strategy of Comparative Philosophy (CECP) by Bo Mou and Ontic Structural Realism (OSR), the aim here is not to argue that ancient mystics in some way anticipated modern equations (Mou 2010; Ladyman 1998). Rather, the paper uncovers deep structural resonances between ancient metaphysics and modern physics, tracing ideas of Quantum Field Theory, the Holographic Principle (AdS/CFT), and Relational Quantum Mechanics (Maldacena 1998; Rovelli 1996). Finally, the ontological perspective of Kashmir Śaivism, a top-down ontology, according to which the genesis of physical law and material form is consciousness, serves as a strong interpretive framework for the mathematical beauty of modern physics (Kafatos and Yang 2016). Recognizing the teleological disjuncture between predictive science and soteriological Tantra, this structural methodology manages to bridge subjective experience and objective physical laws to make interdisciplinary research in the future possible. Keywords: Kashmir Śaivism, Ontic Structural Realism, Relational Quantum Mechanics, Hard Problem of Consciousness, Trika Philosophy, Quantum Field Theory.

[SS17_3] The Spiritual Well-being Index (SWBI): A Multimodal AI Framework for Assessing and Supporting Spiritual Growth

Gaurav Kumar and Neel Mani (SRHU, Dehradun)

Abstract

Spiritual well-being is recognized as a complex concept that encompasses physical health, psychological balance, and the inner spiritual dimensions of human life, yet it remains absent from dominant measurement frameworks- the OECD Well-being Framework, WHO-5 and WHO quality-of-life contain no standardised spiritual indicator. Existing tools such as the SWBS and FACIT-Sp-12 rely on static self-report questionnaires that fail to capture the dynamic, embodied nature of spiritual states. Recent advancements in contemplative neuroscience indicate that these states are associated with measurable cognitive and physiological patterns- including elevated HRV, increased EEG alpha coherence, and heart-brain synchronicity- creating a concrete opportunity for AI-based computational assessment. This paper proposes the Spiritual Well-being Index (SWBI), a novel AI-driven conceptual framework for measuring and supporting spiritual growth. It describes how multimodal data- including self reported reflections, speech patterns, emotional cues, lifestyle habits, and physiological markers- can be integrated through a multimodal fusion layer into four component sub-scores: reflective insight, devotional practice, compassion, and regulatory capacity, which together form the overall SWBI score. Each sub-score is computed using natural language processing, affective computing, and machine learning techniques. A recommendation layer then maps SWBI outcomes to personalised spiritual practices such as meditation, mantra chanting, mindful breathing, and seva. Constructed with attention to consent, transparency, and cultural sensitivity, the SWBI positions spirituality as a measurable, actionable dimension of holistic well-being-bridging validated spiritual assessment instruments with modern AI capabilities. The framework provides a structured foundation for empirical validation through pilot studies.

[SS17_4] The Karma of Code: Accountability and Responsibility in AI Systems

Prakhar Joshi, Pragyanand Saho, Neel Mani (SRHU, Dehradun)

Abstract

The pervasive integration of artificial intelligence (AI) into critical sectors such as healthcare, finance, and governance underscores the urgent need for robust accountability mechanisms. This paper introduces the “Karma Ledger,” a novel auditing framework inspired by the karmic principle of Indian philosophy, which asserts that every action leaves a traceable imprint with lasting consequences. Unlike traditional logging tools that focus on performance optimization, the Karma Ledger systematically records each AI decision—inputs, predictions, confidence scores, and outcomes—as a karmic imprint, facilitating comprehensive traceability, error analysis, and ethical auditing. We implement this framework using the Iris dataset with a Random Forest classifier, enriched with detailed visualizations including confusion matrices, confidence distributions, error timelines, karmic flow diagrams, and heatmaps of decision patterns. A rigorous comparison with reinforcement learning (RL) highlights the Karma Ledger’s unique emphasis on transparency and responsibility. This work provides a philosophically grounded contribution to AI ethics, with practical implications for regulatory compliance and real-world applications.

[SS17_5] The Architecture of Reality: Cosmic Intelligence, Self-Identity, and Cosmic Love

Dr. Sangeeta Nehra (AYUSH, Haryana Government, India)

Abstract

This study presents a holistic framework in which consciousness (Brahman) is understood as the fundamental ground of all existence—an infinite, omnipresent, and self-aware substratum underlying both tangible and intangible reality. Drawing from Indian Knowledge Systems and the principle of Sarvam Khalvidam Brahma, consciousness is proposed as a dynamic continuum oscillating between order and entropy, resonance and dissonance, through processes of downward and upward causation. The Isha Upanishadic axiom Pūrṇam adaḥ pūrṇam idaṁ is interpreted as expressing the completeness of both the unmanifest and manifest dimensions of reality. The study conceptualizes consciousness as containing subject potentiality (Purusha) and object potentiality (Prakriti), from which actuality

emerges through selective manifestation analogous to quantum wave-function collapse. This transition is guided not randomly, but through Cosmic Intelligence (Mahat), the primordial organizing principle that structures creation through symmetry, coherence, and purposeful evolution. Mahat functions both cosmically and within human cognition as intuition, discernment, and higher awareness. The framework further explains Self-Identity (Ahamkara) as the second primordial principle governing individuality, the three gunas, and the evolution of Tanmatras, sensory faculties, and the material world. A bidirectional model of consciousness is proposed, integrating downward causation from cosmic order with upward causation arising from neural and ego-based processes. Finally, the study introduces Cosmic Love as a universal harmonic frequency sustaining coherence across consciousness, biology, and ecology. This paradigm advances an integrative view in which consciousness, cosmic intelligence, self-identity, and love collectively form the self-organizing architecture of reality.

[SS17_6] Building Engaged Workforces: Psychological Capital, Mental Well-being, and the Role of Conscious Awareness

Ms. Medha Mishra, Dr. Pooja Gupta, Dr. Aanchal Chaudhary (IILM University, Gurugram)

Abstract

In a study conducted by G.M. Sukumar of NIMHANS, Bengaluru and B. Joseph, in which results have shown that Indian workplaces employees have faced work-related stress in a range of 3% to 75.5%. A survey conducted by Deloitte in 2022 has shown that approximately 80% of the workforce were working under some kind of stress in their lives but the majority (47%) had stress related to work. Another report, 2024 Gallup Workplace, found that only 14% are ‘thriving’ at their workplace and rest and either struggling or suffering. With these kinds of research coming into the limelight, more importance is being given to employee wellness and mental well-being. A mentally and physically well employee not only works toward their own growth but also puts significant effort into helping the organization achieve its desired goals. An employee’s mental well-being is essential for their productivity, engagement, maintenance of a positive work culture and overall workplace well-being. Disruptions in employee’s mental health could lead to the individual feeling stressed all the time, a lack of concentration at work, an inability to give their full potential and can also lead to an increase in attrition rate of the organization. Factors affecting employee mental health:

• When the employee is unable to manage the demands both at work and as well as at home, it adds to the pile of pressure they are already experiencing.

•When the work pressure exceeds the threshold of the individual for stress tolerance, long working hours drain their energy out.

• When the work culture or the environment at work negatively impacts an employee's psychological health.

• When the employee perceives a lack of opportunities to learn and grow at the organization.

There have been many studies that have shown that mental well-being is not only essential for the continuous development of the individuals but also for the organization. If the employee is facing some kind of stressor in their lives, then there is a high possibility that they might not be able to contribute their full potential in the organization. There is a need to look for signs that show that the person is not feeling mentally well and their cognitive functioning (consciousness) is not able to perform according to the required standards. The above- mentioned aspects can be controlled by having an inclusive organizational environment and by helping the employees and leadership understand the effect that psychological capital plays in increasing employee engagement levels in the organization. Psychological Capital (also known as PsyCap) is a term used in positive psychology and consists of four constructs, namely, Hope, Self-Efficacy, Resilience and Optimism. These four constructs work as the base for developing a positive mindset in an individual.

• Hope: It is the motivation that an employee inculcates within themselves to keep on moving towards their desired goal as one day they will surely be able to achieve it. Hope is also being able to see the potential in the path one is following and knowing it will lead to success. And being able to see alternate pathways while focusing on the current path so that they have another option to lookout for. So that they do not feel stuck if they cannot accomplish their targets.

• Self-Efficacy: When an employee feels confident to successfully complete their tasks and has necessary tools and ability to keep working towards their target, such an employee has high self-efficacy levels. Continuous efforts and

confidence shown in oneself can help an individual to reach their required goals and contribute to the organization process.

• Resilience: It can be defined as the elasticity of an individual, the ability to bounce back from a stressful life event. Resilience helps an employee to come back to their baseline, from where they started their work. A resilient employee helps an organization to grow and keeps attrition rate at low. It helps the employee to recover, to face the challenge again and cope with all the stressors thrown at them.

• Optimism: Having a positive outlook towards outcomes and the future, while having realistic expectations about the outcomes. An optimistic employee can help an organization to aim for goals that were earlier thought to be unrealistic or too high for them to achieve, as they are able to visualize the positive outcomes while keeping practical constraints in mind. They develop the program taking all factors in consideration. This means that they aim for high while being grounded and looking for positivity in every situation. These four constructs are required in an employee and leadership to achieve high levels of employee engagement, good performance levels and mental well-being. With proper training programs, guidance from leadership and continuous evaluation of these factors can help the organization and employee to grow simultaneously. Both, mental well-being and psychological capital, are necessary to have an engaged workforce. Employee engagement refers to the emotional connection and responsibility an employee feels towards the organization for which they work. It is not only based on the attendance or the job satisfaction levels but on how accountable, motivated and aligned with the goals for the organization. Employee engagement is directly involved with the productivity, quality of work demonstrated by an employee, services provided and employee retention. Employee engagement is inversely related to attrition rates. In Gallup's State of the Global Workforce report, there has been a decline in engagement levels of the employees after 2020, which was earlier 23% has reduced to 20% engagement levels of the workforce in 2025. There have been several studies that have shown that mental wellbeing and psychological capital both have profound positive effects on employee engagement. An organization which keeps employee wellbeing as their priority along with the organizational work have highly engaged employees. Having an organizational culture that promotes inclusivity, acceptance, providing opportunity to grow and providing a work-life balance for the employees assists in building an organization that has high levels of employee engagement. Psychological capital helps an employee to be more engaged in their organization. There have been studies that prove that an employee who scores high on a psychological capital questionnaire is more actively engaged in their organization. Organizations need to include training programs which help in building up constructs of psychological capital and creating an environment that supports it.

[SS17_7] Comparative Study of Sattva, Rajas, and Tamas Among Alcohol Consumers and Non-Consumers

Simarpreet Kaur (IILM University, Gurugram) and Chitra Kashyap (IILM University, Gurugram and Dev Sanskriti Vishwavidyalaya, Haridwar)

Abstract

This research aims to establish the variations in Triguna psychological qualities among alcohol users and abstainers. Triguna is an Indian approach that explains the workings of the mind in depth. A comparative research design will be used, and the study will include 100 participants: 50 who consume alcohol and 50 who do not. A standardized alcohol test, known as the Alcohol Use Disorders Identification Test (AUDIT), was used for testing and categorising participants. Individuals will be divided into two main categories: those who consume alcohol and those who abstain from alcohol. The Vedic Personality Inventory (VPI) was used to assess Triguna psychological qualities. The data collected were analyzed using an independent sample t-test. In both groups, the data were statistically significant. The level of sattva guna is found to be high in those individuals who abstain from alcohol; higher levels of sattva are linked with mental balance and stability. On the other hand, the participants consuming alcohol showed high scores for the other two gunas, which are Rajas and Tamas, which are associated with impatience, ignorance and psychological imbalances. Therefore, the above findings suggest a relationship between alcohol use and one's psychological attributes and personality traits, according to the Triguna approach.

[SS17_8] Lingua Cosmica: Bhāshā Varganā as a Non-Electromagnetic Field

Substrate for Consciousness and Cosmic Communication — A Jain Physics Framework with Modern Scientific Instrument Programme

Narendra Bhandari (Jain Academy of Scholars (JAS), Ahmedabad) and Dilip Jain (Jain Academy of Scholars (JAS) and Founder, dJED Foundation)

Abstract

This paper proposes Lingua Cosmica, a novel interdisciplinary framework that integrates Jain canonical physics, consciousness studies, neuroscience, quantum biology, and cosmology to investigate consciousness as a non-electromagnetic field phenomenon. Drawing upon the Jain concepts of Mano Varganā (cognitive field substrate) and Bhāshā Varganā (communicative field substrate), the study argues that consciousness may operate through a cosmos-pervading, non-electromagnetic medium corresponding to the currently unexplained dark sector of the universe. The framework interprets Jain classifications of matter (Pudgala) through modern physical analogies, distinguishing baryonic matter from subtle non-electromagnetic substrates associated with cognition and communication. The paper further correlates the Vedic-Jain four-level sound hierarchy—Para, Pashyanti, Madhyama, and Vaikhari—with contemporary neurocognitive processes, identifying the Supplementary Motor Area (SMA) as a possible biological transducer for pre-linguistic consciousness-field interactions. Supportive convergences are drawn from recent developments in consciousness research, quantum coherence in biological systems, neuronal microtubule studies, readiness-potential experiments, and dark matter instrumentation. To move beyond philosophical speculation, the Lingua Cosmica programme proposes a multi-phase experimental research design involving EEG/MEG studies with advanced meditators, SQUID-based magnetometry, cortical organoid biochips, and brain-computer interface systems aimed at detecting and decoding non-electromagnetic consciousness-correlated signals. The framework positions Indian Knowledge Systems, particularly Jain physics, as scientifically testable models rather than symbolic metaphysics. By offering falsifiable hypotheses and an instrument-based methodology, the study seeks to expand current paradigms of consciousness research and explore the possibility of a universal field-based language of cognition and communication.

Key Thematic Special Session on Gita and its relevance to Personal and Professional Excellence_3

KSS2_3: Gita and its relevance to Personal and Professional Excellence			
June 5, 2026 15:00-17:00 Venue: CCE Conference hall			
Session Chair: Prof. N. Ravichandran (online)			
Time	**Speakers**	**Events**	
15:00-15:30	Ramakrishnanda, Chinmaya Mission,Nagapattinam	**Invited Talk 1**	
15:30-16:00	Dr. MA Alwar, Sanskrit Institute, Mysore (online)	**Invited Talk 2**	
16:00-16:15	**Authors**	**Contributory Paper Presentation**	**Paper ID**
	Dr. Akhaya Kumar Nayak	Professional excellence and Job satisfaction: An Indian model based on Bhagavad Gita	KSS2_P5
16:15-17:00	Anil Maheshwari (online), Dr Ashok Khemka IAS (Retired), Prof. Arnav Bhavsar	**Panel Discussion 2: AI and Consciousness**	

Invited Talk 1:

Title: "THE BHAGAVAD GITA - ANCIENT YET RELEVANT": THROUGH THE INSIGHT OF SWAMI CHINMAYANANDA

Ramakrishnanda (Chinmaya Mission, Nagapattinam)

Abstract

The Bhagavad-Gītā presents a profound framework for mental rehabilitation and practical spiritual renewal through the transformation of Arjuna, a highly proficient warrior rendered temporarily inefficient by psychological turmoil and moral dejection. While proficiency denotes accumulated knowledge and skill, true achievement depends upon efficiency, the capacity to translate knowledge into purposeful action. Arjuna's crisis in the opening chapter symbolizes the condition of modern individuals and societies, where intellectual advancement often coexists with emotional instability and practical inefficiency. Through Lord Kṛṣṇa's divine counsel, Arjuna's shattered personality is restored, enabling him to rise above despair and fulfill his rightful duties with clarity and determination. This process of inner reconstruction forms the central theme of the Bhagavad-Gītā. Far beyond a theological scripture confined to forests or temples, the Gītā emerges as a universal manual for humanity, addressing psychological conflict, ethical paralysis, and social responsibility across all boundaries of time, place, caste, and creed. In an age marked by cynicism, confusion, and national challenges, the Gītā offers an enduring spiritual technique essential for both individual empowerment and collective revival. Swami Chinmayananda, the modern Vedāntin, offers a practical and dynamic interpretation of the timeless Bhagavad Gītā. This study seeks to present Swami Chinmayananda's profound vision of the Bhagavad Gītā, highlighting its relevance as a guide for purposeful living and inner transformation.

Invited Talk 2:

Title: Concept of Sharanagathi as mentioned in the Bhagavad Gita and its scientific impact on the human mind Transient Hypofrontality in Divine Surrender: The Neuroscience of Sharanagathi

Dr. MA Alwar and Dr. Amulya Bharadwaj (Sanskrit Institute, Mysore)

Abstract

"Having abandoned all duties, take refuge in "me" alone. I will liberate you from all sins. Do not grieve" [Bhagavad Gita 18.66]. The Sri Vaishnava doctrine of Sharanagathi, formalized as Prapatti (absolute surrender), transfers the responsibility of choices from the individual to God. While revered as a theological paradigm, its neurobiological mechanisms remain unexplored. This study presents a theoretical framework bridging Visishtadvaita Vedanta philosophy with cognitive neuroscience to explain how surrender alters human cognition and decision-making. Methodologically, the research employs a qualitative synthesis of theological texts, neuroimaging, and psychological data (Karandikar, 2025). Continuous decision-making demands cognitive resources, often leading to mental fatigue and stress (Funahashi, 2017; Lee, 2013). The proposed model hypothesizes that relinquishing personal agency alleviates this load. By transferring control, the focus required during Prapatti modulates neural networks governing personal agency. This induces transient hypofrontality, temporarily quieting the prefrontal cortex to reduce executive overthinking and foster psychological flow (Dietrich, 2003; Moore, 2016). Furthermore, spiritual meaning-making operates as a cognitive shield, attenuating error-related distress signals within the anterior cingulate cortex (Inzlicht et al., 2011). Cultivating attachment to God establishes a psychological safe haven, dampening amygdala reactivity to neutralize anxiety (Ellison et al.,2012; Rowatt & Kirkpatrick, 2002). Concurrently, belief in divine protection activates the mesolimbic reward system, stimulating the release of endogenous oxytocin and dopamine to cultivate spiritual euphoria (Holbrook et al., 2015).Finally, this research conceptualizes Sharanagathi as an adaptive cognitive regulation strategy, demonstrating how ancient mysticism offers practical paradigms for psychological healing.

[KSS2_P5] Professional excellence and Job satisfaction: An Indian model based on Bhagavad Gita

Dr. Akhaya Kumar Nayak (Indian Institute of Management Indore)

Abstract

Professional Excellence has always been desired by both employees and employers alike. Gen Y and Gen Z are equally concerned about job satisfaction and life satisfaction along with achieving professional excellence. Several theories such as Maslow's hierarchy of needs, the motivation-hygiene theory, the job characteristics model, and the dispositional approach have explored professional excellence and job satisfaction to a large extent. However, none of these theories except dispositional approaches delve deep into the aspect of excellence, satisfaction and well-being. Dispositional theory also doesn't give a detailed step-by-step approach to achieve job satisfaction. Bhagavad Gita, an ancient Indian scripture offers ample insights to build a step-by-step model to achieve professional excellence and job satisfaction which can be curated for everyone based on some general principles. Using the methodology of hermeneutics, this paper identifies the relevant verses, analyses them and extracts the general principles that sufficiently explain what and how aspects of these constructs. Based on these general principles and specific prescriptions from Sankhya Yoga, Karma Yoga, Guna theory, and mindfulness sections of Bhagavad Gita, this study builds a comprehensive model that when adopted under expert guidance will bring in professional excellence and enhance job satisfaction and life satisfaction. This model makes a significant addition to the existing literature on well-being, job satisfaction and professional excellence. In addition, the study has practical implications for enhancing personal well-being and organizational efficiency.

Special Session 18:

SS18:Sound, Movement, and Awareness Mind–Body Practices in Indian Music and Dance			
June 5, 2026 15:00-17:00 Venue: Hall A			
Session Chair: Dr. P Nirmal Harish			
Time	**Speakers**	**Events**	
15:00-15:10		**Opening Song**	
15:10-16:50	**Authors**	**Invited Talk cum Contributory Paper Presentations**	**Paper ID**
	Dr. Subroto Roy	Unravelling for the first time meaning of Saam Gaan Assisted by Vedic Exegetic Concepts, Shastra-s, Vidya-s including Sangeet	SS18_1
	Dr. Hema Ramadurai	CERTAIN CONCEPTS OF VEDĀ, AS SEEN FROM THE PERSPECTIVE OF EVOKING CONSCIOUSNESS	SS18_2
	Urvasi Mohinani	The Body in Motion: Exploring Movement, Meaning, and Embodiment in Bharatanatyam	SS18_3
	Dr Chinmay Shah and Narasimhan Ravikiran	Musopathy Tonation Breathing Techniques for Autonomic Nervous System (ANS) Regulation	SS18_4
16:50-17:00		**Closing remarks** by the session chairs	

Theme of session

Indian performance traditions offer a gentle yet powerful way of understanding the connection between body, emotion, and consciousness through lived practice. Rooted in the Nāṭya Śāstra and sustained through living traditions such as Carnatic music, Hindustani music, and Bharatanatyam, these art forms train attention, emotional sensitivity,

and inner balance in a natural and experiential manner. Through melody, rhythm, movement, breath, gesture, and facial expression, performers learn to engage with emotions consciously. Rather than treating emotions as sudden or uncontrolled reactions, these traditions show how emotional states are gradually cultivated through discipline, presence, and mindful bodily awareness. This session explores how Indian music and dance function as practical spaces where mind and body work together to shape awareness and well-being. Drawing from performance practice and lived experience, it highlights how sustained listening, rhythmic precision, controlled breathing, and expressive movement help regulate attention and deepen emotional clarity—both for the performer and the listener. Situated within the framework of Indian Knowledge Systems, the session reflects on how these traditions continue to offer meaningful insights into mental health, emotional regulation, and shared human experience. In doing so, it speaks directly to the spirit of MBCC 2026, showing how classical Indian arts remain deeply relevant to contemporary conversations on consciousness, well-being, and human connection.

[SS18_1]Unravelling for the first time meaning of Saam Gaan Assisted by Vedic Exegetic Concepts, Shastra-s, Vidya-s including Sangeet

Dr. Subroto Roy (Distinguished Dhrupad musician)

Abstract

This session uses the references of the Vedanga-s of Sam Veda, Nirukta, Concepts in Sangeet & Jyotish & Yoga to expose the hidden meaning of Saam Gana. Hitherto only Sam mantra-s have been translated, and they serve no real purpose. The contexts I present will open up not only trans-disciplinarity, but also may be applicable in things like therapy at the laukika level and refers to inter-dimensional travel at the alaukika level. I propose a 5-year project to interpret Sam Gan of the Kauthuma Shakha as they have appeared in Grama & Aranya Gana which have relevance to the two, respectively.

[SS18_2] CERTAIN CONCEPTS OF VEDĀ, AS SEEN FROM THE PERSPECTIVE OF EVOKING CONSCIOUSNESS

Dr. Hema Ramadurai (Carnatic musician and researcher)

Abstract

Vedā-s exist from time immemorial and still, it is a living tradition in India, i.e.Bharat. Vedā-s are considered as ‘revealed texts’. The contents of the Vedā are called veda mantrā-s. Vedā teaches knowledge and discipline in all walks of human life, and contemplation. Vedā used to be taught only through aural (lip-ear method) tradition. So, strict rules and regulations were devised and adhered to from the beginning, to keep the mantrā-s in its original form. The supplementary texts of vedā also help in keeping the intonation intact. The strict adherence to the vedic recitation patterns preserve the vedā-s till date. It calls for a high order of discipline, concentration, and coordination. One other concept of Samaveda called Gātravīnā, where the svaras are shown in the hand positions aids memory, as the sikṣā sāstrā strictly forbids writing it. The śruti jāti-s of sāmavedā like Ayata, Deepta, Karuna, etc. are said to evoke certain emotions, thereby giving a wholesome exercise to the brain by connecting the left and right sides. This enables the vedic scholar to remain calm naturally and it is said that the mantra-s are devised in such a way to act on one’s breadth.

[SS18_3] The Body in Motion: Exploring Movement, Meaning, and Embodiment in Bharatanatyam

Urvasi Mohinani (School of Humanities and Social Sciences, GITAM)

Abstract

Indian classical dance traditions view the body as a place where movement, meaning, and lived experience converge rather than just as a tool of skill. This session explores how codification, spatial awareness, rhythm, and dynamic

energy create the body and movement as interrelated systems of expression in classical dance. Through movement techniques, training methods, and performative embodiment, the session examines how classical dance strikes a balance between structure and fluidity, discipline, and expressiveness, allowing the body to communicate intricate aesthetic, emotional, and cultural narratives.

[SS18_4] Musopathy Tonation Breathing Techniques for Autonomic Nervous System (ANS) Regulation

Dr Chinmay Shah and Narasimhan Ravikiran (Bhavnagar Medical College and IIT Mandi)

Abstract

This proposal focuses on a research study investigating the therapeutic effects of Musopathy Tonation Breathing Techniques (TBT) on autonomic nervous system (ANS) regulation. Musopathy represents an innovative integrative approach combining controlled breathing exercises with self-produced melodic tonation to modulate physiological responses. This study aims to evaluate how TBT influences ANS balance through heart rate variability (HRV), vagal tone enhancement, and parasympathetic activation. By bridging traditional Indian therapy principles with contemporary neuroscience, this research seeks to establish evidence-based protocols for using TBT as a non-pharmacological intervention for stress reduction, anxiety management, and cardiovascular health optimization. Pilot study shows promising results on autonomic nervous systems measured using HRV & Blood Pressure.

Special Session 19:

SS19: Reincarnation, OBEs and Afterlife communication		
June 5, 2026 15:00-17:00 Venue: Hall B		
Session Chair: Prof. Kunal Mooley & Prof. Laxmidhar Behera		
Time	**Speakers**	**Events**
15:00-15:10	Prof. Kunal Mooley & Prof. Laxmidhar Behera	**Opening Remarks**
15:10-15:40	Kim Penberthy (Department of Perceptual Studies, University of Virginia)	**Invited Talk 1**
15:40-16:10	Marina Weiler (Department of Perceptual Studies, University of Virginia)	**Invited Talk 2**
16:10-16:40	Saeedeh Sadeghi (Department of Perceptual Studies, University of Virginia)	**Invited Talk 3**
16:40-16:55		**Closing remarks** by the session chairs

Theme of the session:

Indian Knowledge Systems (IKS) convey the idea of a cycle of death and rebirth (samsāra; e.g. Matsya-purāṇa, Vāyu-purāṇa and Viṣṇu-purāṇa), and define liberation or emancipation (from this cycle and from suffering, i.e. moksha) as the goal of human life (e.g. Vāyu-purāṇa, Brahmāṇḍa-purāṇa). IKS texts also portray a mind or sukshma sharira (also known as linga sharira and antah karana; e.g. Yoga Sutra, Sānkhya Kārikā) and conscious energy getting embodied and disembodied. This concept is more popularly known as reincarnation and in IKS literature this has been referred to as punar janma (e.g. Gheranda Samhita). Experimental studies of reincarnation have relied heavily on psychological studies of children having past life memories. About 2500 cases of children with past-life memories (PLMs) have been documented as part of the 50-year research program spearheaded by the Department of Perceptual Studies (DOPS) at the University of Virginia (UVA). Based on the statements of the children, their previous personalities have been identified in about two-thirds of the cases (Tucker 2021). Our proposal aims at extending the

reincarnation research to IKS-based parameters and into the scientific domain. We propose to study one child having PLM, and the family from the claimed previous life, through:

● IKS-based questionnaires to understand the continuity of IKS-based parameters (e.g. manasa prakriti based on Charaka Samhita) from one life : to another, and

● Conducting an Electro-encephalogram (EEG)-based study on the child to find the neural signatures of past life memories

We have already executed basic background work for the proposed study:

I. studied the protocols employed by previous UVA/DOPS field studies (Stevenson 2003) and formulated IKS-related protocols (discussed in the subsequent sections)
II. identified a suitable 6-year-old child having PLM in North India
III. initiated discussions with the family of the claimed previous person. We have also recently received ethical clearance to conduct the proposed study, and we are motivated to make rapid progress on executing the research over the 2 year duration of the project.

Regular Session 12:

RS12: Cognitive Science and AI_2 + Contemplative Psychology_8
Time: 15:00-17:00, Hall C
Session Chair: Dr. Ramana Vinjamuri, Dr. Tharun Reddy Bollu & Dr. Richa Chopra

Paper ID	Paper Titles	Authors
4	Well-Being at Work: A Catalyst For Sustainable Employee Performance and Organisational Success	Anisha Chaurasia
22	Faith, Blind Faith, Scientific Temper and Superstition: A Psychological and Indian Philosophical Reappraisal	Rakesh Pandey, Soniya Soniya
39	Geography of the Soul: A Phenomenological Study of Alchemizing Maternal Trauma through Spiritual Praxis in Rishikesh	Kashish Pandey
323	Parenting Practices and Character Formation in Middle and Late Childhood (6–12 Years): A Comparative Analysis of Developmental Psychology and Vedic Knowledge Systems	Aleeshya M.M Meera. E, Leena.P Nair
324	Selfless Action as Cognitive Reappraisal: Integration of Bhagavad Gita Principles with Modern theory of Emotion Regulation	Ambica Kumari Shalini Rana
342	Sākṣī Bhāva as a Transdiagnostic Therapeutic Principle and Contemplative Witness Meditation Practice as a Structured Method: A Tantrayukti-Based Inquiry into Scriptural Foundations, Neurophysiological Correlates, and Cross-Cultural Reflections	Swami Pranaka,Rajarajan Jayachandran,Shalini Thakur,Tejas Srinivasan, Rushmita Premanand, Ajith Kumar Pogu
382	Cognitive Calm: Engineering Wisdom for Volatile Decisions	Jyoti Sharma, Ankita Sharma
431	Living Values Education in Contemporary School Systems: A Narrative Review of Conceptual Frameworks, Implementation Models, and Student Outcomes	Sufiya Parveen, Ramajayam Govindaraj
367	Causal Dose Response and Policy Learning for Mindfulness Therapy	Siddhant Ujjain, Vaibhav Kagathara, Pooja Singh, Sandeep Kumar, Tapan Kumar Gandhi
373	Echoes of the Body: Multimodal Recognition and Sonic Externalization of Contemplative States	Cecilia Raho, Massimiliano Zanoni, Reinhard Vanbergen, Pieter-Jan Maes

[4] Well-Being at Work: A Catalyst For Sustainable Employee Performance and Organisational Success

Anisha Chaurasia (NIMS University, Rajasthan)

Abstract

In the current work environments of high pressure, and, as well, competitive working conditions, employee well-being has ceased being an issue of human resource and has become the base of organizational success. In this paper, the complex connection between workplace wellness and productivity is investigated with the focus on how mental, physical, emotional, and social well-being work together to boost efficiency, engagement, and job satisfaction. Based on secondary data and theoretical foundations of workplace psychology, the research examines the cross-sectoral case studies of the technological, healthcare, and educational sectors, where wellness programs organized in a structured way resulted in the decrease of absenteeism and enhanced team performance. It also discusses the mediation of leadership style and organizational culture in converting wellness programs to a long-term cultural commitment. Digital wellness systems, mindfulness sessions, and flexible work structures are discussed as one of the new ways to maintain mental health and workplace resilience. Such problematic areas as scarce resources, ignorance, and resistance to change are appraised critically, and a viable framework of developing wellness-oriented organizations is offered based on the model of constant feedback, monitoring, and universal wellness indices. The paper will conclude that the well-being of the employees is not an option but a productivity enabling factor and a moral requirement. With the changing of the organization to focus on human-oriented models of success, it is necessary to incorporate the idea of well-being as a strategic value, to contribute to creativity, sustainability, and adaptability in the changing global environment.

[22] Faith, Blind Faith, Scientific Temper and Superstition: A Psychological and Indian Philosophical Reappraisal

Rakesh Pandey (Kirori Mal College, University of Delhi), Soniya Soniya (School of Humanities, IGNOU, Delhi)

Abstract

This paper critically examines the widespread assumption that faith is synonymous with uncritical or “blind” belief. Drawing primarily on psychological theories of trust, belief formation, and cognition, it argues that faith is never entirely blind, as it necessarily involves a certain degree of reasoning, evaluation, and experiential grounding—however implicit these processes may be—and is limited only by the capacity of individual reasoning. The paper attempts to differentiate faith from superstition by suggesting that superstition is predominantly fear-driven, resistant to falsification, and oriented toward anxiety reduction rather than truth-seeking. In contrast, faith may be conceptualized as a trust-based cognitive orientation that remains open to revision when confronted with compelling counter-evidence. Integrating insights from Indian philosophical traditions, the paper argues that the opposition between faith and reason has no justification within the Sanatani tradition of Indian knowledge systems. Such a confrontation, which eventually contributed to the reason for Enlightenment and the spread of a modern scientific temper by rejecting the other in the name of blind faith in certain Western theological traditions, is neither universal nor philosophically sustainable in the Indian context. The discussion is further extended to contemporary educational discourse in India, particularly in light of the renewed emphasis on Indian knowledge traditions under the National Education Policy (NEP). The paper concludes by arguing that, in the context of Indian education, the rhetoric of “blind faith” has sometimes functioned as a delegitimizing label to assert the superiority of modern scientific frameworks on the one hand while simultaneously undervaluing a rich and sophisticated indigenous knowledge tradition by associating it with a sense of inferiority.

[39]Geography of the Soul: A Phenomenological Study of Alchemizing Maternal Trauma through Spiritual Praxis in Rishikesh

Kashish Pandey (IIT Delhi)

Abstract

This case study explores the "Geography of the Soul" focusing on the idiosyncratic or highly individualized and subjective, process of alchemizing maternal trauma through spiritual praxis at an ashram in Rishikesh. While the proliferation of abuse among young people profoundly impacts daily functioning and long-term mental health, the specific role of Indian spiritual practices in this demographic remains underexplored. Employing Interpretative Phenomenological Analysis (IPA), this research focuses on a 27-year-old female survivor of maternal abuse. Data was gathered through three semi-structured interviews to examine how her engagement with silence, introspection, meditation, and Hatha Yoga facilitated emotional recovery. The analysis identifies Personal Experiential Themes (PETs) across two distinct phases: the lived experience of active abuse and the subsequent post-traumatic growth experienced within the ashram setting. Collectively, the findings highlight the vital role spirituality plays in the holistic recovery from physical and emotional trauma. The study suggests that incorporating practices such as mindfulness, prayer, and spiritual rituals can offer a transformative "therapeutic container" for young individuals seeking to reclaim their well-being.

[323]Parenting Practices and Character Formation in Middle and Late Childhood (6–12 Years): A Comparative Analysis of Developmental Psychology and Vedic Knowledge System.

Aleeshya M.M (Amrita school of ayurveda), Meera. E (Amrita school of ayurveda), Leena.P Nair (Amrita school of ayurveda)

Abstract

Background. Middle and late childhood (6–12 years) constitutes a critical developmental window for the acquisition of self-regulation, moral reasoning, and social competence. Contemporary Indian children navigate this period against a backdrop of academic pressure, reduced adult supervision, and unregulated digital exposure conditions associated with elevated rates of behavioural difficulty and emotional dysregulation. Aim. This paper examines Vedic ritual-based parenting as a culturally situated framework for fostering resilience, self-discipline, and social competence in children aged 6–12 years, and compares it with contemporary developmental psychological frameworks. Methodology. A conceptual, comparative, literature-based analysis was conducted. Classical Vedic texts, including the Manusmṛti and Gṛhya Sūtras, were examined alongside peer-reviewed literature retrieved from PubMed and Scopus using terms related to parenting styles, middle childhood, self-regulation, and Vedic pedagogy. Key findings. Vedic ritual-based parenting centred on age-graded rites (Vidyārambha and Upanayana), structured daily routines, and the guru–shishya relational bond demonstrates close structural and functional parallels with Baumrind's authoritative parenting and with Vygotsky's scaffolded learning model. Both traditions converge on the same core mechanisms: high behavioural expectations, emotional responsiveness, consistency of routine, and guided moral instruction. Conclusion. Practically adapted versions of Vedic ritual parenting are supported by the developmental research literature and are feasible within contemporary Indian households and school settings. Future longitudinal and intervention research is needed to evaluate their effectiveness systematically.

[324] Selfless Action as Cognitive Reappraisal: Integration of Bhagavad Gita Principles with Modern theory of Emotion Regulation

Ambica Kumari (Govt. College of Education, Jammu), Shalini Rana (Govt. College of Education, Jammu)

Abstract

Emotion regulation plays a vital role in maintaining good mental health, building resilience, and improving how well individuals function in their daily lives. Cognitive reappraisal, which involves changing the way one interprets emotionally significant events, is considered a highly effective method for managing emotions. This paper introduces a combined framework that connects the concept of selfless action, known as Nishkama Karma from the Bhagavad Gita, which is a key text in Indian Knowledge Systems (IKS), with cognitive reappraisal. IKS focuses on overall self-regulation, ethical involvement, and the development of inner calmness, offering cultural principles

that closely resemble modern approaches to emotion regulation. The Selfless-Action Reappraisal Framework outlines four stages—choosing situations, directing attention, changing thoughts, and adjusting responses—that connect Gita teachings and insights from IKS with well-known cognitive processes. This model is expected to lead to better emotional resilience, less negative feelings, and more helpful behavior towards others. The framework can be applied in various settings such as clinical, educational, and workplace environments. Future research should focus on testing this model through experiments, studying brain and cognitive functions, and exploring its relevance in different cultures. This approach combines elements from IKS, Eastern philosophy, and modern Psychology, offering both theoretical and practical ways to better manage emotions.

[342] Sākṣī Bhāva as a Transdiagnostic Therapeutic Principle and Contemplative Witness Meditation Practice as a Structured Method: A Tantrayukti-Based Inquiry into Scriptural Foundations, Neurophysiological Correlates, and Cross-Cultural Reflections

Swami Pranaka (Sadhguru Gurukulam Samskriti),Rajarajan Jayachandran (Thanjavur Medical College), Shalini Thakur (University of Delhi, New Delhi), Tejas Srinivasan (Sadhguru Gurukulam Samskriti, Isha Foundation, Coimbatore), Rushmita Premanand (Sadhguru Gurukulam Samskriti, Isha Foundation,Coimbatore), Ajith Kumar Pogu (Indian Institute of Technology Dharwad, Dharwad, Karnataka).

Abstract

Sākṣī Bhāva (साक्षी भाव) occupies a preeminent position within the epistemic framework of Bhāratīya contemplative traditions. This study analyses the relationship between Sākṣī Bhāva as an ontological state of enduring awareness and Contemplative Witness Meditation Practice (CWMP) as a tool that facilitates its experiential realization, employing cognition: “I am not the body; I am not even the mind.” Drawing from the Yoga Sūtras of Patañjali, Bhagavad Gītā, Caraka Saṃhitā, and Thirumantiram, this study interprets scriptural foundations that frame misidentification (avidyā; prajñāparādha) as the root of suffering and disease. This study uses Tantrayukti, the classical interpretative methodology of Bhāratīya Śāstras as structural framework for interlinking scriptural insight, contemplative method, and neurophysiology to explore and hypothesize mechanisms linking disidentification practices to modulation of the Default Mode Network (DMN), autonomic regulation, inflammatory pathways, and neuroplasticity as mediators of healing. Comparative phenomenological parallels in European literature and philosophy can be seen in the works of Michel de Montaigne, Leo Tolstoy, and Edmund Husserl. These authors portray witnessing as a universal human capacity across cultures, while differing in whether they interpret it as an ontological reality or as a phenomenological experience. We also propose a structured therapeutic model and empirical research framework, arguing that CWMP as an induction tool toward Sākṣī Bhāva, which may serve as a transdiagnostic therapeutic principle in integrative medicine.

[382]Cognitive Calm: Engineering Wisdom for Volatile Decisions

Jyoti Sharma (IIT Jodhpur), Ankita Sharma (IIT Jodhpur)

Abstract

Contemporary decision science remains disproportionately shaped by Western theoretical traditions, limiting its ecological validity and contextual sensitivity. Existing models, from rational choice theory to dual-process formulations, inadequately capture decision integrity in high-stakes, volatile environments marked by ethical load, accountability density, and compressed timeframes. Critically, outcome success is routinely conflated with decision quality, obscuring process-level rigour. This study introduces Wise Decision-Making (WDM), a metacognitive regulatory framework comprising seven co-active markers and a tripartite taxonomy (Perfect Wise Decisions, Failures in WDM, and Foolish Deci-sions), designed to evaluate procedural integrity independent of outcome. A pilot study of fifty semi-structured interviews with professionals across medicine, law, administration, and clinical psychology were analysed using constructivist grounded theory and Gioia methodology (first-order coding → second-order themes → aggregated dimensions; $\kappa = .80$). All seven markers and the tripartite taxonomy emerged organically across domains, demonstrating that decision quality is assessable at the marker level independent of

outcome realisation. Unprompted convergence between WDM and Indian Knowledge Systems examined at the level of regulatory mechanism suggests cross-culturally invariant principles of wise judgment. WDM is offered as a grounded, process-oriented framework addressing a critical gap in decision science: evaluating how decisions are made, not merely what they produce.

[431] Living Values Education in Contemporary School Systems: A Narrative Review of Conceptual Frameworks, Implementation Models, and Student Outcomes

Sufiya Parveen (IIT Mandi), Ramajayam Govindaraji (IIT Mandi)

Abstract

Adolescent mental health crises, fragmented social environments in schools, and the stubborn disconnect between academic credentials and genuine human formation- these are not new complaints, but they have grown louder. Living Values Education (LVE), formally recognised by UNESCO (2015) and UNICEF (2014) as a resource for peace-oriented and rights-centred schooling, takes a different starting point from most pedagogical programs: it does not treat universal values as content to deliver but as lived capacities to awaken. This narrative review synthesises evidence from 16 empirical, theoretical, and mixed methods studies published across 2003–2025, sourced from Scopus, Web of Science, PsycINFO, PubMed, ERIC, and Google Scholar, covering multiple countries and schooling levels from primary to tertiary. Six recurring outcome clusters emerged: character and moral development, emotional competence, prosocial conduct, perspective-taking, academic motivation, and school climate. The social-relational cluster is the most consistent; the emotional outcomes cluster is the least methodologically rigorous. Significant absences remain- near-complete neglect of primary school populations, no longitudinal follow-up beyond intervention, no physiological measures of affect, and insufficient documentation of implementation fidelity. The review presents a mapped account of existing evidence and, more importantly, a direct naming of what the field still does not know.

[367] Causal Dose Response and Policy Learning for Mindfulness Therapy

Siddhant Ujjain (IIT Delhi), Vaibhav Kagathara (IIT Delhi), Pooja Singh (IIT Delhi), Sandeep Kumar (IIT Delhi), Tapan Kumar Gandhi (IIT Delhi)

Abstract

Mindfulness-based therapies are widely used for depression, yet real-world delivery varies substantially in engagement and adherence. We present an end-to-end causal machine learning pipeline to (i) estimate observational dose response relationships between mindfulness session dose and changes in depression severity (BDI-II) at 12 and 24 weeks and (ii) learn an interpretable burden-aware dosing policy. Using cross-fitted doubly robust (DR) estimation with winsorized dose, overlap stabilization, and bootstrap uncertainty, we obtain stable dose response curves for both sessions completed (primary) and sessions started (adherence sensitivity). In a cohort of $N=210$ patients, expected BDI-II change is negative across doses (improvement relative to baseline), with patterns that differ by follow-up horizon and dose definition. We further estimate clinically interpretable responder probabilities and demonstrate an explicit outcome-burden trade-off via a policy sweep, distilling the chosen policy into a shallow decision tree. Our results illustrate how causal ML and interpretable policy learning can convert observational mental-health service data into transparent decision support under stated assumptions and acknowledged limitations.

[373] Echoes of the Body: Multimodal Recognition and Sonic Externalization of Contemplative States

Cecilia Raho (Politecnico di Milano), Massimiliano Zanoni (Department of Electronics and Telecommunications(DET), Politecnico di Torino), Reinhard Vanbergen (Department of Art, Music, and Theatre Sciences, Ghent University), Pieter-Jan Maes (Department of Art, Music, and Theatre Sciences, Ghent University)

Abstract

Yoga and meditation are increasingly recognized as structured practices that can modulate psychophysiological states and influence breathing patterns, heart rate variability and emotional regulation. Similarly, sound and music have been investigated as powerful media for shaping internal experience. However, there are still few methodological frameworks that systematically connect physiological dynamics with meaningful sonic representations during contemplative practice. This study presents a real-time multimodal system designed to identify distinct psychophysiological states during the Shambhavi Mahamudra Kriya, a structured yoga protocol combining breathing techniques, chanting, activation phases and meditation, and translate these states into corresponding musical compositions. Respiratory, cardiac and acoustic data are collected from experienced practitioners and processed through dedicated feature extraction pipelines. Separate Random Forest classifiers are trained on physiological and audio modalities, and their predictions are combined using a late fusion strategy to recognize the distinct stages of the practice. Rather than functioning as a prescriptive guide, artificial intelligence operates as supportive infrastructure that renders private physiological dynamics perceptible through sound. Musical representations are evaluated by external listeners to determine whether they have effectively conveyed the qualitative characteristics of the underlying states. Results demonstrate the feasibility of combining biofeedback, multimodal machine learning and artistic representation to externalize contemplative processes, in which meditative conditions can be made accessible without being imposed.

Regular Session 13:

RS13: Brain Computer Interface and Application_10

Time: 15:00-17:00, CnP 1 (Hall D)

Session Chair:Prof. Ram Bilas Pachori

Paper ID	Paper Titles	Authors
53	Automated ADHD Diagnosis from EEG Signals Using CNN and Time–Frequency Image Analysis	Bipan Tiwari, Tanu Kumari, Simranjit Kaur
54	A Hybrid DWT–Deep Learning Framework for Alcoholism Classification Using EEG Signals	Bipan Tiwari, Tanu Kumari, Simranjit Kaur
114	Brain–Computer Interface–Enabled AI System for Real-Time Pain Recognition and Management in Brain Tumour Patients	Dhinakaran M, Gururama Senthilvel P
123	Supervised Contrastive Learning Framework for Electroencephalography-based Air-writing Recognition	Anant Jain, Ayush Tripathi
131	EEG Emotion Recognition Using Multivariate Fast Iterative Filtering and Multi-Scale Deep Learning	Kunal Joshi, Abhijit Bhattacharyya
136	A Hilbert–Neural Closed-Loop System for Enhancing Yogic Brain States Using Real-Time EEG Biofeedback	Maulika Patel, Himanshu Mazumdar
145	EEG connectivity feature-based States and Traits classification analysis of Heartfulness Meditation	Bikesh Kumar Singh, Sweta Minj, Deepeshwar Singh, Sunandan Mandal
147	An EEG-Based Smart Home Automation System Using Eye Blink Control for Paralyzed Patients	Ashwin Nilesh S P, Krishna Chaitanya Reddy K L, Santosh Raj R, Abraham Sudharson Ponraj, Prakash Venugopal, S Sofana Reka
151	EEG-based Brain-Computer Interface framework for Imagined Speech Decoding	Roopa Golchha, Mridu Sahu, Narendra D. Londhe

152	EEG-Based Human-Centric Brain–Computer Interface for Cognitive State Recognition	Abhishek Dixit, Nimisha Yadav, Dixita Barua

[53] Automated ADHD Diagnosis from EEG Signals Using CNN and Time–Frequency Image Analysis

Bipan Tiwari (Thapar Institute of Engineering and Technology), Tanu Kumari (Thapar Institute of Engineering and Technology), Simranjit Kaur (Thapar Institute of Engineering and Technology)

Abstract

Attention Deficit Hyperactivity Disorder (ADHD) is a widely observed neurodevelopmental condition in children, typically associated with inattention, impulsive behavior, and hyperactivity. Current diagnostic practices are largely based on behavioral assessments, which can introduce subjectivity. To support more objective evaluation, electroencephalography (EEG) offers a non-invasive way to capture brain activity linked to such disorders. In this work, an automated framework is developed to classify EEG signals from children with ADHD and healthy controls using both deep learning and conventional machine learning approaches. A Convolutional Neural Network (CNN) is applied to raw EEG signals as well as to time–frequency (T–F) representations derived from the data. In addition, classifiers such as Support Vector Machine (SVM), k-Nearest Neighbors (KNN), Random Forest (RF), and Logistic Regression (LR) are evaluated using T–F features for comparison. The results show that CNN performs best when trained on raw EEG signals, achieving an accuracy of 96.5% in the central region. For T–F representations, the highest CNN accuracy observed is 84.52% in the parietal region. Among machine learning models, SVM provides the most consistent performance, reaching a maximum accuracy of 87.5%. In general, the findings suggest that raw EEG signals retain more discriminative information for deep learning models, while T–F representations remain useful for traditional classifiers. The proposed approach highlights the potential of combining signal processing and learning-based methods to provide more reliable evaluation ADHD.

[54] A Hybrid DWT–Deep Learning Framework for Alcoholism Classification Using EEG Signals

Bipan Tiwari (Thapar Institute of Engineering and Technology), Tanu Kumari (Thapar Institute of Engineering and Technology), Simranjit Kaur (Thapar Institute of Engineering and Technology)

Abstract

Alcoholism is a common illness that has been linked to negative brain impacts that impair behavior, emotion, and cognition. In addition to increasing the likelihood of alcoholism, excessive alcohol use can have serious side effects such as neurological system disturbances, circulatory and respiratory failures, and even death. Current diagnostic procedures for alcoholism often lack efficacy, necessitating the exploration of alternative methods. This paper addresses the limitations of standard testing procedures by proposing a novel approach utilizing Electroencephalogram (EEG) signals for the diagnosis of alcoholism. EEG records potentials from the brain's cerebral cortex through electrodes placed on the scalp, capturing changes in neural activity. Traditional machine learning techniques, reliant on human interventions, have been coupled with advanced deep learning methods for enhanced accuracy. The proposed deep learning method uses Discrete Wavelet Transform (DWT) for feature extraction from EEG signals, allowing for a comprehensive analysis of brain activity. Various deep learning architectures, including Bidirectional Long Short Term Memory (Bi-LSTM) and CNN-Bi-LSTM, were employed for automated feature extraction and classification. Additionally, machine learning algorithms such as K Nearest Neighbor (KNN), Support Vector Machine (SVM), and Random Forest (RF) were integrated into the analysis. The experimental results demonstrated the effectiveness of the proposed approach, achieving a remarkable maximum accuracy of 98.45% with Bi-LSTM model. It has been observed that frequency ranges of 9-16 Hz play an important role in group discrimination. These findings suggest the robustness and potential clinical applicability of the developed EEG model for alcoholism diagnosis.

[114] Brain–Computer Interface–Enabled AI System for Real-Time Pain Recognition and Management in Brain Tumour Patients

Dhinakaran M (Saveetha University), Gururama Senthilvel P (SIMATS, Chennai)

Abstract

Brain tumour pain treatment is complicated and requires objective evaluation methods beyond patient reporting. This research introduces a brain-computer interface (BCI)-enabled artificial intelligence system that uses deep learning and electroencephalography (EEG) data processing to recognise brain tumour pain in real time. To identify pain at four intensity levels with excellent accuracy, the system uses a hybrid CNN-LSTM architecture with multimodal feature fusion and attention methods. The suggested system had 94.2% accuracy, 0.93 precision, 0.92 recall, and 0.925 F1-score in binary pain classification and 87.4% accuracy in multi-class intensity evaluation on the BioVid Heat Pain Database and BCI datasets. The system architecture includes real-time EEG pre-processing, wavelet packet decomposition, spatiotemporal feature extraction, and attention-based fusion. Pain assessment reliability for non-communicative patients improved significantly after clinical implementation. The BCI-AI system provides an objective, real-time alternative to standard pain measures and shows promise for personalised brain tumour pain treatment.

[123] Supervised Contrastive Learning Framework for Electroencephalography-based Air-writing Recognition

Anant Jain (IFIM College), Ayush Tripathi (Indian Institute of Technology Indore)

Abstract

Electroencephalography (EEG) - based air-writing recognition offers a human-computer interaction paradigm by decoding neural activity associated with handwriting movements. Despite its potential, reliable EEG-based air-writing recognition remains challenging due to low signal-to-noise ratio and pronounced inter-subject variability. In this study, we examine the use of supervised contrastive learning to improve representation learning for EEG-based air-writing recognition. The analysis is conducted on preprocessed EEG signals and independent component analysis (ICA)–derived neural components obtained from 10 participants, with trials segmented from −1 to 2 s relative to movement onset. EEGNet and DeepConvNet architectures are evaluated under both conventional cross-entropy training and a supervised contrastive learning framework using a subject-dependent five-fold cross-validation scheme. The results indicate that supervised contrastive learning consistently improves classification accuracy across architectures and feature representations. For preprocessed EEG signals, the mean accuracy increases from 30.40%±6.68% to 39.06%±10.29% and from 27.42%±5.43% to 34.05%±7.32% with EEGNet and DeepConvNet, respectively. Using ICA components, higher mean accuracies of 44.98%±11.24% and 39.87%±7.71% are achieved with EEGNet and DeepConvNet, respectively. These results suggest that the supervised contrastive learning framework offers an efficient extension to existing EEG-based air-writing recognition approaches.

[131] EEG Emotion Recognition Using Multivariate Fast Iterative Filtering and Multi-Scale Deep Learning

Kunal Joshi (National Institute of Technology Hamirpur), Abhijit Bhattacharyya (National Institute of Technology Hamirpur)

Abstract

Human emotions are complex neurophysiological states that are reflected in the brain's electrical activity. However, the non-stationary nature and complex non-linear dynamics of electroencephalogram (EEG) signals present significant challenges for accurate emotion recognition. To address these issues, this study proposes a framework that uses multivariate fast iterative filtering (MvFIF) to decompose 14-channel EEG recordings from the DREAMER emotion dataset into spatially aligned intrinsic mode functions (IMFs). The IMFs are processed by a parallel dual-branch neural network employing a multi-scale 1D convolutional neural network (CNN), where

identical kernel sizes with different dilation rates are used to obtain distinct receptive fields. This enables feature extraction at multiple temporal scales. The resulting features are concatenated and processed by a bidirectional long short-term memory (BiLSTM) network to capture global temporal dependencies. The proposed framework achieves classification accuracy of 95.89% (low vs. high valence), 95.01% (low vs. high arousal), and 94.74% (low vs. high dominance) using a 5-fold cross-validation scheme. These results demonstrate that the combination of MvFIF-based mode extraction with the proposed neural network has robust performance in affective computing applications.

[136] A Hilbert–Neural Closed-Loop System for Enhancing Yogic Brain States Using Real-Time EEG Biofeedback

Maulika Patel (C V M University), Himanshu Mazumdar (Dharmsinh Desai University)

Abstract

Traditional yogic practices guide the brain from active cognitive states toward deeper meditative states, characterized by increased Alpha (8–12 Hz) and Delta (0.5–4 Hz) activity, alongside reduced Beta (13–30 Hz) dominance. However, these transitions remain subjective and instructor-dependent, lacking objective, real-time neurofeedback. This work proposes a cyber-physical neuro-yoga system that quantifies, interprets, and enhances yogic states via EEG, Hilbert-space embedding, and neural network–driven closed-loop biofeedback. We introduce a multimodal pipeline in which raw EEG signals are decomposed into spectral bands. Band-power vectors form a high-dimensional physiological state space. These are mapped into a one-dimensional cognitive manifold using a Hilbert space-filling curve, preserving locality and continuity. A pre-trained neural network then learns the nonlinear mapping from this Hilbert coordinate to a latent consciousness state vector—encoding relaxation, focus, stability, mind-wandering, and somatic awareness. This latent state drives real-time biofeedback (auditory, visual, tactile) to guide the practitioner toward stable Alpha–Delta states. The system also integrates breathing rate, heart-rate variability (HRV), and other physiological signals to model mind–body dynamics holistically. Over sessions, it develops a personalized neuro-yogic fingerprint, enabling optimized, individualized practice. This framework transforms yoga into a measurable, programmable, and adaptive neuro-cybernetic process, bridging ancient contemplative methods with modern AI and signal processing. It opens new pathways for therapeutic meditation, mental health optimization, and the scientific study of consciousness.

[145] EEG connectivity feature-based States and Traits classification analysis of Heartfulness Meditation

Bikesh Kumar Singh (National Institute of Technology), Sunandan Mandal (National Institute of Technology Raipur)

Abstract

Heartfulness meditation involves focusing on the heart, regulating breath-ing, and fostering a sense of calm and positivity. Various meditation practic-es are recognised worldwide, yet Heartfulness meditation (HM) and its neurophysiological effects have not been extensively examined using brain sig-nals. The main objective of this study is to explore the connectivity measures in the brain, including brain activity, before, during, and after HM in long-term meditators (LTM), short-term meditators (STM), and non-meditators (NM). The present work includes 34 meditators, classified as LTM, STM, and NM, based on their experience. An electroencephalogram (EEG) system with 128 channels was used during data acquisition, and vari-ous preprocessing steps were applied to remove noise and artefacts. Further, Wavelet-based coherence features were extracted from the preprocessed EEG signals for various states of the Heartfulness meditation. Furthermore, the HM states of meditators were classified using EEG connectivity features with a support vector machine (SVM) and an XGBoost classifier. A high classification accuracy of 94.54% was obtained for Baseline versus Medita-tion state and Baseline versus Transmission in the LTM group, using an XGBoost classifier with 10-fold cross-validation. For trait classification, the XGBoost model achieved high accuracies of 94.09% and 93.89% for LTM versus NM and for STM versus NM, respectively.

[147] An EEG-Based Smart Home Automation System Using Eye Blink Control for Paralyzed Patients

Ashwin Nilesh S P (Vellore Institute of Technology Chennai), Krishna Chaitanya Reddy K L (Vellore Institute of Technology Chennai),Santhosh Raj R (Vellore Institute of Technology Chennai), Abraham Sudharson Ponraj (Vellore Institute of Technology Chennai), Prakash Venugopal (Vellore Institute of Technology Chennai), Sofana Reka (Vellore Institute of Technology Chennai)

Abstract

Paralysis is a medical condition that prevents voluntary muscle control, caus-ing patients to depend heavily on caregivers for daily activities. The Brain-Computer Interface (BCI) technology can detect brain activity and control devices without any physical movement. This paper presents a non-invasive BCI system based on Electroencephalography (EEG) signals related to eye blinks which can be utilized in smart home technology. The proposed meth-od helps in acquiring electrical signals of the brain from Fp1 and Fp2 using the OpenBCI Ganglion board and electrodes for the purpose of eye blinking. The system records a baseline every 10 seconds for the purpose of finding an adaptive threshold; thus, it becomes immune to noise, unintentional blinks, and inter-individual differences. The computer that has been set up with the R-Pi recognizes the blinking patterns as single, double, and triple blinks which are all linked to specific control activities, and it is responsible for processing the incoming EEG data. The commands are sent to the ESP32 that drives a relay module using Wi-Fi as a smart home automation system, thus the system can switch on/off household loads such as lights, fans, etc., The experimental results show that the detection of blinks is accurate and the time lag is very minimal, thereby ensuring seamless and efficient appliance control. The technology developed is a low-cost, highly scalable, and versa-tile aid device that easily meets the demands of the severely motor impaired patients.

[151] EEG-based Brain-Computer Interface framework for Imagined Speech Decoding

Roopa Golchha, Mridu Sahu, Narendra D. Londhe (National Institute of Technology Raipur)

Abstract

Decoding imagined speech from noninvasive electroencephalography (EEG) is challenging due to low signal-to-noise ratio, distributed neural representations, and significant inter-subject variability. This paper introduces a fundamental Brain–Computer Interface (BCI) framework for multi-class imagined word decoding. The proposed framework integrates spectral bandpower features with functional connectivity within a unified graph-informed representation. To capture the structured network organization during imagined articulation, connectivity is measured using magnitude-squared coherence and analyzed using graph-theoretic metrics. An experimental evaluation was conducted using a 22-channel wearable Emotiv device to record a dataset of 15 words. Under trial-wise grouped cross-validation, the fused spectral-connectivity representation obtained an accuracy of 0.1329. Beta-band oscillations demonstrated the strongest discriminative features. The connectivity analysis identified a statistically defined network organization with consistent hub-like channels across signals. At the same time, leave-one-subject-out validation demonstrated limited cross-subject generalization; within-subject calibration improved performance to an accuracy of 0.2463. These findings provide an interpretable, graph-informed baseline for imagined speech EEG analysis and emphasize the importance of subject-adaptive strategies for effective deployment.

[152] EEG-Based Human-Centric Brain–Computer Interface for Cognitive State Recognition

Abhishek Dixit, Nimisha Yadav, Dixita Barua (Dronacharya College of Engineering)

Abstract

Brain–Computer Interface (BCI) systems provide a direct pathway for interaction between human neural activity and computational platforms by interpreting brain signals into usable information. In recent years, non-invasive

electroencephalography (EEG)-based BCI approaches have attracted considerable interest due to their safety, cost-effectiveness, and suitability for human-focused technological applications. As intelligent systems increasingly aim to adapt to human behaviour, identifying cognitive states such as attention and mental workload has become a critical research requirement in areas including assistive technology, education, and psychological well-being. Although prior studies have reported notable improvements in BCI performance, many existing methods primarily prioritize classification accuracy, often overlooking aspects such as interpretability, computational efficiency, and usability in real-world environments. Furthermore, the integration of ethical and human-centred design considerations remains limited in current BCI frameworks. This paper presents a human-oriented EEG-based BCI framework designed for cognitive state recognition. The proposed approach follows a systematic pipeline comprising EEG signal acquisition, artificial and noise reduction, extraction of time–frequency features, and classification using machine learning techniques. Emphasis is placed on achieving a balance between reliable performance and model transparency[8]. The framework is evaluated on publicly available EEG datasets, with effectiveness assessed using accuracy and robustness metrics. The findings demonstrate that the proposed system successfully identifies variations in human cognitive states across subjects. This work supports the development of scalable, ethical, and interdisciplinary BCI solutions by combining neuroscience insights with computational intelligence.

Regular Session 14:

RS14: Sanskrit_4 + Mega Hz Signal and Nanobrain_6

Time: 15:00-17:00, CnP 2 (Hall E)

Session Chair:Dr. Krishna Panda, Dr. Pushpendra Singh & Dr. Rama Jayasundar

Paper ID	Paper Titles	Authors
296	Mukhpath - An Oral Tradition and its effects on mind, brain and consciousness	Shruti Dharmendrabhai Chauhan
401	भारतीयदर्शनानुसारं स्मृतिविमर्शः	Tejasvi Thumar
403	अक्षरपुरुषोत्तमदर्शन में आत्मनिष्ठा-मनः संयम एक आध्यात्मिक उपाय	Upasana Patel
406	अक्षरपुरुषोत्तमदर्शनाऽऽलोके बुद्धितत्वविमर्शः	Mili Bhesaniya
59	Asymmetric cryptosystem based on nonlinear PTFT and singular value decomposition in Fourier domain	Kapil,Sachin
78	Quantum-Enhanced Neural Signal Processing Framework for MHz-Range Consciousness Studies: A Nanoscale Brain Model Approach	Sandeep Gupta, Madhulata Kumari, Abhinav Harish, Udai Kumar, Sazzad Hossain, Kanad Ray
79	Nanoscale Electromagnetic Field Dynamics and MHz-Range Signal Propagation in Consciousness Models: Integration of Microtubule Networks with Neural Field Theory	Sandeep Gupta, Madhulata Kumari, Abhinav Harish Udai Kumar, Sazzad Hossain, Kanad Ray
80	Hey Aatrangi: An Ethical AI Companion for Continuous Student Mental Health Support	Jakkoju Kalyan,Harshith, Daraboina, Dusary Charan, Medasani Bharath Reddy, Doddi venkata Lakshmi prasad, Dr Sandesh Sanjeev Phalke
240	A Critical Review of Automated Methods for Brain Metastasis Detection and Segmentation in MRI: Challenges and Opportunities	Mukul Saxena, Gayatri Saxena, Akanksha Saxena, Sarika Saxena, Ram Singh Kushwaha, and Pushpendra Singh

427	Lightweight Attention-Based 3D U-Net for Efficient Brain Tumor Segmentation: Neuro-Clinical and Consciousness-Oriented Analysis	Madhu Choudhary and Saurabh Mukherjee

[296] Mukhpath - An Oral Tradition and its effects on mind, brain and consciousness

Shruti Chauhan (Shree Yagnapurush Vidyapith)

Abstract

This paper addresses a central question: how does the ancient Vedic practice of Mukhpatha —memorizing and reciting sacred texts—transform a person at the levels of the brain, mind, and soul? The study draws from three areas of analysis: Vedic tradition and its living continuation in the BAPS Swaminarayan tradition, modern psychology, and neuroscience. The methodology combines scriptural study, philosophical reflection, and a review of scientific research, along with real-world examples such as the 15,666 children who memorized the Satsang Diksha and the personal experience of student Shreya Patel. The key findings show that Mukhpatha works on multiple levels. In the brain, it strengthens neural pathways, improves focus, and calms the stress response. In the mind, it reduces mental clutter, weakens the ego, and builds emotional maturity. At the level of consciousness, it purifies the subtle self and leads toward liberation while living (Jivanmukti), especially within the Akshar-Purushottam understanding of the soul's eternal relationship with God. The paper concludes that Mukhpatha is a complete, living practice that transforms a person from the inside out—beginning with words on the lips and ending with freedom of the soul.

[401] भारतीयदर्शनानुसारं स्मृतिविमर्शः

Tejasvi Thumar (Shree Yagnapurush Vidyapith)

Abstract

भारतीयदर्शनानुसारं स्मृतिविमर्शोऽस्मिन् शोधप्रबन्धे स्मृतिः किं केवलं मानसी वृत्तिः, उत मोक्षसाधनरूपेणापि प्रतिष्ठिता इति मूलप्रश्नः। यदा जीवः जगत्कारणभूतानि पुरुष-प्रकृति-कालादीनि महत्त्वादिचतुर्विंशतितत्त्वानि च यथावत् प्रतिपद्यते, तदा स्वस्वरूपावस्थिताया अविद्यायास्तत्कार्यभूतानां चतुर्विंशतितत्त्वानां बन्धनाद् विमुच्यते। बुद्धिलक्षणान्तर्गता स्मृतिः संस्कारमात्रोत्पाद्यं ज्ञानम्। न्यायदर्शनानुसारम् अनुभवः आत्मनि संस्कारो निधीयते, स निमित्तप्रयत्नाभ्यां जागरितः सन् स्मृतिं प्रसूते। इयं प्रक्रिया पञ्चसोपानी – अनुभवः, संस्कारः, निमित्तम्, प्रयत्नः, स्मृतिज्ञानम्। संस्कारस्त्रिविधो भूमिकां वहति – उपादानकारणत्वेन, धारककारणत्वेन, उद्बोधककारणत्वेन। श्रवण-मनन-निदिध्यासनानि स्मृतिदार्ढ्याय त्रीणि साधनानि। अक्षरपुरुषोत्तमदर्शनं स्मृतिं भक्तेः केन्द्रभूतां मन्यते – “स्नेहो नाम भगवन्मूर्तेरखण्डिता स्मृतिः” इति। भगवन्मूर्तिश्चिन्तामणितुल्या, यस्यां मनोवृत्तिरखण्डा सा मायातरणाय स्मृतिः साधनम्। उभयदर्शनसमन्वयः – न्यायः संस्कारसिद्धान्तेन स्मृतेरुत्पत्तिं स्पष्टयति, अक्षरपुरुषोत्तमदर्शनं तस्याः स्मृतेराध्यात्मिकं प्रयोजनं प्रतिपादयति। भारतीयज्ञानपरम्परायां स्मृतिः केवलं मनोवैज्ञानिकी प्रक्रिया न, अपि तु मायातरणाय, भक्त्यै, मुक्तये च साधनम्। वर्तमानयुगे स्मृतिह्रासरोगेषु, मानसिकतनावे, चिन्तायाम्, अवसादे चास्याभ्यासः प्रयोजनकारी। न्यूरोसाइन्से अपि आवृत्तेः Long-Term Potentiation (LTP) सह समन्वयं दर्शयति। अयं शोधप्रबन्धः स्मृतेः स्वरूपम्, उत्पत्तिप्रक्रियाम्, संस्कारभूमिकाम्, आधुनिकप्रासङ्गिकतां च प्रमाणयति।

[403] अक्षरपुरुषोत्तमदर्शन में आत्मनिष्ठा-मनः संयम एक आध्यात्मिक उपाय

Upasana Patel (Shree Yagnapurush Sanskrit Vidyapith)

Abstract

वर्तमानकाल के विद्यार्थीओ का ,युवा पीढ़ीओ का ,और आध्यात्मिक पथ चलनेवाले हर एक अर्जुनो का सबसे बड़ा प्रश्न है की "चञ्चलम् हि मनः कृष्णः"अर्थात् मेरा मन बहुत चञ्चल है |अर्जुनने तो प्रत्यक्ष भगवान के शरण मे जाकर यह प्रश्न का उत्तर पा लिया था |किन्तु वर्तमान काल के साधाक तो प्रश्न पर हि स्थिर हो गए है | परन्तु इसी प्रश्न का उत्तर हमारे भारतीय परम्परा के प्रसिद्ध ग्रन्थ् वेद,उपनिषद आदि मे दिया गया है | इन वेदो और उपनिषदो के आधार पर पूर्वे छह आचर्योने अपने सिद्धान्त का प्रस्थापन किया है | वह षड् दर्शन के नाम से आज भी विश्व मे प्रसिद्ध है | वह षड्दर्शन अर्थात्

द्वैत-द्वेताद्वेत-शुद्धाद्वेत-विशिष्टाद्वेत -अद्वेत-अचिन्त्यभेदाभेद | यहि दार्शनिक परंपरा मे एक नूतन दर्शन का प्रस्थापन हुआ है | जिसक नाम है अक्षरपुरुषोत्तमदर्शन| भगवान स्वामिनारायण प्रबोधित यह अक्षरपुरुषोत्तमदर्शन मे भी वर्तमान काल के वह अर्जुनो का उत्तर विभिन्न उपायो द्वारा बताया गया है| जैसे कि भगवान और ब्रह्मस्वरुप गुरुओ के वचन मे विश्वास,ध्यान,वैराग्य ,आत्मनिष्ठा इत्यादि | उन्ही उपायो मे से एक उपाय आत्मनिष्ठा का प्रतिपादन करना यह शोधपत्र का मुख्य विषय है | साथ ही साथ आत्मनिष्ठा दृढता कैसे की जा सकती है , आत्मनिष्ठा से हो रहे अन्य लाभ का प्रस्थापन भी प्रस्तुत शोधपत्र में किया गया है |

[406] अक्षरपुरुषोत्तमदर्शनाऽऽलोके बुद्धितत्वविमर्शः

Mili Bhesaniya (Shree Yagnapurush Sanskrit Vidyapith)

Abstract

सकलबोधकरणत्वाद् बुद्धि। अक्षरपुरुषोत्तमदर्शनाधारेण बुद्धेः ज्ञानात्मकत्वं कारणत्वमुक्तम्। अन्तःकरणात्मिका बुद्धिर्हि ज्ञानरूपाया बुद्धेर्भिन्ने। एका साधनमपरा फलम्। बोध प्रत्यय उपलब्धिर्भानं वेदनमवगतिर्विज्ञप्तिरित्यादयो ज्ञानरूपबुद्धेः पर्यायभूताः । तस्याः करणं बुद्धिरन्तःकरणरूप। निद्राऽपि बुद्ध्याख्याऽन्तःकरणसंबद्ध। तथा हि सामान्यविशेषज्ञानवत्त्वं संशयवत्त्वं विपर्ययवत्त्वं स्मृतिवत्त्वं निद्रावत्त्वमित्यादि तल्लक्षणम् । यथावस्थितवस्तुज्ञानं प्रमा। ज्ञानमेव तात्पर्यविशेषेण संविन्मेधा धीः शेमुषी धिषणेत्यादिशब्दैर्व्यपदिश्यते । अत्र कारणरुपया बुद्ध्या आत्मनिष्ठां प्रख्यापयितुं बुद्धेः करणत्वं प्रत्यक्षशब्देति प्रमाणद्वयेन प्रदर्श्यते अक्षरपुरुषोत्तमदर्शने तु प्रमाणचतुष्टयस्य सविकारे अपि सरल्याय द्वयोरेव चयनम् ।मनुष्यदेहपप्तिपूर्वे चतुरशीतिलक्षयोनिगतत्वातद् जन्माऽनन्तजन्मप्राप्तत्वात् सततमायारूपाऽज्ञानवेष्टितत्वाद्मनसा बुद्ध्या चेतसा आत्मना चक्षुरादीन्द्रियैश्च सर्वैः करणैः जनः विषयव्यापार एव विरमति। जाते च इह लोके अस्मिन् जन्मनि यदा सः जनः स्वतयैव किञ्चिदवगन्तुं समर्थो भवति तदा समग्रं जगत् स्वनेत्राभ्यां निभालयति ‘सन्ति हि संसारे उद्भिज्जाण्डजस्वेदजजरायुजभेदेन चतुर्विधा देहाः। तेषु च पुनर्देवमनुष्यपशुपक्षिकीटाद्या हि चतुरशीतिलक्षसंख्याका देहाः। दृश्यते हि मनुष्येतरप्राणिनामपि स्वस्वेन्द्रियाऽर्हविषयोपभोगे स्वाभाविकी प्रवृत्तिः। पशवोऽपि गोगर्दभसारमेयादयः शृण्वन्ति शब्दान्, अनुभवन्ति स्पर्शम्, आभालयन्ते रूपम्, आस्वादन्ति रसान्, जिघ्रन्ति च गन्धानथ, चाऽऽनन्दिता दुःखिता मुखरिता वा जायन्ते। विषयोपभोगस्तु भूचरखेचरजलचराणां समाना प्रकृतिः।’ तदा च विचारयति यन्ममाऽप्ययं देहः भोगविलाससाधनमेव। यदा च अक्षरब्रह्मगुरुलब्धप्रसंगः जनः गुरुतदुपदिष्टशास्त्रवचनजन्याऽपरोक्षज्ञानरूपाऽक्षरपुरुषोत्तमविषयिणी साक्षान्मोक्षकरीति श्रेष्ठां विद्यां प्राप्य आत्मनिष्ठो भवति । तदा गुरूपदिष्टशब्दैः तदनुभुत्या प्रत्यक्षावगमनेन च तस्य धीः निश्चयं करोति यदयं देहः नश्वर। अहमविनषि आत्मा । बुद्धिः जडा । देहनाशे सर्वं मायिकं नशयति परन्तु नाऽत्मा । तत्तु चिरञ्जीवी। अतः यावत्पर्यनतं देहेऽस्मिन्नात्माऽवस्थितः तावदेव तन्निश्चयः क्रियते 'अहमात्मा न देहः'। यतो हि बुद्धेहर्यात्मा महान् परः|

[59] Asymmetric cryptosystem based on nonlinear PTFT and singular value decomposition in Fourier domain

Kapil Kapil (Kurukshetra University, Kurukshetra), Sachin Sachin (IIHS, Kurukshetra University, Kurukshetra)

Abstract

In this manuscript, we have proposed an improved asymmetric image encryption technique that uses nonlinear PTFT with singular value decomposition. The security of nonlinear PTFT is susceptible that’s why SVD and nonlinear PTFT are used together to improve the security of cryptosystem. SVD provides two decryption keys which are required in the decryption process. The proposed algorithm is tested on grayscale ‘Cameraman’ images. The security of the proposed algorithm is also tested with statistical attacks such as CC and MSE. The security of the proposed algorithm is also tested using visual metrics such as histogram and mesh plot. The efficiency of the proposed algorithm is tested using contamination, iterative, chosen and known plaintext attacks. The efficacy of the proposed algorithm is also validated through key sensitivity analysis.

[78] Quantum-Enhanced Neural Signal Processing Framework for MHz-Range Consciousness Studies: A Nanoscale Brain Model Approach

Sandeep Gupta (PIET), Kanad Ray (Amity University Rajasthan), Madhulata Kumari (Amity University Rajasthan), Abhinav Harish (Amity University Rajasthan), Udai Kumar (Amity University Rajasthan), Sazzad Hossain(Samarkand State University, Samarkand, Uzbekistan)

Abstract

Traditionally, the inquiry into consciousness by neural signal processing has been limited to below 100 Hz, but new results show that MHz oscillations play a vital role in cognition and conscious experience. The presence of a novel quantum-enhanced computational scheme for deciphering the MHz-frequency neural signals is explored in this paper by nanoscale brain models in conjunction with quantum machine learning. We recommend a hybrid classical-quantum processing scheme that modulates high-frequency neural oscillations during the time evolution of quantum gates optimized for temporal pattern extraction. Our experimental evidence of concept with simulated nanobrain weights also shows improved signal classification fidelity than classical approaches of 94\% versus 87.3\%, as well as being 3× faster for processing MHz signals. The model, which incorporates all-to-all quantum network interactions in order to simulate non-local neural correlations at nanoscale scales, provides a new perspective on the quantum-classical interface within biological systems. We now have a mathematical foundation relating MHz neural oscillations to quantum coherence phenomena, and this has been aided by numerical simulations of nanoscale EM field interactions. These findings reveal new insights into the behavior of consciousness at quantum-classical boundaries, as well as the creation of new possibilities for brain-computer interfaces with ultrahigh frequency neural signatures.

[79] Nanoscale Electromagnetic Field Dynamics and MHz-Range Signal Propagation in Consciousness Models: Integration of Microtubule Networks with Neural Field Theory

Sandeep Gupta (PIET), Kanad Ray (Amity University Rajasthan), Madhulata Kumari (Amity University Rajasthan), Abhinav Harish (Amity University Rajasthan), Udai Kumar (Amity University Rajasthan), Sazzad Hossain(Samarkand State University, Samarkand, Uzbekistan)

Abstract

Current theories of consciousness now recognize that neural communications are not limited to the traditional synaptic transmissions but also include electromagnetic field experiments in subcellular and molecular domains. A unified mathematical framework for modeling electromagnetic information exchange in biological tissue nanoarchitecture is presented, focusing on the origins and resonance feature characteristics of MHz-range signals generated by microtubule networks and other cytoskeletal complexes. We offer partial differential equations for the description of coupled electromagnetic-mechanical oscillations in these bio-nano structures, as well as analytical methods for characteristic frequency spectra and spatial propagation patterns. According to numerical experiments, there are high frequency oscillatory modes with quality factors over 10\%, indicating the possibility of coherent information processing at microsecond speeds that exceeds conventional neural computation by three orders of magnitude. The findings in this context show that geometric resonances' electromagnetic properties are compatible with ultra-high frequency neural activity that was not present even long ago. We continue to develop a neural field theory model that incorporates nanoscale electromagnetic effects across classical action potential dynamics to the MHz range, finding that MHz fields can lead to macroscopic behavior in the neural network by controlling phase synchronization mechanisms and spatially separated neurons. Computational experiments using biophysically realistic parameters show that information transfer rates through microtubule networks could reach processing speeds and capacity comparable to the Human Brain, 10^{14} bits per second or higher, with at least 10^8 operations per second (on a par with a single neuron counting 1000 synapses).

[80] Hey Aatrangi: An Ethical AI Companion for Continuous Student Mental Health Support

Jakkoju Kalyan,Harshith, Daraboina, Dusary Charan, Medasani Bharath Reddy, Doddi venkata Lakshmi prasad, Dr Sandesh Sanjeev Phalke (IIIT, Dharwad)

Abstract

Mental health challenges among learners across educational stages have intensified globally, while access to timely

and stigma-free support remains limited. Conversational agents and large language model (LLM)-enabled systems offer scalable opportunities for mental health support, yet raise ethical concerns related to dependency, boundary ambiguity, and appropriateness for vulnerable populations. This paper presents Hey Aatrangi, a 24×7 AI-based intelligent companion designed to support mental well-being across educational transitions, with a dual focus on early neurodiversity awareness and student mental health support. Hey Aatrangi is intentionally positioned as a guide and companion rather than a therapeutic or diagnostic system, aligned with Psychological First Aid and stepped-care principles. A mixed-methods research design was adopted. Following a structured literature review, qualitative interviews were conducted with remedial education experts (n = 3), and Undergraduate engineering students to identify key challenges and design requirements. These insights informed the system's design and implementation. An initial qualitative evaluation was then conducted with undergraduate engineering students (n = 30) to assess usability, perceived safety, conversational quality, and experiential value. Thematic analysis revealed that participants perceived Hey Aatrangi as a safe, non-judgmental conversational space, particularly valuing reflective prompts and automatically generated session summaries for emotional articulation and therapy preparation. However, limitations were reported in conversational depth, follow-up questioning, and perceived human-likeness. This work contributes early design and evaluation insights for ethically grounded AI companions intended to augment, rather than replace, mental health support within education-linked ecosystems.

[240] A Critical Review of Automated Methods for Brain Metastasis Detection and Segmentation in MRI: Challenges and Opportunities

Mukul Saxena (Bundelkhand University, Jhansi), Gayatri Saxena (Thapar Institute of Engineering and Technology), Patiala , Akanksha Saxena (Thapar Institute of Engineering and Technology), Sarika Saxena (Vijayaraje Government Girls Post Graduate College, Morar, Gwalior) , Ram Singh Kushwaha(Bundelkhand University, Jhansi), and Pushpendra Singh(IIT Mandi)

Abstract

Brain metastases (BMs) are the most prevalent intracranial neoplasms in adults and require precise detection for optimal therapeutic planning, including stereotactic radiosurgery, whole-brain radiotherapy, and surgical intervention. Contrast-enhanced T1-weighted magnetic resonance imaging (MRI) remains the clinical gold standard; however, manual detection and segmentation are labor-intensive and subject to considerable inter-and intra-observer variability. Lesions often present in large numbers exhibit substantial size heterogeneity and may be obscured by vasogenic oedema or adjacent vascular structures, thereby complicating accurate delineation. This study presents a critical analysis of automated approaches for BM detection and segmentation in MRI. The evolution from classical machine learning techniques based on handcrafted intensity, texture, and morphological features to contemporary deep learning architectures is systematically examined. Particular emphasis is placed on convolutional neural networks, including U-Net variants and 3D volumetric models, which currently dominate the field. Emerging paradigms such as vision transformers and self-supervised learning are also discussed for their ability to model long-range spatial dependencies and leverage unlabeled data. Key challenges-including class imbalance, multimodal MRI integration, domain shift, limited annotated datasets, and model interpretability-are critically analyzed. Future research directions focus on improving robustness, generalization, and seamless integration into clinical workflows.

[427] Lightweight Attention-Based 3D U-Net for Efficient Brain Tumor Segmentation: Neuro-Clinical and Consciousness-Oriented Analysis

Madhu Choudhary (Banasthali Vidyapith), Saurabh Mukherjee (Banasthali Vidyapith)

Abstract

Accurate brain tumor segmentation from multimodal MRI is essential for clinical intervention and computational neuroscience. Precise delineation of glioma sub-regions supports the study of neural tissue invasion, white matter pathway disruption, and alterations in consciousness-related structures. Existing deep learning models exhibit high computational complexity that restricts clinical deployment. This paper presents a lightweight attention-based 3D U-Net integrating parallel multi-scale convolutional pathways, hybrid channel-spatial attention, and depthwise

separable convolutions. Evaluated on BraTS 2021, the model achieves Dice scores of 90.12%, 88.94%, and 83.45% for whole tumor, tumor core, and enhancing tumor with only 3.41 million parameters and 16.2 GFLOPs, enabling deployment on consumer-grade hardware. Grad-CAM interpretability confirms anatomically meaningful attention in functionally critical brain regions.

Poster Presentation 2:

5th June- 17:30-19:30 (Foyer) Session chair: Dr. P Nirmal Harish		
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227	Aarti Kharode, Omkar Markad, Swagata Tavhare	Anxiolytic Potential of Antariksha Jala and Nardostachys Jatamansi in Experimental Anxiety Models: An Integrative Study through Cognitive Neuroscience
228	Dr.Pritee Chaudhari, Dr.Prajyot Wagh, Dr.Swagata Tavhare	Mahish Ksheera (Buffalo Milk) as a Natural Sleep Neurobehavioral Evaluation of Mahish Ksheera and Jatamansi for Sleep and Anxiety Modulation in an Experimental Animal Model Modulator: An Ayurvedic and Neurobiological Evaluation
229	Parvathy Unnikrishnan , Devipriya Soman , Sreedevi V , Hemavathi Shivapura Krishnarajabhatt , Sreelekshmi R , Preetha Menon, LM Frey	Multimodal Regulation of Nidra During the Menopausal Transition: Integrating Cognitive–Behavioral Therapy with Ayurvedic External Therapies in Human Subjects
230	Vaishali Rao, Dibya Prakash Thapa	Self-compassion as a Protective Factor Against Imposter Syndrome in University Students
235	Manashi Ghosh	How Do Medieval Bengali Texts Portray Agriculture and the Farmer in an Agrarian Society?
239	Lalit Saraswat	Resolving Evolutionary Paradox of Consciousness From Autopoietic Selectionist Epistemology
247	Parvathy B, Hemavathi Shivapura Krishnarajabhatt, Shaithya Raj, Parvathy Unnikrishnan	Evaluation of Śiropicu and Pādābhyaṅga with Kṣīrabala Taila in Menopausal Insomnia: An Exploratory Clinical Study
253	Sahil Sharma, Nindia Jamwal, Akanksha Dayma, Alka rawat,Vivek khajuria	Ancient Indian Metallurgical Practices: Indigenous Knowledge and Technological Excellence
260	Rohit Pandey and Jyoti Kumar	Beyond Physical Fitness: Examining the Role of Yoga in Promoting Human Values among Young Children
261	Naishavi Patel	अक्षरपुरुषोत्तमदर्शने जीवब्रह्मैकता इति यथार्थाऽनुभवः
265	Katam Nishanth	A Computational Framework for Quantifying Useful Fictions
266	Dr.Ashwin Shete, Dr.Neeta Mahesekar	"Soul, Rebirth and Liberation: A Verse-by-Verse Analysis of Reincarnation in Prabhupada's Bhagavad Gita As It Is"

272	Dr. Snehal G. Pansare, Dr. Amit A. Paliwal	From Drift to Focus- Manas and the Dynamics of Attention
281	Nil Maheta, Kevil Shah, Kaushal Agheda	Effect of Structured Acoustic Frequencies (Vedic mantras) on Plant Growth, chlorophyll and nutritional Content
289	Sourabh Suman, Ramajayam Govindaraj	Investigating the Individual and Combined Effects of Rhythmic Skeletal Muscle Tension and Paced Breathing on Heart Rate Variability
291	Manish Choudhary, Deepthi Bellam, Sruti Baruah	Two Lives, One Body: The Extraordinary Case of Sumitra Singh's Identity Transformation
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[21] Behavioral Indicators of Cognitive Health: PEBL Assessment in Students Practicing Yoga and Rajyoga Meditation

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Abstract

The current study reported the stigma of mental health issues among young college students and analysed the effectiveness of Indian therapeutic interventions, Yoga and Rajyoga meditation, in improving the brain dynamics of Yoga college students. This study is the first to report the levels of memory and cognition abilities among college students using Psychology Experimental Building Language (PEBL) test batteries. A quasi-experimental pre–post design was employed with college students assigned to two groups: Yoga and Rajyoga meditation intervention group and control group. The intervention groups underwent structured sessions for six weeks, including guided Yoga practices (breathing, asanas, and relaxation) and Rajyoga meditation techniques focused on reflective awareness. Cognitive domains assessed through PEBL included spatial memory, working memory, decision-making, and inhibitory control. Due to non-normal data distributions, within-group changes were analysed using Wilcoxon signed-rank tests, and between-group differences were examined using Mann–Whitney U tests with Holm–Bonferroni correction. Results indicated significant pre–post improvements in the meditator group for visuospatial working memory and inhibitory control, whereas no significant changes were observed in the control group. However, between-group post-test and change-score comparisons did not reach statistical significance after correction for multiple comparisons. These findings suggest that Yoga and Rajyoga meditation serve as effective, low-cost behavioral interventions for improving cognitive biomarkers in young adults. Integrating such practices into academic settings could support better concentration, emotional regulation, and overall cognitive health. Further research with larger samples and physiological measures is recommended.

[227] Anxiolytic Potential of Antariksha Jala and Nardostachys Jatamansi in Experimental Anxiety Models: An Integrative Study through Cognitive Neuroscience

Aarti Kharode, Omkar Markad, Swagata Tavhare (Dr.D.Y.Patil college of ayurveda and research centre pimpri pune)

Abstract

Anxiety disorders constitute a major global mental health burden and are commonly managed using benzodiazepines, which are associated with sedation, dependency, and other adverse effects. Traditional Indian Knowledge Systems (IKS), particularly Ayurveda, describe the therapeutic relevance of natural elements, including Antariksha Jala (rainwater), regarded for its purity, subtle bioenergetic qualities, and dosha-balancing properties. The present experimental study evaluated the anxiolytic potential of Antariksha Jala collected during Sharad Ritu under Agastya Nakshatra and compared its effects with Nardostachys jatamansi (Jatamansi Phanta) and diazepam in validated murine anxiety models. Behavioral assessment was conducted using the Elevated Plus Maze, Open Field Test, Light–Dark Box, Social Interaction Test, Forced Swim Test, and Rotarod performance test to evaluate anxiety-like behavior, exploratory activity, social engagement, depressive markers, and motor coordination. Results demonstrated that Antariksha Jala significantly reduced anxiety-related behaviors and immobility time without producing marked sedative or motor-impairing effects. Its anxiolytic profile was comparable to Jatamansi and approached that of diazepam, while maintaining better locomotor stability. Enhanced open-arm exploration, improved social interaction, and reduced behavioral despair were observed. These findings provide preliminary experimental support for classical Ayurvedic assertions regarding the psychophysiological harmonizing properties of Antariksha Jala. The study highlights the potential of integrative, nature-based interventions as safe, economical, and accessible strategies for preventive mental health care. Further investigations involving neurobiological mechanisms, cognitive neuroscience correlates, meditation-based modulation, and well-designed human clinical trials are warranted to validate and expand the therapeutic applicability of Antariksha Jala in anxiety management.

[228]Mahish Ksheera (Buffalo Milk) as a Natural Sleep Neurobehavioral Evaluation of Mahish Ksheera and Jatamansi for Sleep and Anxiety Modulation in an Experimental Animal Model Modulator: An Ayurvedic and Neurobiological Evaluation

Dr.Pritee Chaudhari, Dr.Prajyot Wagh, Dr.Swagata Tavhare(Dr. D.Y.Patil college of Ayurved and research centre.pimpri,pune)

Abstract

Background: Sleep is a vital physiological process necessary for mental, emotional, and physical health. Insomnia, affecting 16–45% of adults globally, is commonly associated with stress, hormonal imbalance, and unhealthy lifestyle practices. Conventional sedative and anxiolytic drugs provide temporary relief but may cause dependence and adverse effects, prompting the need for safer natural alternatives. Ayurveda describes Mahish Ksheera (buffalo milk) as nidrajanana—a sleep-inducing agent. This study examined the anti-stress, anxiolytic, and sleep-promoting effects of buffalo milk using standard behavioral models. Materials and Methods: Twenty-four male albino mice were divided into four groups (n=6): control, buffalo milk, Jatamansi (Nardostachys jatamansi (D.Don.)DC, and Diazepam. Fresh Murrah buffalo milk (Bubalus bubalis) was administered, and its effects were evaluated using the Elevated Plus Maze, Open Field Test, Light–Dark Box Test, Social Interaction Test, Forced Swim Test, and Rotarod performance. Statistical analysis was performed using one-way ANOVA followed by Dunnett's post-hoc test, with significance set at $p<0.05$. Results: Buffalo milk significantly increased time spent in the open arms of the Elevated Plus Maze and central zone of the Open Field Test, indicating reduced anxiety. It also enhanced social interaction, increased latency to enter the dark compartment, and decreased immobility in the Forced Swim Test ($p<0.05$–0.001). These outcomes suggest anxiolytic, anti-stress, and mild antidepressant effects comparable to Jatamansi (Nardostachys jatamansi (D.Don.)DC and Diazepam. Conclusion: Mahish Ksheera demonstrated sleep-promoting and anxiolytic activity, validating its traditional Ayurvedic use as a natural sedative. Its nutritional value and safety profile indicate its potential as an affordable for managing insomnia, anxiety, and stress-related disorders.

[229]Multimodal Regulation of Nidra During the Menopausal Transition: Integrating Cognitive–Behavioral Therapy with Ayurvedic External Therapies in Human Subjects

Parvathy Unnikrishnan , Devipriya Soman , Sreedevi V, Hemavathi Shivapura Krishnarajabhatt, Sreelekshmi R, Preetha Menon, LM Frey (Amrita School of Ayurveda)

Abstract

Introduction: Insomnia is one of the most common and distressing concerns during the menopausal transition, affecting nearly 38–60% of perimenopausal women globally, with comparable prevalence reported in Indian populations1,2,3. Chronic insomnia disorder is characterized by persistent difficulty in initiating or maintaining sleep with associated day-time impairment4,5,6. During the menopausal transition, fluctuating hormones, vasomotor instability, circadian alterations, and mood variability contribute to a characteristic pattern of sleep disturbance. Cognitive Behavioral Therapy for Insomnia (CBT-I) is the recommended first-line intervention owing to its long-term effectiveness7,8,9,10,11,12. However, meaningful improvement often requires several weeks, and early discontinuation rates of up to 30–40% have been reported13. This suggests a need for safe, non-pharmacological adjuncts that may support early symptomatic relief and improve adherence. Methods: From an Ayurvedic perspective, this transitional phase reflects progressive Vata predominance with associated Pitta involvement, resulting in disturbance of Nidra14,15,16,17. Based on this etiopathogenesis, Śiropichu and Pādābhyanga using Kṣīrabala Taila are selected as adjunctive interventions. The medicated oil is central to therapy and is intended to counteract Vata instability and moderate Pitta-associated activation. Results: The proposed integrative framework positions these classical interventions as rational adjuncts to CBT-I. Discussion: This approach offers a coherent and testable strategy to address both cognitive and physiological dimensions of menopausal sleep disturbance.

[230] Self-compassion as a Protective Factor Against Imposter Syndrome in University Students

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Abstract

Impostor Syndrome has been shown to include feelings of persistent doubt about one's competence and fears of being found out as incompetent. It affects many university students, and those who experience it have significantly

elevated levels of anxiety and lower overall well-being than do others. However, self-compassion; being kind, accepting and non-judgmentally aware when dealing with failures and shortcomings, has emerged as a possible protective factor for individuals at risk for engaging in self-criticism. Thus, this study aims to examine how high levels of self-compassion relate to low frequency of experiencing impostor behaviors; what aspects of self-compassion impact each dimension of the experiences related to fears of being an impostor; and if the same can serve as a "buffer" against self-criticisms. Data collection occurred through self-report survey questionnaires, the Self-Compassion Scale developed by Neff and the Clance Impostor Phenomenon Scale, as a part of quantitative methodology. For statistical analyses, the relationships among all variables were examined using Pearson's product-moment correlation coefficient. The results of the study showed, students exhibiting higher degrees of self-kindness, mindful non-judgmental awareness, and an understanding of common humanity were predicted to experience less fear of being discovered as incompetent. Additionally, based upon previous research in psychology literature, it was hypothesized that self-judgments, social disconnection and excessive emphasis on past or future performance would demonstrate positive correlations with self-reported impostor scales. Overall, this investigation demonstrates that an empathetic internal attitude serves as an important psychological protective mechanism. Thus, developing programs designed to enhance self-compassion may serve as effective preventative and therapeutic methods for addressing impostor syndrome within the context of educational environments.

[235] How Do Medieval Bengali Texts Portray Agriculture and the Farmer in an Agrarian Society?

Manashi Ghosh (Jawaharlal Nehru University)

Abstract

Agriculture occupies a central place in medieval Bengali literature, reflecting the social, economic, cultural, and ecological foundations of medieval Bengal. As a predominantly agrarian society, medieval Bengal naturally embedded farming life, rural landscapes, and seasonal cycles into its literary traditions, including Mangalkavya and Vaishnava Padavali. Agriculture in these texts is not merely decorative; it represents a worldview shaped by land, labor, nature, and faith. This study examines how agriculture and farmers are portrayed thematically and symbolically. Using close textual analysis within a socio-historical context, it interprets literary works as cultural narratives expressing agrarian consciousness rather than as simple historical records. Agricultural imagery plowing, sowing, harvesting, monsoons, and fertile soil functions as both narrative structure and symbolic framework, revealing ecological awareness and dependence on nature. Farmers are depicted as resilient and hardworking, embodying the moral strength of agrarian society, yet also vulnerable to natural uncertainty and social hierarchy. Cultivation is often linked to devotion and divine grace, blending economic life with spirituality. Thus, medieval Bengali literature presents agriculture as both a material foundation and a cultural ideology, central to understanding its literary imagination.

[239] Resolving Evolutionary Paradox of Consciousness From Autopoietic Selectionist Epistemology

Lalit Saraswat (IIT Kanpur)

Abstract

Do evolutionary underpinnings fall short of explaining consciousness under an adaptationist program? Evolutionary epistemological perspectives do offer an understanding of perceptual and cognitive evolution (consciousness) from ontogenetic and phylogenetic angles. However, Zietsch (2024) argues that the ‘adaptation-seeming correlations’ cannot explain consciousness and leave it as a mystery, hence, an evolutionary paradox of consciousness. He also challenges the phenomenal power view (proposed by Mørch 2017) that sensations are intrinsically causally powerful, and through this, we can explain the adaptive-seeming correlations. In response, Brendan suggests that ‘sensational associative learning’ is appropriate for explaining consciousness under a non-adaptationist approach. In this paper, I evaluate Zietsch’s project against the evolutionary epistemological approach (naming it the Popper-Campbell hypothesis) examining the phenomenal consciousness, functional repertoire under adaptationism/selectionism. If

phenomenal properties/consciousness can be shown reliably linked as adaptive function (apparently, Zietsch presumes that phenomenal properties are separable from behavior-generating mechanisms), then phenomenal qualities cease to be epiphenomenal, and can be shown functioning under selection pressures. To dissolve Zietsch's paradox, what we need to show is that the phenomenal character can be adaptively functional and selectable. Popperian epistemological stance would reject 'sensational associative learning' by showing it as habit-formation rather than expectation-formation. Can valence arise merely from repeated co-occurrences? Can Qualia/Phenomenal aspects be a unit of selection? Phenomenal valence is seen as a part of internal representational machinery under selection pressures, showcasing the tenets of evolutionary epistemology as the selectionist/adaptationist metaphysical research program.

[247] Evaluation of Śiropicu and Pādābhyaṅga with Kṣīrabala Taila in Menopausal Insomnia: An Exploratory Clinical Study

Parvathy B, Hemavathi Shivapura Krishnarajabhatt, Shaithya Raj, Parvathy Unnikrishnan (Amrita School of Ayurveda)

Abstract

Background and Purpose: Insomnia is a major global concern for women experiencing menopause. Menopausal insomnia significantly affects the Quality of Life in menopausal women and is also linked with a higher incidence of anxiety, depression, and cardiovascular diseases. Hormone therapy and prolonged use of hypnotics have limitations and side effects. Ayurveda, the holistic science, offers safe, non-hormonal interventions like Śiropichu (transcranial oil application) and Pādābhyanga (therapeutic foot mas-sage). The study bridges classical Ayurvedic therapy and contemporary evidence-based sleep medicine, addressing a global gap in non-hormonal management of menopausal insomnia. This study represents the first clinical attempt to scientifically evaluate this Ayurvedic protocol for menopausal insomnia, designed to be feasible and accessible for women across diverse socioeconomic backgrounds within a short duration. Materials and Methods: This is a single-arm exploratory study, which was conducted on 30 patients who were selected from Amrita Ayurveda Hospital, Vallikavu, Kollam, Kerala, India. The procedures, Śiropicu (Transcranial Oil Application) and Pādābhyaṅga (Thera-peutic Foot Massage) with Kṣīrabala taila were done for 7 and 15 days, respectively. Assessments were done with the Pittsburgh Sleep Quality Index and Insomnia Severity Index on the 8th day and 16th day. Results: The results show a significant reduction with a P value of < 0.001 in the severity of Insomnia and also improved sleep quality in menopausal women. Conclusion: The combination therapy of Śiropicu (Transcranial oil application) and Pādābhyaṅga (Therapeutic foot massage) with Kṣīrabala taila was found to be effective in the reduction in severity of Insomnia and also improved the quality of sleep in menopausal insomnia after treatment in comparison with before treatment.

[253] Ancient Indian Metallurgical Practices: Indigenous Knowledge and Technological Excellence

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Abstract

The current study investigates the deep significance and complexity of ancient Indian metalworking techniques via the framework of Indian Knowledge Systems (IKS), demonstrating its scientific, cultural, and technological relevance. The study appears at how metallurgy in India was established as a field which incorporated material science, spirituality, art, and philosophy. It can be expected by using Vedic and post-Vedic manuscripts, such as the Rigveda, Atharvaveda, Shilpa Shastra, and Agama traditions. The anti-corrosive Iron Pillar of Delhi, the manufacturing of carbon-rich Wootz steel, and the initial enormous scale zinc extraction at Zawar all represent examples of how individuals in India had an improved knowledge of thermodynamics, alloying, and surface engineering than people in other areas of the world at the same point in time. The study additionally appears into old

methods for making iron, steel, brass, zinc, gold, and copper, along with more complicated methods like making steel in a crucible and lost-wax casting. It further demonstrates how Indian metal-working technological advances extend worldwide to West Asia, Europe, and southern Asia, in which Indian metals and engineering had an enormous influence on technological developments of those areas. The research investigates the degradation of indigenous metallurgical processes under colonial control, including economic shifting, the disintegration of artisanal connections, and the forfeiture of texts and oral customs. In conclusion, the study illustrates the current significance of conventional metallurgical understanding about sustainable materials engineering, environmentally conscious technology, corrosion research, and preserving culture. It embraces for the return and incorporation of traditional knowledge through combining conventional methods with contemporary scientific studies, aiming to encourage innovation anchored to sustainability and traditional continuity

[260] Beyond Physical Fitness: Examining the Role of Yoga in Promoting Human Values among Young Children

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Abstract

Yoga is widely recognized as a holistic educational approach integrating physical movement, mindfulness, and value-based learning. However, despite substantial advancements in broader educational contexts, its systematic integration within early childhood education warrants greater scholarly attention. The present study investigated the impact of a six-month play-based yoga intervention implemented in four MCD primary schools in Delhi. The intervention was embedded within routine classroom practices and designed to promote positive behavioural attributes among pre-primary students. Data were collected from 83 parents who voluntarily participated in a structured pre–post survey using a self-developed questionnaire. The instrument assessed five behavioural domains: Cleanliness, Service-oriented behaviour, Truthfulness, Contentment, and Non-violence, using a five-point Likert scale. As the data did not meet normal distribution assumptions, a non-parametric statistical analysis (Wilcoxon Signed Rank Test) was conducted to examine pre–post differences. The findings revealed statistically significant improvements in Cleanliness, Service-oriented behaviour, Truthfulness, and Non-violence ($p < .05$). Although the Contentment domain showed an increase in post-intervention median scores, the improvement did not reach statistical significance ($p > .05$). Across all five domains, post-intervention median scores were higher than pre-intervention scores, indicating a consistent positive shift in parents' perceptions of their children's behavioural development following the intervention. The findings suggest that structured, play-based yoga interventions can serve as an effective educational model for promoting positive behavioural and socio-emotional development in early childhood settings. Beyond its physical benefits, yoga appears to contribute meaningfully to the holistic growth and character development of young learners

[261] अक्षरपुरुषोत्तमदर्शने जीवब्रह्मैकता इति यथार्थाऽनुभवः

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Abstract

भारतीयदर्शनपरंपरायां वेदान्तदर्शनेषु परब्रह्मस्वामिनारायणप्रबोधितम् अक्षरपुरुषपुरुषोत्तमदर्शनम् एकतमम्। श्रुतिस्मृतिषु ब्रह्म मीमांसते तथा च वेदान्तदर्शनेषु एकं ब्रह्म जिज्ञासते किन्तु अक्षरपुरुषोत्तमदर्शने ब्रह्मविषये ब्रह्मद्वयस्य विलक्षणता वर्तते। तथा च एतस्मिन् दर्शने जीवस्य ब्रह्मैकता न स्वरूपतः किन्तु गुणत ऐक्यम् इति दिक्। न्यायदर्शनेऽनुभवविषये वर्णितं द्विविधानुभवाद् यथार्थाऽनुभवाधारेण अक्षरपुरुषोत्तमदर्शनाधारेण जीवे ब्रह्मैकताया आपादनत्वं तथा हि यथार्थानुभवं नैकानां कतिपयेभ्यो अनुभवेभ्यः प्रख्यास्यामि। अक्षरपुरुषोत्तमदर्शने साक्षात्ब्रह्मस्वरूपगुरोः जीवेन सह दृढतमश्रवण-मनन-निदिध्यासनेन इहैव ब्रह्मैकत्वम् अनुभवति, एषा ब्रह्मरूपता न केवलं शब्देषु श्रूयते किन्तु अनुभवभाक्।एतयाः ब्रह्मैकतायाः अनुभवं तदनुभावकम् यथार्थतया स्वस्यजीवने जीवन्ति तथा हि परमात्मोपासनायोग्यान् गुणान् लब्धवा परमात्मनिष्ठो भवति। परमात्मपरायणो भूत्वा सत्-चिद्-आनन्दवान् स मुमुक्षुः परमानन्दे निमज्जति। शोधपत्रमाध्यमेन एतस्य दर्शनस्य जीवन्तताया: दर्शनम् एको शुद्धः आशयः। ब्रह्मैकताम् अनुभावकानां मनस्युपरि तथा सत्चिदानन्दस्वरूपज्ञानात् प्रभावोऽमस्मिन् शोधपत्रे उपस्थास्यामि।

[265] A Computational Framework for Quantifying Useful Fictions

Katam Nishanth (NIT Hamirpur)

Abstract

This paper discusses a computational model for simulating the Buddhist notion of Māyā (illusory appearance) and the Two Truths doctrine of Paramārtha (ultimate truth) and Saṃvṛti (conventional truth) through the integration of Hans Vaihinger's philosophy of "as-if" (als ob). Three types of agents are designed for a grid-world environment: a Literal agent modeling the world with high computational fidelity (representing Paramārtha), an As-If agent acting with useful fictions (representing both Saṃvṛti and Vaihinger's als ob strategies), and a Q-learning agent for empirical comparison. The findings show that conventional truth, although ontologically less fundamental, facilitates practical action with a substantially lower computational cost, exemplifying Māyā and Vaihingerian fictions as adaptive strategies rather than simple illusions. Statistical analysis indicates a trade-off between predictive power and computational efficiency, confirming the interpretation of conventional truth and useful fictions as evolved cognitive strategies. The performance of the computational model indicates a cross-cultural basis for the understanding of cognition as fundamentally fiction-driven.

[266] "Soul, Rebirth and Liberation: A Verse-by-Verse Analysis of Reincarnation in Prabhupada's Bhagavad Gita As It Is"

Dr.Ashwin Shete (Dept of Rasashastra BK, Dr.D.Y.Patil College of Ayurved & RC, Pimpri, Pune, Dr D Y Patil Vidyapeeth, Pune), Dr.Neeta Mahesekar (Ex Director North East Institute of Ayurved and Homeopathy, Shillong, Meghalaya)

Abstract

Reincarnation and liberation are common concepts in the eastern world. Where-as western world philosophies believe in the soul but not accepting rebirth. Judgement day, heaven and hell are mostly used in abhrahamic religions. In this literary study, the most popular and widely accepted English transla-tion of Bhagavatgeeta As it is, which is written by A C Bhaktivedant Swami Prabhupada , founder Acharya of International Society for Krishna consciousness, is assessed in perspective of reincarnation. Bhagavat geeta strongly emphasizes on reincarnation. It starts with con-fusion in human nature and ends with wisdom of liberation. The total 28 verses are directly pointing towards reincarnation. ‘Punarjanma’ word is used for reincarnation. All these verses are compiled and explained in this article. Furthermore recent articles, case-studies and other religious beliefs are discussed in the context of reincarnation. Reincarnation concept is proved in some cases whereas no reliable or scientific methods are present to prove it. In conclusion, it is assumed that reincarnation concept provides positive attitude, good moral, ethics, promising endless life journey of other planets and salvation. So Bhagavatgeeta is accepted worldwide for this positive ap-proch for life and beyond life with factual concept of reincarnation.

[272] From Drift to Focus- Manas and the Dynamics of Attention

Dr. Snehal G. Pansare, Dr. Amit A. Paliwal (Dr. D. Y. Patil College of Ayurveda & Research Centre, Dr. D.Y. Patil Vidyapeeth

Abstract

Attention is central to psychological science yet remains conceptually unsettled: contemporary models variously characterise it as selection, limited capacity, execu-tive control, or large scale network coordination, and often infer attention from performance measures. This paper offers a concise conceptual comparison between those accounts and a classical Ayurvedic perspective in which attention is not an independent faculty but a function of manas (mind). In the Ayurvedic view, cogni-tion arises only when manas actively engages with sensory or mental objects, so attention is a condition of regulated mental involvement rather than a quantifiable resource to be allocated. Placing these perspectives in dialogue highlights comple-mentary explanatory levels: psychological and neuroscientific models describe mechanisms, constraints, and measurable outcomes, while the Ayurvedic account foregrounds the

functional state that permits engagement, withdrawal, or instability. Framing attention as regulated engagement helps clarify phenomena such as varia-bility, mind wandering, fatigue, and deliberate disengagement without disputing empirical findings. The contribution is conceptual and modest: to show that recog-nising a regulation based explanatory layer can sharpen theoretical debates and sug-gest new questions for interdisciplinary research, rather than to propose clinical reclassification or direct empirical equivalence.

[281] Effect of Structured Acoustic Frequencies (Vedic mantras) on Plant Growth, chlorophyll and nutritional Content

Nil Maheta, Kevil Shah, Kaushal Agheda (The Maharaja Sayajirao University of Baroda, Vadodara, Gujarat)

Abstract

One possible non-invasive biophysical stimulation that may affect plant growth and metabolism is structured sound vibration (SV). Vedic mantra recitations may improve germination rate, biomass accumulation, and phyto-hormone levels, according to earlier research on wheat, stevia,etc. However, there is still a lack of systematic research on the effects of Vedic mantras on Tulsi (Ocimum sanctum), a plant that is significant in Ayurvedic medicine. The purpose of this study is to assess the impact of exposure to specific ve-dic Mantra on the morphological growth characteristics of tulsi under con-trolled environmental circumstances. Tulsi plants of uniform age were divided in 3 groups, (i) Control (No mantra exposure) (ii) VM – vedic mantra-I (iii) vedic mantra-II. Plants were maintained in a controlled growth chamber with regulated temperature, humidity, photoperiod and watering schedule. Mantra exposure was administered for 45 minutes on a daily basis with con-trolled sound intensity in a sound proof chamber. Plant height, number of leaves, leaf area and chlorophyll content were measured on a regular basis using standardize measurement techniques (UV-Vis for chlorophyll content) and non-destructive imaging wherever possible (ImageJ software). Measure-ment parameters have been found to increase in plants with Vedic mantra exposure and chlorophyll content has also been found to increase compared to control plants. Finding of this study may help to scientifically validate the traditional knowledge system and open gateways to enhance eco-friendly agri-culture techniques.

[289] Investigating the Individual and Combined Effects of Rhythmic Skeletal Muscle Tension and Paced Breathing on Heart Rate Variability

Sourabh Suman, Ramajayam Govindaraji(IIT Mandi)

Abstract

Heart rate variability (HRV) is a non-invasive measure of autonomic nervous system regulation. It is known that breathing slowly at 0.1 Hz causes resonance-frequency oscilla-tions and makes the autonomic system work better. However, the comparative and combined effects of 0.1 Hz rhythmic skeletal muscle tension (RSMT), paced breathing (PB), and their combination on heart rate variability (HRV) remain insufficiently investigated. This study analysed the individual and combined effects of these interventions on time- and frequency-domain heart rate variability indicators. Thirty-six healthy volunteers participated in a pre–post experimental study that involved the same subjects. HRV was assessed at baseline and during the intervention con-ducted at 0.1 Hz: RSMT, PB, and the combined RSMT+PB. We have assessed time-domain indices such as SDRR, RMSSD, and pRRx, along with frequency-domain indices includ-ing LF, HF, and LF/HF. To find outliers, boxplots were used, and the Shapiro–Wilk test was used to see if the data was normal. Repeated-measures ANOVA examined differences among conditions, whereas paired-samples t-tests assessed pre- and during-intervention values. All conditions significantly increased SDRR, RMSSD, and pRRx ($p < .012$), indicating enhanced vagal regulation and overall autonomic variability. Paced breathing caused the biggest changes in LF power ($p < .001$, $\eta^2 = .139$) and LF/HF ratio ($p < .001$, $\eta^2 = .199$), and the biggest drop in HF power ($p < .001$, $\eta^2 = .162$). These frequency changes were much stronger during PB than during RSMT and RSMT+PB. RSMT by itself caused only small changes in the time domain and very little redistribution on the frequency spectrum. Breathing slowly at 0.1 Hz produces significant resonance-frequency effects, including enhanced LF oscillations and a transition of vagal activity from HF to LF bands. Similar results were obtained for

RSMT and RSMT+PB, however the effects were lesser than that of PB.

[291] Two Lives, One Body: The Extraordinary Case of Sumitra Singh's Identity Transformation

Manish Choudhary, Deepthi Bellam, Sruti Baruah (NFSU)

Abstract

This study explores the uncommon occurrence of "replacement reincarnation" through an interdisciplinary review of the well-documented case of Sumitra Singh from Uttar Pradesh, India. Typically, childhood reincarnation cases involve a slow process of memory recovery, but replacement cases are marked by an abrupt and complete transformation in identity following a near-death experience or clinical resuscitation. In this case, after appearing to die, Sumitra Singh revived and identified herself as Shiva Tripathi, a woman who had previously died in the same area. She immediately lost her previous personality and gained specific memories, language patterns, and family connections associated with Shiva. The research employs a qualitative case-study approach, examining archival documents, testimonies, and comparative personality assessments. It compares the reported changes in behavior against several theoretical models, such as Dissociative Identity Disorder, psychogenic amnesia, and theories involving the transfer of consciousness. The results suggest that while cultural beliefs about rebirth (Punarjanma) provide a local framework for understanding the case, they do not fully explain the verified recognition of unfamiliar individuals or the acquisition of private personal knowledge, as observed by independent witnesses. The analysis concludes that the Sumitra-Shiva case presents substantial difficulties for purely materialistic and reductionist perspectives on the mind. Although methodological constraints, such as dependence on retrospective accounts, prevent conclusive evidence of survival after death, the case reveals important shortcomings in current neuroscientific and psychiatric explanations of personal identity. The study recommends implementing standardized neurological assessments and conducting cross-cultural long-term research to gain a more comprehensive understanding of these unusual disruptions in selfhood.

[297] Effectiveness of Mobile Based Indian Meditation App in Enhancing the Emotional Well-Being of Older Adults in Institutionalized Old Age Homes: A Pilot Study

Priyanshu Ojha, Dr. Shipra Sharma (Gautam Buddha University)

Abstract

An increasing number of meditation interventions are becoming available and accessible through mobile applications. Numerous studies have been conducted to demonstrate their effectiveness in enhancing users' well-being and mental health. However, these studies have predominantly used English-based meditation apps, limiting their applicability to Hindi speakers in India who do not understand English. Moreover, none of the studies have specifically used meditation apps for older adults living in elderly homes, although research has often shown disturbed patterns of psychological well-being in the geriatrics population. Acknowledging these gaps, the present study focuses on examining the effectiveness of an Indian meditation (Dhyan) app in enhancing emotional well-being among older adults in elderly homes who have less/no knowledge of English. Following a pre-test and post-test control group experimental design, a total of 10 participants with low emotional well-being from old age homes in Greater Noida were selected using purposive sampling and randomly assigned to the experimental (n = 5) and control (n = 5) groups. A 15-days intervention (20 minutes per day) was provided to the experimental group using the Dhyan app. Emotional well-being was measured using the Psychological General Well-Being Index (PGWI) before and after the intervention. Currently, the study is in the final stage of data collection, and the results are yet to be analyzed, followed by interpretation and reporting. Findings of the study will indicate that Indian older adults in elderly homes, who experience emotional distress due to abandonment, loneliness, and other reasons, can independently manage a certain level of emotional disturbance using this digital meditation app, thereby enhancing their emotional well-being.

[298] Climate Responsive Design Strategies in Traditional Indian Temple Architecture: A Comparative Study Across Different Climatic Zones

Komal Thawrani, Rushi Patel (Indus Architecture School, Indus University)

Abstract

Traditional Indian temple architecture embodies a sophisticated material intelligence shaped by regional climatic extremes. Long before the introduction of mechanical sys-tems, indigenous temple builders developed passive environmental strategies that relied on material properties, construction techniques, and spatial configuration to achieve thermal comfort. While Hindu temples are predominantly interpreted through spatial, symbolic, and cosmic frameworks, their performance as climate-responsive material systems remains underex-plored. This research addresses that gap by comparatively examining passive design strat-egies and material responses across three distinct climatic zones in India: the Cold Himala-yan region, the Hot–Dry Western region, and the Warm–Humid Coastal region. Using a comparative analytical framework, the study discusses how climatic severity in-formed material selection, wall thickness, structural systems, surface porosity, and the evolution of architectural elements such as plinths, fenestrations, roof profiles, shading devices, and water structures. Case studies range from compact timber–stone assemblies in the Himalayas optimized for heat retention, to high-thermal-mass sandstone constructions and subterranean kunds in Gujarat that moderate diurnal temperature variations, and final-ly to porous laterite and timber temple pavilions of coastal Karnataka designed for cross-ventilation and moisture dissipation. The analysis demonstrates that regional temple typologies functioned as materially adap-tive envelopes, employing principles such as thermal lag, evaporative cooling, wind chan-neling, and controlled solar exposure. By foregrounding indigenous material strategies as performative systems rather than stylistic expressions, the paper contributes to contempo-rary material discourse and highlights their relevance as low-energy, climate-responsive alternatives to mechanized environmental control in present-day architectural practice.

[308] Restoring Mind–Brain Harmony in Hypochondriasis : A Case study of Comprehensive Ayurvedic Intervention

Manisha M. Thakare, Dr. Rupmanjari G. Shanbhag (Dr. D. Y. Patil College of Ayurved and Research Centre, Dr. D. Y. Patil Vidyapeeth)

Abstract

Illness anxiety disorder (IAD), characterized by persistent preoccupation with having a serious illness despite medical reassurance, poses significant therapeutic challenges when refractory to conventional pharmacotherapy. The report presents the case of a 31-year-old male software engineer presenting with a severe cardiac-focused IAD triggered by witnessing two sudden cardiac deaths among close relatives. Despite three months of escitalopram (10mg) therapy, he continued experiencing 3-4 panic attacks weekly, daily non-cardiac chest pain, compulsive ECG-seeking behavior, emergency department visits 2-3 times per week, severe sleep disturbance (PSQI score: 14), and work capacity reduced to 30%. The Whiteley Index confirmed hypochondriasis (6/7 positive responses). A structured 60-day protocol was implemented comprising Deepana-Pachana, Shodhan Nasya with Jyotishmati oil, Shirodhara with Brahmi oil, Viddhakarma at five marma points, Pratimarsha Nasya, and internal medications including Manasamitra Vataka and Brahmi-Jatamansi cold decoction, supported by dietary modification, pranayama, and behavioral counseling. At 60 days, complete resolution of panic attacks, chest pain, and health anxiety was achieved. Whiteley Index normalized to 0/7, PSQI improved from 14 to 4, work productivity restored to 95%, and WHO-QOL BREF score improved from 42 to 86. Complete remission was sustained at six-month follow-up. This case demonstrates the clinical potential of multimodal Ayurvedic intervention in treatment-resistant IAD, operating through autonomic modulation, gut-brain axis optimization, and GABAergic neurotransmission, warranting further investigation through controlled trials.

[318] Associations of Age and Psychopathology with Alpha Oscillatory and

Aperiodic Neural Features in people diagnosed with ADHD

Ritvik Sharma (National Institute of Technology, Meghalaya), Vaibhav Tripathi (Indian Institute of Technology, Gandhinagar)

Abstract

Attention Deficit Hyperactivity Disorder (ADHD) is a Neuro-developmental disorder wherein the affected people exhibit symptoms in the form of inattentiveness, impulsivity, and hyperactivity, with varying form of intensity depending on the sub type. With symptoms manifesting in childhood and about one thirds of the people having symptomatic remission as they reach adulthood, ADHD is still faced as a hindrance to their everyday lives by people worldwide. People with ADHD symptoms are more likely to face problems in school, work, etc. This leads to the need of having some generalized biomarkers which can be used as a tool for screening. In this study, we analyze the Human Brain Network (HBN)-EEG dataset which has EEG recordings done with a HydroCel Geodesic Sensor Net (129-channel), of people between the ages 5 & 21 with a mean age of 9.74 years(SD=3.01), who were diagnosed with disorders like Autism (ASD), ADHD etc. Particularly, we look at people who were diagnosed with an ADHD subtype, which totals to 558 across four sub categories. We compare factors such as the peak alpha frequency (PAF) and aperiodic component extracted from Resting State task for Parieto-Occipital channels, and mean response time from Contrast Change Detection task, as well as psychopathological parameters like p-factor, internalizing, externalizing and phenotype data to see how they might vary and if brain rhythms derived factors such as PAF and aperiodic component can be used as biomarkers. For ADHD Combined type, we find notable correlations between internalizing and PAF ($r(289)=0.134$, $p<0.05$), Hit Rate for contrast change detection and PAF($r(173)=0.173$, $p<0.05$). Also for Inattentive type, internalizing and PAF to be correlated, ($r(327) = 0.142$, $p<0.02$). The correlations were analyzed using Pearson's correlation. Hence, we investigate the use of various brain periodic and aperiodic biomarkers to analyze the differences between state and trait level features across ADHD subtypes.

[327] Understanding chronotype – dependent perceived stress and sleep procrastination among medical university students

Akshaya Thulasi Sathyanarayana, Sowmya J Vaikar, Damal Chandrasekar Mathangi

Abstract

Background: Sleep is crucial for physical and psychological well-being but is often compromised in modern society. Bedtime procrastination, defined as failing to go to bed on time without external barriers, is influenced by one's chronotype—whether they are a morning or evening person. Chronotype significantly affects bedtime procrastination, with evening types more prone to it, and impacts well-being and stress levels. This study investigates the relationship between chronotype, perceived stress, and sleep procrastination among medical students, aiming to determine significant associations between these variables. Materials and Methods: The study was approved by the Institutional Ethics Committee (IEC). Students of Sri Ramachandra Institute of Higher Education and Research were recruited. For this study, 384 consenting students participated. Data was collected via an online survey, and quantitative analysis was conducted to obtain the results. Results: The study found that most participants were neither strictly morning nor evening types. There was a significant negative relationship between chronotype and both revenge bedtime procrastination and perceived stress. Additionally, a significant positive relationship was observed between revenge bedtime procrastination and perceived stress. The Bedtime Procrastination Scale had a Cronbach's alpha of 0.605, indicating moderate reliability. Conclusion: The present study identified strong associations among the study variables, indicating that increased bedtime procrastination correlates with higher stress levels, while morning-types experience lower stress levels. Most participants fell between the morning and evening chronotypes, suggesting the need for tailored interventions. Addressing the needs of individuals in this intermediate category could help manage stress, reduce procrastination, and minimize circadian dysregulation, thereby improving overall quality of life and health outcomes.

[330] Ayurveda inspired cognitive science and AI

Dr Samrudhi Ashok Choudhary, Dr Vaishali Chaudhari, Dr. Vaishnavi Tandon (D Y Patil Ayurvedic College, Hospital And Research Centre)

Abstract

Ayurveda presents a sophisticated cognitive framework grounded in the interaction of Manas (sensory–processing mind), Buddhi (intellect and decision-making), Ahamkara (self-referential identity), and Smriti (memory). These constructs align closely with domains studied in cognitive science, such as perception, executive control, learning, metacognition, and consciousness. This poster investigates the conceptual convergence between Ayurvedic cognitive models and contemporary artificial intelligence (AI), with the aim of developing integrative and human-centric computational systems.The Ayurvedic theory of Triguna—Sattva (clarity and balance), Rajas (activity and impulsivity), and Tamas (inertia and obscurity)—is examined as a qualitative model of cognitive-emotional regulation, comparable to modern frameworks of affective neuroscience and motivational dynamics. Similarly, Tridosha theory (Vata, Pitta, Kapha) is interpreted as a functional representation of individual cognitive variability, adaptability, and behavioral tendencies. These principles are mapped onto AI paradigms such as cognitive architectures, machine learning, and symbolic knowledge representation.The poster further proposes AI-driven formalization of Ayurvedic epistemology to enable personalized cognitive profiling, predictive behavioral modeling, and intelligent decision-support systems. Integrating ancient cognitive wisdom with modern computational intelligence offers novel pathways toward explainable, adaptive, and ethically aligned AI, contributing to advances in cognitive science, digital health, and artificial intelligence research.Future Scope-Development of Ayurveda-inspired cognitive architectures, AI-based personalized mental health assessment, Explainable AI using traditional knowledge systems.

[337] Nanoscale Structural and Elemental analysis of Medicinal Yajna Ash (PS04): A Multi - technique Analytical Study

Pranjal Shukla (University Of Mumbai, Mumbai), Harendra Dudi (VDRO Educational Association), Mohit Gour (VDRO Educational Association), Govind Maurya (CISTS, HSS, IIT Bombay, Mumbai)

Abstract

Yajna is a traditional Vedic fire ritual in which medicinal herbs and plant–mineral mixtures are combusted to produce ash valued for therapeutic and environmental uses. This study provides a concise physicochemical characterization of special medicinal Yajna ash to establish its structural, morphological, and elemental signature. Microscopic analysis reveals a distinctive cauliflower-like, porous morphology, indicating high surface area and strong interaction between mineral and residual carbonaceous phases formed during combustion. Nanoscale imaging confirms well - dispersed nanoparticles with an average size of ~10 nm and minimal agglomeration. Elemental analysis identifies calcium and oxygen as dominant constituents, along with magnesium, silicon, potassium, and trace minerals, reflecting contributions from medicinal plant inputs. Phase analysis confirms calcium carbonate ($CaCO_3$) as the primary crystalline phase with a rhombohedral calcite structure. A prominent (104) reflection indicates high crystallinity, with a calculated crystallite size of 46.44 nm. Additional metal-oxygen stretching modes and carbonate vibrational bands are confirmed by infrared spectroscopy, which also suggests the presence of minor oxide or phosphate phases. The ash's overall mineral-rich, chemically varied, and nanostructured inorganic matrix supports its possible investigation in environmentally friendly and sustainable material applications.

[339] Exploring Daivavyapāśraya cikitsā in view of Cāraka Saṃhitā

Vignesh Narayanan, Lekshmi M L, Meera E (Amrita school of Ayurveda)

Abstract

In an era marked by escalating stress and lifestyle-induced disorders, Ayurveda's trividha chikitsa-Daivavyapashraya, Yuktivyapashraya, and Sattvavajaya offers a holistic path to restore health, with Daivavyapashraya particularly targeting karmaja vyadhis through unseen (adrushta) factors like papa karma and shapa. This paper delves into Charaka Samhita's exposition of its thirteen core principles, mantra, oshadhi dharana, mani, mangala, bali, upahara,

homa, niyama, prayashcitta, upavasa, swastyayana, pranipata, and gamana,drawing from contexts like vishamajwara, unmada etc to highlight their rapid relief (aashu vyadhiharatva), psychosomatic benefits, and integration with modern insights such as vibrational resonance and cognitive adaptation. While rooted in cosmic power and achintya prabhava, these practices bridge subtle sharira levels, complementing rational therapies and fostering acara rasayana for preventive rejuvenation, underscoring Daivavyapashraya's untapped potential beyond yuktivyapashraya's limits.

[347] Indriyartha Sannikarsha as a Model of Perceptual Regulation: A Parallel Framework for Neuroscience and Psychology

Dr. Payal P. Wavhal, Dr. Nilima S. Dharkar, Dr. Snehal G. Pansare (Dr. D. Y. Patil College of Ayurveda & Research Centre, Dr. D.Y. Patil Vidyapeeth (Deemed to be University))

Abstract

Contemporary neuroscience and psychology describe sensory processing in increasing detail, yet lack a clear account of why some processing becomes conscious perception while other comparable activity does not. Perception is often treated as an automatic outcome of neural complexity, leaving atten-tional instability and perceptual absence inadequately explained. This paper presents indriyartha sannikarsha (regulated sensory–object contact) from Ayurvedic cognitive theory as a regulation-based model of perception. Within the jnana grahana framework, perception is a conditional event requiring coordinated involvement of artha (object), indriya (sensory faculty), manas (mental faculty; attentional regulator), and atma (experien-tial presence). The instability of manas is treated as a primary variable shap-ing perceptual availability, while hina, ati, and mithya yoga describe under-, over-, and misdirected modes of engagement. Rather than replacing existing models, this framework operates in paral-lel, adding a regulatory dimension that enhances interpretation of attention research, perceptual disturbance, and consciousness studies.

[350] Dietary Incompatibility and Neuroinflammation: Integrating Ayurvedic Dietary Theory with Gut–Brain Axis Research

Dr.Manisha M.Thakare, Dr.Urmila J. Shirke (Dr. D. Y. Patil College of Ayurved and Research Centre, Dr. D. Y. Patil Vidyapeeth (Deemed-to-be-University))

Abstract

Diet is a central determinant of systemic and neurological health. Ayurveda describes Viruddha Ahara (incompatible food combinations) as dietary practices that impair digestive metabolism (Agni), leading to the formation of Ama (metabolic toxins) and subsequent disease. Although classical texts do not explicitly describe neuroinflammation, the Ayurvedic model of impaired digestion, toxic accumulation, and systemic imbalance presents a compelling parallel to contemporary understandings of diet-induced inflammation and gut–brain axis dysfunction. Modern neuroscience identifies chronic low-grade inflammation, microglial activation, and cytokine dysregulation as key contributors to cognitive decline, neurodegeneration, and mood disorders. Emerging evidence demonstrates that unhealthy dietary patterns alter gut microbiota, increase intestinal permeability, and promote systemic inflammatory cascades capable of affecting central nervous system homeostasis. This paper proposes an integrative framework linking Viruddha Ahara with neuroinflammatory mechanisms through metabolic dysregulation, endotoxemia, and altered neuroimmune signaling. By synthesizing Ayurvedic principles with current findings from nutritional neuroscience, the study highlights the relevance of traditional dietary wisdom in contemporary cognitive wellness research. The model encourages interdisciplinary dialogue and provides a conceptual basis for future clinical and translational studies exploring diet-brain interactions.

[359] Ayurathi: A Retrieval-Grounded Conversational System for Responsible Dissemination of Ayurvedic and Yogic Knowledge

Ashish Chadha, Divya Bhatt (IIT Guwahati)

Abstract

Ayurveda and Yoga are foundational components of Indian Knowledge Systems that offer holistic frameworks for preventive health, lifestyle regulation, and mental well-being. However, digital dissemination of authentic Ayurvedic knowledge is challenged by misinformation, lack of source traceability, and unsafe guidance generated by generic artificial intelligence systems. This paper presents Ayurathi, a retrieval-grounded conversational system designed to provide context-aware, safety-conscious, and source-traceable access to classical Ayurvedic and Yogic knowledge. The system employs a Retrieval-Augmented Generation (RAG) architecture that constrains responses to authoritative sources, including classical Ayurvedic texts and Ministry of AYUSH wellness guidelines. User queries are semantically matched to curated passages, and a language model generates responses grounded in retrieved context while enforcing safety boundaries. Ayurathi supports preventive wellness guidance, yoga-based posture and mobility practices, digestive health support, and stress-regulation techniques rooted in traditional knowledge. Safety mechanisms restrict diagnostic and emergency medical advice and encourage consultation with qualified practitioners when appropriate. By integrating responsible AI design with culturally grounded health knowledge, Ayurathi demonstrates a scalable framework for transparent, trustworthy, and safe dissemination of traditional wellness systems. The proposed approach highlights how retrieval-grounded AI can enhance accessibility while preserving interpretive fidelity and public health responsibility.

[362] Emotional Processing Across Prakriti Types: A Review and Pilot Physiological Study

Navdha Bhardwaj (Indian Institute of Technology, MANDI), Yashit Verma(Indian institute of Technology, Kharagpur), Arnav Bhavsar (Indian Institute of Technology, MANDI)

Abstract

In Ayurveda, emotions are described as significant physiological components, which are closely linked to constitutional balance (Prakriti) and cardiac regulation (Hridaya). In the Ayurvedic literature, emotional states such as grief (Vishada/Shoka) and fear (Bhaya) are considered powerful disturbances of doshic balance. This paper reviews Ayurvedic characterizations and scientific literature on emotion dosha relationships, focusing on constitutional emotional exposure and cardiac responses. We have built the framework, which includes exploratory heart rate (HR) observations from a pilot music-based emotion-induction experiment with 15 participants of unique Prakriti types. As preliminary physiological observations, we present empirical findings not as a statistical validation of Ayurvedic theory but through a classical Ayurvedic lens. The results showed that (Friedman $\chi^2 = 6.533$, $p = 0.038$), with sadness associated with higher HR than happiness (Wilcoxon $W = 15.0$, $p = 0.008$); after Bonferroni correction, this Sad vs. Happy contrast remained the central finding. It highlights the relevance of Ayurvedic emotional theory for modern affective psychophysiology and establishes a conceptual bridge between dosha-based emotional predispositions and the autonomic regulation of the heart.

[364] Differential Neural Signatures of Guided Commentary and Music/Lyric Based Meditation: An EEG Study

Ankush Arya, Ramajayam Govindaraji (IIT Mandi)

Abstract

Guided commentary and music/lyric-based meditation are presumed to differ in cognitive demand and neural engagement. This study examined their electrophysiological signatures. Methods: Ten meditators (≥5 years practice) completed both conditions in counterbalanced order during morning hours. EEG was recorded via a 64-channel ANT Neuro system and contrasted against a 2-minute eyes-open baseline. Log-transformed spectral power was analysed across standard frequency bands using cluster-based permutation statistics (1,000 permutations; $\alpha < 0.05$). Results: Guided commentary produced a theta-dominant response with a significant cluster spanning 37 channels ($p = 0.005$) across prefrontal, frontal midline, temporal, parietal, and occipital regions with no significant alpha, beta, or gamma clusters. Music/lyric-based meditation engaged theta (33 channels, $p = 0.003$), alpha (29 channels, $p = 0.016$), and beta (5 posterior channels, $p = 0.007$) simultaneously. Prefrontal theta generators (AF3, AF4, F3) were absent in the

music condition. Discussion: Guided commentary shifts the brain into a focused, internally directed theta state without inhibitory relief. Music/lyric-based meditation produces a broader network shift; theta for engagement, alpha for sensory gating, and beta for rhythmic-sensory integration reflecting a more distributed and immersive cortical state.

[366] Divergent Heart Rate Variability Responses to Chandra Bhedana and Surya Bhedana Pranayama: A Pilot Study

Satyam Tiwari, Arnav Bhavsar (IIT Mandi)

Abstract

Nostril-specific breathing practices, especially Unilateral nostril breathing (UNB) is said to modulate autonomic function, with right nostril breathing (Surya bhedana pranayama) linked with sympathetic activation and left nostril (Chandra Bhedana) linked to parasympathetic activation (Dane et al., 2002; Pal et al., 2014). However, the comparative HRV responses of these techniques across acute to short-term training period remains uninvestigated. The present pilot study compares the acute and seven-days training effects of Surya and Chandra bhedana pranayama on HRV in healthy yoga-naïve adults. The study allocated ten healthy adults to Surya bhedana (n=5) or Chandra Bhedana (n = 5). HRV was recorded (EmWave Pro PPG) at a 5-min baseline and post-practice on Day 1 and Day 8, with 30-min daily home practice for 7 intervening days. LF/HF, PNS Index, Mean HR, SDNN and RMSSD were analyzed using Wilcoxon signed-rank tests, Cohen's d, and Mann-Whitney U with Cliff's delta. Surya Bhedana showed the expected increase (52.16 ± 5.79 to 62.07 ± 8.80 ms; d = +1.33; 4/5 increasing), while Chandra Bhedana produced a paradoxical decline in resting RMSSD over training (95.67 ± 20.49 to 59.55 ± 19.39 ms; d = −1.81; 5/5 participants declining). Acutely, Surya Bhedana increased RMSSD by Day 8 (d = +0.89; p = 0.063; 5/5 consistent) and Chandra Bhedana increased heart rate on Day 1 (d = +1.84; p = 0.063; 5/5 participants) The analysis suggests between-group Mann-Whitney U tests on training effects reached significance for RMSSD, SDNN, and PNS Index (all U = 0, p = 0.008, Cliff's δ = −1.00), indicating complete group separation. Despite a small sample size, the findings from large effect sizes (|d| > 1.3) and statistically significant between-group separation (p = 0.008) suggest Surya Bhedana and Chandra produce divergent autonomic adaptations.

[369] Omkar Chanting and Brain–Body Connection: A Review and A Proposal of Integrative Acoustic and Neural Framework

Dr. Jayashree Pattanayak (SVYASA), Dr. Judu Ilavarasu (Indian Institute of Management Kozhikode), Dr. B. K. Yamini (NIMHANS)

Abstract

Human vocal chanting represents one of the oldest techniques for modulating consciousness. Common mental health problems demand scalable, culturally rooted, non-pharmacological interventions. Building on a previous work, “Effect of Omkar Mantra Chanting on Voice Parameters and Well-Being in Novice Practitioners,” which showed that a 10-day Om chanting module improved acoustic voice stability and well-being indices in healthy adults, this paper presents a more specific mechanistic framework. Voiced Om chanting acts as a structured sensory–motor input that organizes neural oscillations and autonomic tone through mechanical resonance, auditory–motor entrainment, and respiratory–autonomic coupling. This study reviews the relationships among acoustic voice parameters, psychological outcomes, and physiological regulation, highlighting how repetitive sound patterns enhance coherence across neural and bodily systems [1, 3, 4, 5]. It briefly discusses the existing research on brainwave changes during mantra and Om chanting, emphasizing shifts toward increased alpha and theta activity associated with relaxation, attention stability, and parasympathetic dominance [2, 6, 7]. The findings provide a neurophysiological perspective on chanting that influences brain–body synchronization. This review forms a basis for a) learning to establish correlations, if any, between acoustic signatures of chanting and corresponding brainwave patterns using machine learning, and b) identifying vibratory signatures and resonance coherence linked to voice parameters and psychological outcomes through a structured chanting protocol. This integrative framework bridges acoustic,

psychological, and neurophysiological perspectives, contributing to the scientific validation of Indian Knowledge Systems and advancing research in contemplative neuroscience, consciousness studies, and preventive mental health.

[374] The āhāra–guṇa samanvaya for Integral Well-Being: Perspectives from Śrīmad Bhagavad Gītā and Caraka Samhitā

Rahul Mishra, Dr Richa Chopra (Indian Institute of Technology, Kharagpur)

Abstract

In the contemporary world, the well-being of an individual is a rising concern - witnessed at the levels of physical, psychological, social and spiritual. These manifest as obesity, anxiety, depression, purposelessness, etc. The eternal Indic approach to the understanding of the human as 'one complete whole' is embraced in the pañcakośa from Taittirīyopaniṣad - encompassing the an-namaya, prānamaya, manomaya, vijnānamaya, ānandmaya kośa. āhāra is integral in contributing to holistic well-being - established in Gītā & Caraka Samhitā – both philosophically anchored in the Sāṁkhya ontology - the former integrating its metaphysics into a transcendental & ethical vision, while the latter adapting concepts of prakṛti, guṇa into a science of health, healing and well-being. The two discourses approach āhāra from a different yet complementary level. Recent studies on āhāra have shown an impact on mental & physical health (Sharma, 2022; Rossa-Roccor et al., 2021); however, no inquiry has been tracked on its impact across the pañcakośa. Furthermore, āhāra-guṇa conjunct in light of integral well-being has minimally been explored. This research examined the āhāra-guṇa samanvaya on each kośa from the Gītā & Caraka Saṃhitā. The researchers undertook a careful study of the Sāṃkhya Kārikā, 14th & 17th chapters of the Gītā, and 27th-28th chapters of the Sūtrasthāna of Caraka Saṃhitā. Relevant ślokas were identified, correlating samanvaya with the pañcakośa. The examination revealed 1. sāttvic āhāra enhanced the annamaya vitality, prāṇamaya equilibrium, manomaya clarity, vijñānamaya discernment, opening gateways to ānandamaya; 2. rājasic catalysed diseases in the annamaya, agitated the manomaya & prāṇamaya, undermined the vijñānamaya, and brought affliction in the ānandamaya 3. tāmasic had a disruptive impact on all kośas. Thus, a sāttvi-ka lifestyle can usher one to transform their sthūla, sūkṣma, and kārana śarira – towards a flourishing, purposeful, and blissful life.

[376] Association Between Prakṛti and Premenstrual Syndrome: An Exploratory Case–Control Study

Aparna C R , Hemavathi Sivapura Krishnarajabhatt, Shaithya Raj, Anjaly Muraleedharan, Manjula C M, Parvathy Unnikrishnan (Amrita Vishwa Vidyapeetham Amritapuri)

Abstract

Premenstrual Syndrome (PMS) is characterized by the cyclical appearance of emotional, cognitive, behavioral, and physical symptoms during the luteal phase of the menstrual cycle, which resolve with the onset of menstruation. These symptoms may occur with sufficient severity to interfere with the daily activities of the affected individual. Despite extensive research on the subject, the exact nature and determinants of the disorder remain in-completely understood. In Ayurveda, there is no direct reference to Premenstrual Syndrome; however, understanding a disease involves the application of specific diagnostic tools described under Daśavidha Parīkṣā, among which Prakṛti assessment is fundamental. Therefore, the primary objective of this study was to evaluate the relationship between Prakṛti and Premenstrual Syndrome and to determine whether a specific Prakṛti is more susceptible to PMS, thereby contributing to the refinement of the Ayurvedic clinical approach toward its prevention and management. The exploratory case–control study was conducted involving 100 participants. The study demonstrated a statistically significant association between Premenstrual Syndrome and Prakṛti. Vāta–Kapha Prakṛti was found to be more susceptible to PMS, whereas Kapha–Pitta Prakṛti exhibited a comparatively lower likelihood of being affected.

[377] The Spiritual Experiences of Indian Classical Musicians: An IPA Study

Dhyey Joshi (The Maharaja Sayajirao University of Baroda)

Abstract

This study aims to understand the phenomenological worldview of Indian Classical Musicians, exploring the spiritual nature of Indian Classical Music (ICM) and the potential of mental, emotional and spiritual transformation through their engagement with music. Semi-structured interviews were conducted to understand these experiences and Interpretative Phenomenological Analysis (Smith et al., 2009) was used to analyze the Interview recordings and transcripts. Purposive sampling was used wherein the participants were selected based on their expertise in Music. The sample consisted of 11 participants, both males and females, vocalists and instrumentalists in the field of Hindustani and Carnatic music. The study reveals that ICM can serve as a pathway towards deep meditative states and carries the potential of spiritual self-realization for practitioners as well as listeners. The roles of Raaga, Rasa and Naada were found to shape these experiences. The findings indicate that musicians who perceive ICM as Naadyog find it to be a spiritual process transcending verbal expression. Their experiences consist of a range of verbally unexplainable encounters most often metaphorical in nature. Using IPA, six superordinate themes emerged: Transcendent and unexplainable experiences, Transient Nature of Experience, Effects of Swara and Raga, Creative Automaticity, Impact on physical and mental health, and Transformative and Non-Musical outcomes. The study contributes to a deeper under-standing of the inherent spiritual dimensions within the context of Indian Classical Music and highlights its transformative impact on the lives of musicians, with implications in the areas of therapy-intervention, both theoretically and experientially in the domains of music and spirituality.

[386] Visualizing Ashtadhyayi's Verb Derivation Process using Sutra Transition Diagrams

Chaitanya S Lakkundi (Karnataka Samskrit University)

Abstract

We aim to visualise the derivational process of Ashtadhyayi using sutra transition diagrams and identifying the possible sutras at each step. The visualization of the derivational process of Ashtadhyayi seems to be a daunting task at first because of the perceived unavailability of the data required for it. However, with the advancements in technology, it has been possible for us to programmatically generate prakriya and analyse it computationally. There have been many attempts to derive the Sanskrit words by simulating Ashtadhyayi and using an intermediate representation to parse it (PAIAS). These efforts, while being a positive direction in automating the derivation process, often produce the final result in a linear manner without explicitly displaying the sutras analysed at each step and which of those did not apply due to mismatched nimittas. Recent efforts by Prasad have proven to be very useful to generate the prakriya of many words and build a database of them for further analysis. The Paninian dhatupatha features approximately 2000 dhatus classified into 10 ganas (groups). The dhatus are classified into these groups particularly to assign a particular intermediate suffix (vikarana pratyaya) when deriving verb forms. For the purpose of uniformity and simplicity in analysis, we have chosen 50 dhatus of the first group of dhatus called the bhvadi gana. We have used the fast automatic prakriya generator by Prasad to build a database of 15560 prakriyas. We analyse the derivations from various perspectives such as the number of transitions from each sutra, the list of frequently occurring sutras based on incoming and outgoing edges, and so on.

[395] Effects of Listening to Raag Darbari Kanada on Sleep Quality Among Young Adult Females with Premenstrual Syndrome- A Music Based Pilot Study

Nidana Kaushik (Podar World School, Sherkhi, Vadodara), Dhyey Joshi (The Maharaja Sayajirao University of Baroda)

Abstract

The present study evaluated the effectiveness of a Raag Darbari Kanada-based instrumental music intervention to improve sleep quality and daytime sleepiness in young adult females with premenstrual syndrome. Indian classical

music has been highly regarded for its capacity to evoke and regulate emotional experiences; particularly, ragas are traditionally associated with calming, evening, or nocturnal moods among these, Raga Darbari Kanada is frequently described in the therapeutic literature as a slow-tempo, grave raga that elicits relaxation and improves sleep quality. (Nayak, Vishrutha & Nayak, 2020). The participants were 20 females who were randomly assigned to an experimental group (n = 10) and a control group (n = 10). Pre and post-intervention evaluation of the Pittsburgh Sleep Quality Index and Epworth Sleepiness Scale was given to participants. The intervention continued for one month, when the experimental group listened to the Raag Darbari Kanada audio for two weeks before their menstruation days and the control group received no music. A repeated measure ANOVA was employed to contrast the effect of group (experimental vs. control) and time (pre- vs. post-test). The analysis revealed a significant main effect of time, $F(1, 38) = 23.37$, $p < .001$, $\eta^2 = .179$, indicating that the scores of the participants improved over time. The interaction effect between time and group was not significant, $F(1, 38) = 0.052$, $p = .821$, indicating that the degree of improvement was not different between the experimental and control groups. The main effect of the group was not significant. These results suggest that although the intervention coincided with general improvement, it did not show a statistically significant effect above natural or time-related change.

[397] Action Without Attachment: The Bhagavad Gita as a Philosophy of Science for Behavioral and Cognitive Therapies

D. Lee McCluskey (Prabhupada Research Institute for Integrative Medicine (PRIIME))

Abstract

This poster proposes the Bhagavad Gita as a complementary philosophy of science for behavioral and cognitive behavior therapies, with implications for integrative health and well-being. Chapter 6, Verse 17 states that yoga becomes a destroyer of suffering for one who is moderate in eating, recreation, work, and sleep—offering a regulatory model grounded in balance rather than extremity. This principle of disciplined moderation parallels the functional contextualism of B.F. Skinner, which evaluates knowledge by its capacity to predict and influence behavior without attachment to theoretical certainty. In cognitive behavior therapy, traditionally associated with the restructuring model of Aaron Beck, the Gita reframes cognition as instrumental rather than truth-conferring. Thoughts become behavioral events to be regulated skillfully, not ultimate authorities. Across both modalities, suffering is conceptualized less as distortion alone and more as dysregulated attachment to identity, certainty, and control. By integrating disciplined action, moderation, and non-attachment, this framework promotes psychological flexibility, physiological regulation, and sustainable lifestyle balance. Positioned within interdisciplinary conversations on mind, brain, and consciousness, the Gita offers a process-oriented epistemology in which therapeutic science becomes a form of disciplined practice aimed not merely at symptom reduction, but at cultivating resilient, values-consistent well-being.

[402] Development of a Bio-Energy Stability Index for Human Health Monitoring Using GDV Imaging

Shyamal Bhakne (Indian Institute of Technology Guwahati), Ranjan Solanki (All India Institute of Medical Sciences)

Abstract

Electro-Photonic Imaging (EPI), also known as Gas Discharge Visualization (GDV), is an emerging non-invasive technique proposed for assessing the functional state of the human organism through optical recording of electron emission from the skin under short high-frequency electromagnetic stimulation. The method captures corona discharge patterns generated around fingertips and converts them into quantitative parameters such as emission area, intensity, symmetry and temporal variability. These parameters have been investigated as indirect indicators of physiological regulation, autonomic balance and stress response. This review consolidates the physical principles, measurement methodology and interpretation models underlying GDV-based bio-energy assessment. The paper analyzes how electrical excitation leads to ionization, photon emission and digital image formation, and evaluates the relationship between recorded emission characteristics and known biophysical properties including skin conductivity,

hydration, microcirculation and neuro-vegetative activity. Reported applications in health monitoring, psychology, sports science, environmental studies and human environment interaction are summarized and compared with established bio-signal techniques such as heart rate variability and electroencephalography. Special emphasis is placed on scientific challenges limiting clinical acceptance, including measurement repeatability, environmental sensitivity, calibration dependence and ambiguity in physiological interpretation. The review highlights the need for standardized acquisition protocols, multimodal validation and data-driven analysis approaches using machine learning. Overall, GDV/EPI technology demonstrates potential as a rapid and contact-free functional monitoring tool, but current evidence supports its role primarily as a complementary bio-signal assessment method rather than a standalone diagnostic modality.

[422] Influence of Personality Traits, Emotional Intelligence and Ayurvedic Psychotypes on Domain Selection among Management Students:A PLS-SEM Approach

Dr. Prof. Farida Virani, Prof Sandesh Akre (MET - IOM)

Abstract

Knowledge of personality traits is important in explaining human behavioural patterns and career-specific choices. Although the Big Five model of personalities is popular in the field of psychological and managerial studies (Niyaz Panakaje, 2024), there is a lack of empirical data on the relationship between the model and the Ayurvedic psychotypes as well as their impact on the choice of the career domain (O'Connor, October 2007) (Ethan Zell, 2021). The present research designs and tests an integrated model of behaviour that looks at the effects of the Big Five personality traits on Ayurvedic psychotypes (Vata, Pitta, and Kapha) and how these effects further affect the domain choice among management students. A structured questionnaire that assesses personality traits and psychotype indicators was used to gather data from 135 management students. The measurement and structural model were assessed using the Partial Least Squares Structural Equation Modelling (PLS-SEM). The measurement model had good reliability and validity. Output of structural models showed that personality traits are significant predictors of psychotypes, and Pitta (R2 = 0.882) and Vata (R2 = 0.761) are strongly explained. Neuroticism was strongly and positively affected by Vata, and Openness and Conscientiousness were the significant predictors of Pitta. Nonetheless, psychotypes had no significant effect on the choice of domains (R 2 = 0.026), which suggests that the decisions made by a specialist are affected by other contextual factors on top of personality disposition. The results of interdisciplinary research are that Ayurvedic psychotypes are empirically validated through the use of modern personality theory and have a minor contribution in the career specialisation choices of individuals. The research provides implications for personality testing and career guidance, as well as management training.

[430] A Qualitative and Quantitative Investigation of the Interplay between Sound and Brush-Strokes while Depicting Images

Pinaki Gayen (Department of Textile Design, Kala Bhavana, Visva Bharati University), Archi Banerjee (IKSMHA, IIT Mandi), Shankha Sanyal (Sir C.V. Raman Centre for Physics and Music, Jadavpur University), Priyadarshi Patnaik (Department of Humanities and Social Sciences, IIT Kharagpur)

Abstract

In an artist's studio, during the making of an artwork, many "indeterminate" sounds are created unintentionally, for example, the sound of sketching and brush-strokes, sound movement, etc. We often ignore such sounds. In this study, we conducted a case study to investigate the interplay between the sounds of picking up water-colors from different glass containers and the brush-strokes for depicting images. The focus was on eliciting a bi-modal response to emotions through an intentional (artwork) and corresponding automated (music) representation. The experiment was conducted in an artist's (first author) studio where two sets of glass color-containers were kept, namely positive color set and negative color set (previously identified). The glass containers were tuned by a professional musician as two scales of five notes each, one with Major notes and the other with some Minor notes. In a noise-free environment, the

artist created a series of positive images and negative images. The unintentionally generated sounds (during art-making) were recorded. The artist later recorded his experience. To analyze the images and sounds, we used three approaches: (1) Fractal analysis, (2) Phenomenological analysis and (3) Semiotic analysis. The Fractal analysis in the form of Detrended Fluctuation Analysis (DFA) was conducted on both the acoustic waveforms of the sound clips and the corresponding paintings to explore possible correlations. The artist's phenomenological interpretations of the process were compared with detailed semiotic analysis of specific acoustic and visual elements and the nature of their relatedness. Results revealed that during the making of an artwork, sound and painting share a lot of commonalities, such as rhythm, structure, composition, balance and harmony. While the representations are radically different, intermedial roots of similarities are identifiable. Visual art and sound both play a powerful role in evoking certain emotions and drive one another.

[432] The Role of the Indian Knowledge System (IKS) in Shaping Education for Holistic Development and Student Well-being under NEP 2020

Prof. Amol Adkine, Dr. Kailash Ankushrao Atkare, Prof. Laxman Mishra (Hi-tech Institute of Technology, MIDC Waluj, Ch. Sambhajinagar MS)

Abstract

The National Education Policy 2020 has marked a decisive modifica-tion in Indian education by foregrounding holistic development, student well-being, social value, national building and value-based learning. IKS plays a pivotal role in re-envisioning education as an integrated process that nurtures the intellectual, physical, emotional, ethical, and spiritual dimensions of the learner. Ancient traditions are deeply rooted in India's Gurukul pedagogy, Yoga, Ayurveda, mindfulness practices, experiential learning, and ethical philosophy. IKS offers time-tested approaches that align seamlessly with contemporary educational goals. The present research paper evaluates and examines how IKS contributes to holistic education under NEP 2020 by promoting multidisciplinary learning, life skills, ecological consciousness, mental health, and character formation. We have always been gaining knowledge through Gurukul system, Gru-Shishya tradition Panchakosha theory, Yoga-based learning, dialogic teaching methods, and value-oriented texts such as the Bhagavad Gita, Ramyana, Mahabharata, Upanishads and few other texts. The major aim of this paper is to study and highlight how indigenous epistemologies foster resilience, emotional balance, self-discipline, and social responsibility among students. It has been tried to illustrate with an apt examples such as the integration of Yoga and meditation for stress management, traditional arts for cognitive and creative development, and experiential learning inspired by Gurukul traditions the paper argues that IKS strengthens student well-being while addressing modern challenges like academic stress, alienation, and moral disorientation. The study concludes that the effective incorporation of IKS within NEP 2020 has the potential to create a culturally rooted yet globally competent education system that nurtures balanced individuals and socially responsible citizens.

[435] The Study of Oral Mathematical Rhyme in Jamdani Weaving Methods

Susmita Ghosh (National Institute of Fashion Technology (NIFT)), Sudipta Ghosh (The Far East Art Studio, Kolkata), Dr Pinaki Gayen (Dept. of Textile Design, Kala Bhavan, Visva Bharati, Santiniketan)

Abstract

One of the most intricate handloom tradition of Bengal, historically relied not only on visual memory and skill, but also on oral mathematical structures known as 'buli', the rhythmic oral rhyme counting system used by Jamdani weavers and examines how such beautiful rhythmic calculations enabled precise motif (buti) placement without the use of any written computation. The study explores this indigenous method as a cognitive and performative tool that guides pattern formation through memory, rhythm, and embodied practice. Building upon this tradition, this research develops and employs an original mathematical rhyme system inspired by 'buli', specifically adapted for extra weft weaving. Rather than replicating historical chants verbatim, this study reconstructs the underlying principles of oral rhyme to formulate a contemporary, practice oriented counting framework suitable for modern weaving contexts. Using a practice based methodology, this combines experimental weaving, systematic documentation of the weaving process and analytical decoding of rhythmic counting structures to examine how such rhymes function as operational

design tools. The findings demonstrate that both traditional ‘buli’ and the newly developed rhyme operate as alternative mathematical rhymes grounded in oral logic rather than the formal notation, enabling efficient execution of complex patterns. This study contributes to craft documentation and indigenous design knowledge, rooted in mathematical rhythm and visual memory.

[450] KARMA: Knowledge Acquisition via Role-Invariant Mirror Architecture

Tapas Ranjan Rath (Indian Institute of Technology, Kanpur)

Abstract

As AI systems evolve from passive instruments to proactive agents — recommending actions, executing decisions, and increasingly acting on behalf of users across healthcare, finance, law, and social platforms — ensuring ethical alignment without degrading human autonomy becomes one of the central challenges of our time. Multi-agent virtual worlds and games offer a uniquely tractable testbed for this problem: interactions are observable, consequences are measurable, and governance interventions can be evaluated under controlled conditions without real-world harm. In this testbed, a critical tension emerges between enhancing user Sense of Agency (SoA) and preventing aggressive, unethical avatar behaviour. We propose the Extended Self framework: sufficiently personalised AI agents create Proxy Agency, where users experience AI actions as extensions of their own volition. This preserves SoA but creates a moral blind spot — users implicitly endorse aggressive AI behaviour because they experience it as continuous with their own intent. Drawing on Indian Knowledge Systems (IKS), we map this onto the Vedic three-body ontology: the user (ātman), the AI policy (sūkṣma śarīra, subtle body), and the avatar body (sthūla śarīra). We propose KARMA (Knowledge Acquisition via Role-Invariant Mirror Architecture), which trains the agent's subtle body via role-invariant contrastive learning — operating below the threshold of user awareness, analogous to procedural memory formation — to suppress aggressive behaviour without degrading SoA. Three empirically testable hypotheses are derived and grounded in the SoA and multi-agent RL literature. The framework generalises beyond gaming: the same architectural principles apply wherever agentic AI acts on behalf of humans, and the governance model points toward a real-world regulatory architecture of certified ethical agents operating at scale.

[491] Decolonising Mental Health Practice: Critically Examining Western-Centric Frameworks and Incorporating Indigenous, Local and Community-Based Healing Practices.

Yamuna Behera (Sharda University, Greater Noida), Dr Geeta Rani (Guidance and Counselling Cell, IIT Mandi)

Abstract

Aim: This paper is a discussion on the dominance of Western frameworks such as DSM and ICD in clinical psychology, and the marginalisation of indigenous and community-based approaches to mental health. Said western domination prolongs epistemic injustice and restricts culturally grounded care. Review of Literature: A study in postcolonial theory, the revelation of how colonial legacies shape diagnosis, treatment, and accessibility to care. Indigenous practices are repeatedly dismissed or problematised, fortifying power imbalances between Western and local knowledge systems. Methodology: A conceptual review was conducted, sourced from interdisciplinary literature, to establish a decolonial framework. Themes of epistemic injustice, cultural humility, indigenous epistemologies, and pluralistic models of healing were studied to highlight alternative models. Results and Discussion: The study indicates that this superficial cultural adaptation is inadequate. A decolonial relocation requires epistemic pluralism, relational approaches, and acknowledgement of indigenous knowledge as equally legitimate. It challenges universalised standards, rebalances clinician-client power dynamics, and caters to inclusivity and mutual respect. The recognition of diverse epistemologies makes therapeutic practices more responsive and meaningful. Conclusion: Mental health decolonisation is a moral responsibility with profound consequences for training, research, and global policy. The advancement towards justice, inclusivity, and cultural relevance in mental health care enables psychology to grow beyond the western canon.

[492] An Ayurvedic Polyherbal Formulation for Refractory Severe Aplastic Anaemia: A Case Report

Raj Kumar Yadav(IKSMHA, IIT Mandi), Amit Prasad(IKSMHA, IIT Mandi), Laxmidhar Behera(IKSMHA, IIT Mandi), Subhas Singh (Bhaktivedanta Ayurvedic Hospital, Mathura)

Abstract

Aplastic anemia is a rare, life-threatening hematologic disorder characterized by bone marrow failure and pancytopenia. Standard therapies, including immunosuppressive agents and hematopoietic stem cell transplantation, are often limited by toxicity, relapse, incomplete recovery, donor unavailability, high cost, complications including graft-versus-host disease and severe infections. Within the Ayurvedic framework, aplastic anemia may be conceptually correlated with Panduroga, and is managed using formulations containing botanicals such as Tinospora cordifolia, Azadirachta indica, and Phyllanthus emblica (Giloy, Neem, and Amla), which are reported to possess immunomodulatory and hematopoietic-supporting properties. We present the case of a male patient with severe, refractory aplastic anemia who was unresponsive to standard immunosuppressive therapy and intolerant to anti-thymocyte globulin. He was subsequently managed with the above-mentioned polyherbal Ayurvedic formulation. Over a 26-month treatment period, the patient demonstrated gradual and sustained hematological improvement, ultimately achieving normalization of blood counts and transfusion independence. This case highlights the potential role of integrative therapeutic approaches in refractory severe aplastic anemia and underscores the need for systematic mechanistic and preclinical studies to evaluate the efficacy and underlying biological pathways of these botanicals, particularly in the context of immune-mediated bone marrow failure.

Day 4- June 6, 2026

Chaturthi, Jyeshtha, Krishna Paksha, Vikram Samvat 2083 - Saturday

Morning Session

Time	Event	Session Chair	Venue
6:15-7:15	**Yoga Session**	Jahnava Sundari	Yoga Room
7:30 - 8:30	Breakfast		Lawn
8:30-9:10	Keynote Talk 14: **Topic: Functional Coherence Across Scales: From the Dynamics of the Universe to the Harmony of the Brain** **Speaker: Dr. Josefa Becerra Gonzalez**	Dr. Venkatesh Chembrolu	Auditorium
9:10-9:50	Keynote Talk 15: **Topic: From Silicon to Cytoskeleton: Why Microtubules Are the Final Computer and Homo Transcendens Is our Next Chapter** **Speaker: Mr. Joseph Jacks**	Prof. Arnav Bhavsar	Auditorium
9:50-10:30	Keynote Talk 16: **Topic: Hindu Hermeneutics - Its Importance and Relevance in Context of Our Understanding of Bharat** **Speaker: Prof. Nachiketa Tiwari**	Prof. Laxmidhar Behera	Auditorium
10:30-10:40	Tea Break		Foyer
10:40-11:20	Keynote Talk 17: **Topic: Beyond Mathematical Realism: A Yoga Vashishta Critique of Conscious Agent Modeling** **Speaker: Prof. Ganti S. Murthy**	Dr. Richa Chopra	Auditorium
11:20-12:00	Keynote Talk 18: **Topic: Before Consciousness: Why a Self-Operating Mathematical Universe Is Required for a Science of Mind** **Speaker: Dr. Anirban Bandyopadhyay**	Dr. Pushpendra Singh	Auditorium
12:00-12:20	Invited Talk 8: **Topic: Consciousness in the interval between thoughts** **Speaker: Dr. Ashutosh Simha**	Dr. Venkatesh Chembrolu	Auditorium
12:20-12:40	Invited Talk 9: **Topic: Avadhānam as a Cognitive Art: Insights from a Living Indian Tradition** **Speaker: Prof. Ramakrishna Pejathaya**		
12:40-13:00	Invited Talk 10: **Topic: Science Of Spirituality** **Speaker: Dr. Narendra Arya, DRDO**		
13:00-13:20	Invited Talk 11:		

	Topic: The Bhagavad-gītā: Bridging mind, Consciousness and Philosophy **Speaker: Prof. Ithamar Theodor**		
13:20-14:30	Lunch Break		Lawn

Day 4- June 6, 2026

Chaturthi, Jyeshtha, Krishna Paksha, Vikram Samvat 2083 - Saturday

Afternoon Session

Time	Event	Session Chair	Venue
14:30-16:30	Key Thematic Special Session on **Gita and its relevance to Personal and Professional Excellence_4**	Prof. N. Ravichandran	CCE Conference hall
	Special Session 20: **GDV/EPI Bio-Energy Imaging: Live Device Demonstration and Physiological Interpretation (No 18)**	Shyamal Bhakne & Dr. Ranjan Solanki	Hall A
	Special Session 21: **The Philosophical and Scientific Theory of Jyotisha, with Applications to Psychology (No 19)**	Dr. Utkarsh Agrawal & Abhigya Anand	Hall B
	Regular Session 15: **Track 5: Brain Computer Interface and Application_2 (Theme A)_10**	Prof. Ram Bilas Pachori	Hall C
	Regular Session 16: **Track 7: Consciousness Studies_2 (Theme B)_8 + Track 12: Cognitive Science and AR/VR (Theme A)_1**	Dr. Venkatesh H. Chembrolu & Prof. Chayan K Nandi	CnP 1 (Hall D)
	Regular Session 17: **Track 16: Preventive Wellness and Clinical Trials (Theme D)_10**	Dr. Venugopal Damerla	CnP 2 (Hall E)
16:30-17:00	Closing ceremony/ Valedictory Session		Auditorium

Key Thematic Special Session on Gita and its relevance to Personal and Professional Excellence_4

KSS2_4: Gita and its relevance to Personal and Professional Excellence		
June 6, 2026 14:30-16:30 Venue: CCE Conference hall		
Session Chair: Prof. N. Ravichandran (online)		
Time	**Speakers**	**Events**
14:30-15:00	Jaishankar Narayan, Ramana Ashram, Amba samudram	**Invited Talk 1**
15:00-15:30	Ramachandra Arjun	**Invited Talk 2**

	Kodagehalli, IIM Bangalore (online)		
15:30-16:15	**Authors**	**Contributory Paper Presentation**	**Paper ID**
	Anirudh Sharma	Case studies on the presentation of Guṇas in Bhakti based on the Bhagavadgītā	KSS2_P6
	Dr B.G Anathsharma	"Kṣetra, Kṣetrajña, and the Dṛk–Dṛśya Distinction: Mind and Consciousness in the Bhagavadgītā"	KSS2_P7
	Priyankari	The Phonetic Architecture of the Bhagavad Gītā: An Acoustic Exploration of Anuṣṭup Chhandas as a Cognitive Tool	KSS2_P8
16:15-16:30		**Closing remarks** by session chair	

Invited Talk 1:

Title: The Concept of Success according to the Bhagavad Gita

Jaishankar Narayan (Ramana Ashram, Amba samudram)

Abstract

In the modern world the concept of success has almost become universal. Success is measured in terms of fulfilling one's desires and is gauged in terms of a few things like one's pursuit of wealth, knowledge, recognition, experiences and other professional accomplishments. But what is really the success of a human being as a human being? We will examine this success (संससद्धि – saMsiddhi) based on the verses from Bhagavad Gita with the commentaries of Adi Shankaracharya and Swami Dayananda Saraswati of Arsha Vidya Gurukulam. We will examine the pitfalls in measuring success in terms of fulfilling one's desires and try to understand desires, as purely a privilege granted to us, based on the vision of the Gita. Desires need not bind and lead one to a path towards failure. Desires are an expression of one's freedom. It is a prerogative. If we look at it this way, one's life becomes a life of Yoga.

Invited Talk 2:

Title: Overthinking in critical moments: Insights from the Gītā

Ramachandra Arjun Kodagehalli (IIM Bangalore)

Abstract

Tomorrow is your interview day, the day you've waited for years, investing time, effort and a fortune in your degree, all to land your dream job. For a month you've prepared relentlessly: poring over books, debating with peers and rehearsing every possible question. Now it's time to relax and let go of the anxiety. Instead, your mind is restless: What if the other candidates are more qualified? What if I mess up tomorrow? Will I get another job if I miss this one?. Or perhaps you're a manager in a leading MNC and tomorrow is your high-stakes client presentation, one that could clinch the project. You've reviewed every slide with your team, anticipated every objection, and rehearsed the pitch to perfection. Now it's time to relax but instead you feel nervous and underconfident. But your mind keeps spinning: What if the client spots a gap in our proposal? Or worse still, challenge our assumptions? What if we lose this deal? If this story sounds familiar, you're not alone. Overthinking is the mind's tendency to inflate situations and their consequences far beyond their true importance in the larger picture of our lives. Overthinking has been increasingly linked to stress and underperformance in high-stakes situations by modern psychologists. In this talk, we will analyze the root cause of overthinking through the lens of the Bhagavad Gītā. Drawing on Śrī Krishna's insights to Arjuna, we explore the subtle distinction between being goal-driven and being outcome-fixated, a distinction that holds the key to avoid overthinking and performing without anxiety. We will also dwell on the concept of Triguṇas as

a practical framework to understand our mind and act with clarity, focus, and steadiness and the concept of Daiva to acknowledge the existence of unseen factors beyond our control.

[KSS2_P6] Case studies on the presentation of Guṇas in Bhakti based on the Bhagavadgītā

Anirudh Sharma (Chanakya University)

Abstract

The Bhagavad Gītā presents the doctrine of triguṇa as fundamental modalities underlying human cognition, emotion, and behaviour. It mentions these guṇas in their applied form through diverse activities such as consumption of certain foods, performing certain karma or engaging in certain kinds of tapas. The Gīta also holds that bhakti as a systematic approach capable of taking one beyond the influence of the guṇas. Where bhakti is also operational through cognition, behaviour and especially emotional functions in humans, this paradox seems to remain relatively underexplored. This study aims to take a closer look at the ideas of triguṇas as well as bhakti and examine the idea of overcoming the influence of the former through the path of the later. To see the applied manifestations of these guṇas, representative figures from scriptural narratives are employed as case models of devotional orientation, enabling a comparative mapping of behavioral and motivational patterns. These are then analyzed against the normative traits of the ideal bhakta described in bhakti yoga of the Gītā, which are operationalized as a set of evaluative constructs. The study adopts a qualitative correlation framework to assess the degree of alignment between guṇa and bhakti types and bhakta profile as presented in the bhakti yoga. Preliminary analysis suggests that sāttvic dispositions demonstrate strong convergence with the idealized bhakta traits, while rājasic and tāmasic forms exhibit partial or divergent patterns, particularly in relation to motivation, emotional stability, and relational orientation. This work contributes a structured model for understanding devotional diversity within a unified philosophical framework and opens pathways for future empirical research, including the development of psychometric tools for assessing devotional dispositions and their cognitive-affective correlates.

[KSS2_P7] “Kṣetra, Kṣetrajña, and the Dr̥k–Dr̥śya Distinction: Mind and Consciousness in the Bhagavadgītā”

Dr B.G Anathsharma (Chanakya University)

Abstract

A few questions have occupied human thought very persistently for a long time, as: Who am I? Am I this body, am I my mind, or am I something deeper than it? We experience thoughts, emotions, doubts, and decisions — but who, or what, is it that experiences them? This paper takes that question seriously and turns to one of the most sorted after ancient Indian texts, Bhagavad Gītā, for an answer. The answer keeps the human experience at the center and discusses the At the heart of everyday experience lies a quiet confusion. We say “I am anxious” “I am confused” “I understand”— as though the mind and the self were the same thing. The Gītā gently but firmly dismantles this assumption. Drawing on Chapter 7, verse 4, which places manas (mind), buddhi (intellect), and ahaṅkāra (ego) squarely within the domain of prakṛti — the observable, changing world — this paper argues that the entire mental apparatus, however subtle, belongs to the realm of the known. Thinking, doubting, deciding, and even the intimate sense of “I am the one who knows”— all of these are dr̥śya, objects that appear before an awareness that is itself never an object. That awareness is what the Gītā calls Ātman — and its nature is unlike anything the mind can produce or possess. It does not arise, does not change, and does not depend on the presence of thought to exist. Drawing on key verses from Chapter 2 and Chapter 13, this paper traces how the Gītā positions the Self as kṣetrajña — the knower of the field — who witnesses all mental states without being defined by any of them. Even the ahaṅkāra’s confident claim, “I understand” turns out to be something seen, not the seer. The paper further examines adhyāsa — the deep-rooted habit of mistaking the Self for the mind — and what it costs us in self-understanding. Guided by the Bhāṣya of Ādi Śankarācārya which belongs to Advaita school of Vedānta, the study places this ancient distinction in conversation with contemporary questions about the nature of consciousness, asking the reader not merely to think about awareness, but to notice it.

[KSS2_P8] The Phonetic Architecture of the Bhagavad Gītā: An Acoustic Exploration of Anuṣṭup Chhandas as a Cognitive Tool

Priyankari (IIT Mandi)

Abstract

This study examines the cognitive and affective effects of reciting verses or shlokas of the Bhagavad Gītā composed predominantly in Anuṣṭup chhandas, a metrical structure traditionally organized as four pādas of eight syllables each. Rather than approaching Sanskrit text recitations primarily through theological, literary, or grammatical interpretation, the research treats the vocalizations as a phonetic-acoustic system: a patterned sequence of syllables, vowels, consonantal articulations, pauses, breath cycles, and rhythmic constraints that may influence attention, memory, emotional regulation, and mental well-being. This study proposes rhythmic vocalization as a disciplined bio-acoustic tool for emotional balance and enhanced cognitive awareness. Bhagavad Gita recitation may engage the brain's predictive coding mechanisms through its structured Sanskrit phonetics and rhythm, enhancing attentional stability and supporting mental agility. The predictable syllabic symmetry, controlled cadence, and recurrent phonetic architecture may support attentional entrainment, respiratory regulation, auditory-motor synchronization, and reduced cognitive noise. The research investigates how Sanskrit phonemes, especially vowel length, aspirated and unaspirated consonants, nasalization, and rhythmic caesura, contribute to the embodied experience of articulation. The study may employ a mixed-method framework combining acoustic analysis, phonetic mapping, self-report measures of stress and mood, and physiological indicators such as breathing rhythm, heart-rate variability, or electrodermal activity. Comparative conditions may include vocalization through recitation, listening, silent reading, and non-metrical speech to distinguish the effects of semantic meaning from those of structured sound and rhythm. By framing Bhagavad Gita recitation as a measurable acoustic and cognitive phenomenon, this research aims to bridge traditional Sanskrit knowledge systems with contemporary cognitive science. It suggests that Anuṣṭup chhandas may not merely preserve sacred verse but may also operate as a disciplined sonic technology for mental steadiness, emotional balance, and contemplative awareness.

Special Session 20:

SS20: GDV/EPI Bio-Energy Imaging: Live Device Demonstration and Physiological Interpretation		
June 6, 2026 14:30-16:30 Venue: Hall A		
Session Chair: Shyamal Bhakne & Dr. Ranjan Solanki		
Time	**Speakers**	**Events**
14:30-15:00	Shyamal Bhakne & Dr. Ranjan Solanki	**Opening Remarks** and **Introduction** to GDV/EPI: physical principles, measurement methodology, and brief history of electrophotonic imaging.
15:00-15:30		Live device demonstration: real-time fingertip scans of volunteer participants with immediate display and explanation of emission maps, sector analysis, and autonomic indices.
15:30-16:00		Comparative analysis: examining how parameters shift under induced conditions (e.g., deep breathing, relaxation, mild cognitive task), illustrating psychophysiological sensitivity of the device.
16:00-16:30		Open Q&A and discussion

Theme of the session:

GDV/EPI technology operates by applying a brief, low-intensity high-frequency electromagnetic pulse to each fingertip. The resulting gas discharge is optically recorded and digitally processed to yield parameters including:

- Emission area and intensity linked to skin conductivity, hydration and microcirculatory state
- Spatial symmetry and bilateral balance reflecting lateralization in autonomic nervous system activity
- Temporal variability and fractality investigated as correlates of neuro-vegetative regulation
- Sector-based organ mapping a heuristic framework correlating emission zones with physiological regions

Published research has investigated GDV parameters as indirect indicators of stress response, altered states of consciousness, meditation, and therapeutic intervention outcomes. The technology is positioned as a complementary bio-signal method alongside established modalities such as heart rate variability (HRV) and electroencephalography (EEG), with its particular value lying in its rapid, non-contact acquisition.

Special Session 21:

SS21: The Philosophical and Scientific Theory of Jyotisha, with Applications to Psychology		
June 6, 2026 14:30-16:30 Venue: Hall B		
Session Chair: Dr. Utkarsh Agrawal & Abhigya Anand		
Time	**Speakers**	**Events**
14:30-14:40	Dr. Utkarsh Agrawal	**Opening Remarks**
14:40-15:10	Prof. Vinod Kumar Sharma	**Invited Talk-1**
15:10-15:40	Abhigya Anand	**Invited Talk-2**
15:40-16:10	Dr. Utkarsh Agrawal	**Invited Talk-3**
16:10-16:20		**Closing Remarks** by session chair

Theme of the session:

Jyotisha, commonly called Indian or Vedic Astrology, is a theory that attempts to explain the fundamental cosmic forces and their relationship with the creatures on earth and terrestrial life in general, and also how this relationship evolves over time. In this session, we will establish the philosophical foundations of Jyotisha, give an overview of the scientific theory of Jyotisha, and present a hypothesis connecting Jyotisha and the Mind, with links to consciousness studies, Ayurveda, psychology and criminology.

Regular Session 15:

RS15: Brain Computer Interface and Application_10 Time: 14:30-16:30, Hall C Session Chair: Prof. Ram Bilas Pachori		
Paper ID	**Paper titles**	**Authors**
164	A Comparative Study of Batch Normalization Strategies and Class Balancing in EEG Sleep Stage Classification	Shivam Patel, Santosh Kumar Satapathy,Rajesh Kumar Mohapatra, Parth Khunt, Suren Kumar Sahu
176	A Comprehensive Review of Artificial Intelligence- Driven Methods for Brain Tumor Segmentation	Kush Vaidya, Chinmay Singh, Deval Bhavsar, Santosh Satapathy

177	Effective Classification of finger movements using discrete wavelet transform of sEMG signals	RAMNIVAS SHARMA, Hemant Kumar Meena
201	Cognitive State Classification Using EEG with Common Spatial Patterns and Feature Selection	Aryan Katoch, Abhijit Bhattacharyya
205	A Firefly-based feature selection for enhancing Electroencephalogram based motor imagery classification using Machine Learning algorithms	Pramod Gaur, Vaibhav Singh, Mukesh Kumar Jadon, Bharavi Mishra
218	Neural Decoding of Four Channel EEG Digit Dataset Using Adaptive Time–Frequency Decomposition and Stacked Learning	Asif Iqbal, Ashok Kumar Suhag, Arpit Bhardwaj
243	EEG-Based Brain–Computer Interface for Classifying Student Mental Workload During Online Education	Mrinal Kanti Sadhukhan, Mitul Ahirwal
305	Multivariate Iterative Filtering-Based EEG Characterization of Immersive and Real-World Meditation for Neural State Differentiation	Swati Singh
344	Listening to Stress: A Multimodal Speech-Based Approach to Evaluating Mindfulness Meditation Effects	Sakshi Gupta, Anwesha Sengupta
354	Multiband Attention Network for Motor Imagery EEG Classification	Uddeshay Anand, Kusum Bharti, Mohd Sameer

[164] A Comparative Study of Batch Normalization Strategies and Class Balancing in EEG Sleep Stage Classification

Shivam Patel (Pandit Deendayal Energy University), Santosh Satapathy (Pandit Deendayal Energy University), Rajesh Mohapatra (Pandit Deendayal Energy University), Parth Khunt (Pandit Deendayal Energy University),Suren Sahu (Gita Autonomous College)

Abstract

Sleep is a necessity for every living organism, with significant influence on health; lack of sleep may result in various cardiovascular and neurological disorders. An accurate sleep staging plays a crucial role in diagnosing various sleep-related conditions. The Sleep quality is determined by the distribution proportions of sleep stages. The study aims to investigate the influence of data balancing and batch normalization on deep learning-based sleep stage classification. Electroencephalogram (EEG) signals from the Sleep-EDF Expanded dataset of Physionet were used for this study. To address the prob-lem of class imbalance, the NearMiss undersampling technique is applied for the first time on the EEG signal data, and the effect on model performance is comprehensively examined. A standard dataset and a balanced dataset were developed during this research. Different batch normalization settings for Convolutional Neural Network (CNN) architectures were assessed; one ap-plied Batch Normalizing (BN) just in the last layer, while the other included it in the first two and final layers. The effects are tested on Raw, and Class Balanced.

[176] A Comprehensive Review of Artificial Intelligence- Driven Methods for Brain Tumor Segmentation

Kush Vaidya, Chinmay Singh, Deval Bhavsar, Santosh Satapathy (Pandit Deendayal Energy University)

Abstract

The need for successful diagnosis and treatment of brain tumor in human beings is inevitable and cannot be overlooked. Adding up to that, is the monotonous and laborious task of segmenting and classifying brain MR Images, which leads to turmoils, misjudgments and oddities in the process. This leads to detrimental outcomes like erroneous diagnosis for the patients. Consequently, an imperative need for advancements in the area of medical

image processing is required. Researchers worldwide are persistently working on the fusion of health care and Artificial Intelligence. As a result, numerous new methods are employed as well as methods formed by making small variations or adding new modifications to the pre-existing methods are coined as the time passes. This study consists of in-depth explanation of various Deep Learning techniques which are implemented for brain tumor segmentation. The main study focuses on showcasing a brief description and use of methods like Support Vector Machine (SVM) , Convolution Neural Networks (CNNs) and Transformers to form a comparative and easy to understand analysis based on the prevailing studies.

[177] Effective Classification of finger movements using discrete wavelet transform of sEMG signals

Ramnivas sharma, Hemant Kumar Meena (MNIT JAIPUR)

Abstract

EMG signals have been essential for identifying single and combined hand or finger gestures and directing the mobility of several contemporary prostheses. Biological EMG signals have garnered a lot of attention, but because they are non-stationary, many EMG applications have been made more difficult. In this study, finger movement classification is evaluated using static features based on the fourth-level discrete wavelet transform, including mean, variance, skewness, energy, and entropy. These features are used as input for several machine-learning models. A very precise algorithm was added to this work to pattern-detect EMG signals with various movements. This study recorded the EMG signals of 10 different finger movements, including 5 distinct and 5 combined postures, from 8 subjects, 6 males and 2 women. This paper suggested techniques such as SVM, XGBoost, random forest, and KNN with the help of the static feature achieved around 94.21%, 88.12%, 91.51%, and 92.34% accuracy, respectively, on finger movement classification. But the SVM approach gives comparatively higher accuracy to different finger movement classifications, indicating its adequate performance.

[201] Cognitive State Classification Using EEG with Common Spatial Patterns and Feature Selection

Aryan Katoch, Abhijit Bhattacharyya (National Institute of Technology, Hamirpur)

Abstract

The accurate detection of cognitive load is a fundamental challenge in neuroergonomics due to the inherent non-stationarity of neural signals. Our study introduces a robust framework for classifying cognitive states using electroencephalogram (EEG) signals for discrimination between resting and high-workload states. EEG recordings were segmented into 2-second duration segments with a 50% overlap. The common spatial pattern (CSP) filtering was employed to extract four discriminative spatial components that maximize variance between rest and load states. In the next step, a total of 36 features were extracted including statistical, entropy-based, Hjorth parameter, fractal, power, spectral, band power, and power ratios based features from each component. This feature set was optimized using two feature selection techniques: binary particle swarm optimization (BPSO) and analysis of variance (ANOVA). In this study, we utilized a publicly available EEG dataset consisting of 36 healthy individuals engaged in alternating rest and mental arithmetic tasks. A comparative performance analysis of multiple machine learning classifiers indicated that the ensemble bagged trees model achieved superior results. The model attained peak accuracies of 97.46% with ANOVA-based selection, 96.3% with BPSO, and 97.27% using the full feature set.

[205] A Firefly-based feature selection for enhancing Electroencephalogram based motor imagery classification using Machine Learning algorithms

Pramod Gaur (Nottingham Trent University), Vaibhav Singh (Nottingham Trent University), Mukesh Kumar Jadon (The LNMIIT Jaipur), Bharavi Mishra (The LNMIIT Jaipur)

Abstract

Electroencephalography (EEG) is a critical tool for brain-computer interface (BCI) systems, especially in aiding individuals with motor impairments. Despite its potential, EEG classification of motor imagery (MI) tasks remains challenging due to high dimensionality, noise, and subject-to-subject variability. This study presents an optimised methodology integrating the Firefly Algorithm (FA) for feature selection, Common Spatial Patterns (CSP) for feature extraction, and a Random Forest classifier for motor imagery classification. The FA-based approach significantly outperformed traditional feature selection methods, achieving a 18.2% increase in classification accuracy and reducing computational complexity by 32%. Using a dataset of 109 subjects, the proposed framework demonstrated robust cross-validation results, achieving a mean classification accuracy of 75.30%, demonstrating its suitability for real-time BCI applications. These findings underline the efficiency of the Firefly Algorithm in enhancing EEG-based MI classification.

[218] Neural Decoding of Four Channel EEG Digit Dataset Using Adaptive Time–Frequency Decomposition and Stacked Learning

Asif Iqbal (BML Munjal University, Gurugram Haryana), Ashok Kumar Suhag (BML Munjal University, Gurugram Haryana), Arpit Bhardwaj (Gautam Buddha University, Greater Noida)

Abstract

Electroencephalograms (EEG) are non stationary biological signals generated from the human brain. Speech imagery (SI) task is the state of the brain when it imagines pronouncing a letter or a word. EEG signals are often decoded using the brain computer interface (BCI) system. The BCI based analysis of EEG/SI signals always have a tradeoff between performance, size, and portability of the EEG devices. This work proposes a decoding paradigm that applies adaptive time frequency (ATF) analysis to digit SI task signals and performs ML classification using stacked architecture. This work has resulted in improved classification accuracy compared to existing research with a lower channel SI data. The preprocessed four channel digit EEG data set has been used to extract the useful time frequency features by deploying intrinsic mode functions (IMF) that perform ATF analysis using Empirical Mode Decomposition (EMD). The obtained features are then used to train some standard ML models at the first level. The ML models giving the best accuracy (Long Short Term Memory (LSTM), Extreme Gradient Boosting (XGB), and Random Forest (RF)) are later combined with each other at the meta level (stacked classifier) and trained again with the data that are featured in these three classifiers and tested again. The proposed ATF-stacked classifier framework has resulted in a classification accuracy of 90.1% for EEG data (0-9), which is higher compared to the standard classifiers used in this investigation. This research has given a direction towards the use of lower channel device data set, surpassing the requirement of large data (more features) from bulky devices by utilizing time frequency analysis instead of a fixed window pattern. In the future, small, user-friendly devices can be used in healthcare and other applications.

[243] EEG-Based Brain–Computer Interface for Classifying Student Mental Workload During Online Education

Mrinal Kanti Sadhukhan (Maulana Azad National Institute of Technology, Bhopal, India), Mitul Ahirwal (Maulana Azad National Institute of Technology, Bhopal, India)

Abstract

Online learning or distance learning has nowadays become a trend. It has slight disadvantages also since it can create confusion and mental stress in the students. Hence, it's important to measure the mental workload (MWL) of the students attending online lectures. A new electroencephalogram (EEG) dataset online teaching learning and problem solving (OLPS) has been used. Ten different time-domain features are calculated, and a support vector machine (SVM) is used for classification with different kernel combinations. The feature skewness has been found best out of ten features when classified with Radial Basis Function (RBF) kernel, 83.33% classification accuracy has been achieved. Mental workload is classified in the two classes, low and high. The main aim of this study is the

assessment of mental workload during online classes.

[305] Multivariate Iterative Filtering-Based EEG Characterization of Immersive and Real-World Meditation for Neural State Differentiation

Swati Singh (Indian Institute of Technology, Kanpur)

Abstract

This study presents a Multivariate Iterative Filtering (MIF)-based electroencephalographic (EEG) framework to characterize neural state modulation during immersive virtual reality (VR) and real-world meditation. MIF was employed to decompose nonstationary multichannel EEG signals into adaptive intrinsic mode functions (IMFs), enabling spectral feature extraction for pre–post meditation analysis. Paired comparisons across 26 subjects revealed that immersive meditation induced significantly stronger suppression of frontal high-frequency activity relative to real-world practice, particularly in gamma-band power over frontal regions ($p = 0.029$, $d = -0.45$) and right frontal beta activity ($p = 0.041$, $d = -0.42$). Alpha power across frontal and posterior regions demonstrated significant post-meditation enhancement in both environments; however, between-condition differences were not statistically significant. Hemispheric asymmetry indices showed contraction toward interhemispheric balance following meditation, indicating neural stabilization without pronounced lateralized shifts. These results suggest that immersive environments amplify high-frequency attenuation mechanisms associated with cortical stabilization. The MIF-derived spectral features provide discriminative signatures of meditation-induced neural states, supporting their potential for EEG-based neural state differentiation and adaptive neurotechnology applications.

[344] Listening to Stress: A Multimodal Speech-Based Approach to Evaluating Mindfulness Meditation Effects

Sakshi Gupta, Anwesha Sengupta (National Institute of Technology Rourkela)

Abstract

Stress monitoring and management have become increasingly critical owing to the rising prevalence of mental health challenges in contemporary society. Mindfulness meditation has demonstrated potential as an effective intervention. However, objective and scalable frameworks for evaluating its impact remain limited. This study presents a multimodal approach for stress assessment that integrates speech-based biomarkers, psychological measures, and cognitive performance indicators to evaluate the effectiveness of guided mindfulness meditation. A web-based platform was developed to facilitate automated data collection and longitudinal monitoring. It incorporated speech recordings, Perceived Stress Scale (PSS) responses, and cognitive assessments, including reaction-time and Stroop color-word tasks. Acoustic features such as fundamental frequency, Mel-frequency cepstral coefficients (MFCCs), and local jitter were extracted from speech signals to investigate their relationship with stress levels. Results show consistent reductions in stress indicators, accompanied by improved behavioral performance and decreased self-reported stress. Speech-derived features exhibit strong potential as complementary biomarkers. The proposed multimodal framework supports objective, scalable, and non-invasive stress assessment.

[354] Multiband Attention Network for Motor Imagery EEG Classification

Uddeshay Anand, Kusum Bharti, Mohd Sameer (Dr B R Ambedkar National Institute of Technology, Jalandhar)

Abstract

Motor imagery (MI)-based brain-computer interfaces (BCIs) offer non-invasive brain-to-device communication, demonstrating potential for neurorehabilitation and assistive technology. Accurately classifying MI electroencephalography (EEG) signals remains challenging due to their inherently low signal-to-noise ratio, non-stationarity and substantial inter-subject variability. Another challenge is the limited availability of labeled EEG data, making it difficult to effectively train deep learning models. An end-to-end deep learning architecture, termed the Multiband Attention Network (MB-ATNet), is proposed to address the identified issues. The model

utilizes frequency-specific spectral streams (theta, alpha and beta) at the input level. It further integrates a Convolutional Block Attention Module (CBAM) to enable joint channel and spatial feature recalibration. Data augmentation is used to improve the generalization of the proposed model. BCI Competition IV-2a (BCIC-IV-2a) dataset was used to evaluate performance across nine subjects. MB-ATNet shows an overall mean classification accuracy of 77.17% and mean Cohen's kappa of 0.696, outperforming established baselines on individual subjects while demonstrating competitive overall performance. These results suggest that combining multiband spectral fusion with dual-axis attention leads to more robust MI-EEG decoding.

Regular Session 16:

RS16: Consciousness Studies_8 + Cognitive Science and AR/VR_1 Time: 14:30-16:30, CnP 1(Hall D) Session Chair: Dr. Venkatesh H. Chembrolu & Prof. Chayan K Nandi		
Paper ID	**Paper Titles**	**Authors**
299	Tuning the Recursive Self: Yoga and Meditation as Optimization Protocols for the 5-Tier Informational Hierarchy	Chidananda Gowda K.
326	Narrative Representations of Emotional Autobiographical Memory: A Thematic Analysis Study	Pinky Arya, Fredrick Coolidge
338	DISSOLUTION OF MATTER AND CONSCIOUSNESS	R Muraleedhara Kurup
360	Acoustic Resonance and Collective Synchronization in a Wave Mechanics Interpretation of Nāda	Dr Gazal Sharma, Dr Gaurav Katoch
392	An inquiry into the Advaita Vedantha model of Consciousness using the phenomenological tool called Drig Drishya Viveka	NIKHIL K
399	Music Therapy and Synergy of Sound: A Study on the Efficacy of Musical Therapeutic Entrainment in Students with Learning Disabilities	Deepshikha Nigam Sood , Kavita Kumar, Nishith Gaur
437	From Āpaḥ Mahābhūta to Molecular Structuring: Water as a Context-Sensitive Medium	Ayush Agrawal, Pushpendra Singh, Laxmidhar Behera
490	Dreaming as a State of Consciousness: A Sensory-Integrative-Motor Framework	Swastika, Nitin Kumar, Venkatesh H. Chembrolu and Laxmidhar Behera
186	A VR-Based Multi-Stream Cognitive Training System Inspired by Avadhana Principles to Enhance Cognitive Functions	Prajna Shetty, Poornachandra Manjunath Hegde, Sahana B, Rohini N, Ananya Patil A

[299] Tuning the Recursive Self: Yoga and Meditation as Optimization Protocols for the 5-Tier Informational Hierarchy

Chidananda Gowda K. (PES University, Bengaluru)

Abstract

Building upon the recursive 5-tier ontological hierarchy of Bit, Qubit, and Chit, this paper introduces a technical framework for "Tuning the Recursive Self." While the structure of Self-Aware Artificial Systems (SAAS) has been theoretically established, its operational realization in the human "Biocom-puter" remains underexplored. We frame Indian Knowledge Systems (IKS)—specifically Yoga and Meditation—as rigorous optimization protocols designed to manage systemic entropy. We propose that Asana and Pranayama serve as hardware calibration tools that stabilize the physical "Bit" layer, significantly increasing the Signal-to-Noise Ratio (SNR) of the biological substrate. Simultaneously, Meditation functions as a software-level Quantum Er-ror Correction (QEC) protocol,

mitigating decoherence at the mental "Qubit" layer to sustain high-order cognitive focus. By mapping these informatics ti-ers to the Vedantic Pancha Kosha (five sheaths), we demonstrate how these practices facilitate a state of systemic resonance with the foundational "Chit" substrate. This multidisciplinary bridge provides a revolutionary perspective on mental health as a state of ontological alignment and offers a structural blueprint for the development of ethically grounded, conscious machine intelligence

[326] Narrative Representations of Emotional Autobiographical Memory: A Thematic Analysis Study

Pinky Arya, Fredrick Coolidge (IIT Gandhinagar)

Abstract

Autobiographical Memory (AM) refers to the recollection of personal life experiences that contribute to identity formation, problem solving, and goal direction (Gamble et al., 2019; Liu et al., 2013). The present study examined how writing about emotional autobiographical memories (EAMs) facilitates emotion regulation. 108 college students (54 men, 53 women and 1 other) participated in a study in which they generated and briefly described 18 personally and socially significant memories, varying in emotional valence (positive, negative, neutral, traumatic). Of these, only 10 personal memories were included for analysis in this present study. Emotion regulation was assessed using four reliable and valid questionnaires. Written narratives were analysed using Braun and Clark's (2006) six-phase framework within an essentialist/realist epistemological framework. Coding was theory-driven, guided by the study's questions and prior literature. Nine major themes emerged: (1) Identity formation, emotional development and self-tranformation; (2) Loss, threat and vulnerability; (3) Emotionally intense peak experiences; (4) Relational and social positioning; (5) Temporal continuity and nostalgic integration; (6) Achievement and mastery; (7) Sensory and embodied memory dimension; (8) Emotional regulation strategy, venting out; and (9) Gendered emotional expressiveness. The study underscores the therapeutic potential of expressive writing for emotion regulation among young adults.

[338] Dissolution of Matter and Consciousness

R Muraleedhara Kurup (BODHAKASHAM ASHRAMAM)

Abstract

In the hierarchy of stabilization of matter[1] from consciousness, pulsation becomes energy, force, wave, field, subatomic particle, atomic particle, atom, molecule and state of matter respectively, with required space-time extent. When the stabilization of pulsation attains the final stage of critical limit, it stands still and deviate to anti-pulsation. This effect retains an interaction that results in the dissolution of matter. Consequently, matter dissolved into anti-matter and anti-matter dissolved into anti-states of matter with required space-time contraction. In this continuous process, dissolution takes place from anti-states of matter into anti-molecules; the anti-molecules into anti-atoms; the anti-atoms into anti-atomic particles, the anti-atomic particles into anti-subatomic particles. Anti-subatomic particles break up into anti-fields, anti-fields into anti-waves, anti-waves into anti-forces, anti-forces into anti-energy, anti-energy into infinity, with the required contraction of space-time. At the same time, an anti-matter contains a series of five anti-states of matter, therefore, anti-solid, anti-liquid, anti-agni, anti-air and anti-aether with corresponding anti qualities the odour, the taste, the form, the tangible and the sound respectively. Finally, when the anti-pulsation and infinity vanish together with space-time contraction, which forms the state of revelation of consciousness. Thus, the matter undergoes dissolution, which is the probability for disclosing consciousness.

[360] Acoustic Resonance and Collective Synchronization in a Wave Mechanics Interpretation of Nāda

Dr Gazal Sharma (Chitkara University, Rajpura, Punjab), Dr Gaurav Katoch (Rayat Bahra University, Mohali, Punjab)

Abstract

Acoustic vocal practices such as sustained mantra recitation and collective chanting have long been associated with structured auditory experiences across cultures. Within Indian knowledge systems, the concept of Nāda emphasizes the foundational role of sound and vibration. However, systematic interpretations of such practices using established principles of classical acoustics and dynamical systems theory remain limited. This study presents a wave mechanics and synchronization-based framework for analyzing individual and collective chanting. Individual vocalization is modeled as periodic excitation shaped by resonant filtering within the vocal tract, resulting in structured harmonic spectra describable through Fourier representation. Collective chanting is interpreted using a coupled oscillator framework, demonstrating how phase alignment and frequency convergence may emerge through acoustic coupling. A simplified synchronization model is introduced to illustrate the transition from independent oscillators to coherent collective dynamics. The analysis further incorporates resonance effects within acoustic environments and discusses rhythmic entrainment as a general oscillatory coupling phenomenon. The proposed framework does not invoke clinical or metaphysical assumptions but instead situates chanting within well-established principles of resonance, harmonic amplification, and nonlinear synchronization. By integrating classical wave physics with dynamical systems modeling, this study contributes a mechanistic interdisciplinary perspective linking acoustics, collective dynamics, and physically testable interpretations of Nāda.

[392] An inquiry into the Advaita Vedantha model of Consciousness using the phenomenological tool called Drig Drishya Viveka

NIKHIL K (Chinmaya Mission)

Abstract

Consciousness remains one of the most enduring mysteries for the thinking minds from the most ancient times. The "Hard problem of consciousness" by David Chalmers put forth the question of how physical brain processes give rise to subjective conscious experiences. There are so many insights into the concept of Consciousness found in the ancient texts of Upanishads. The primary aim of this paper is to understand the Advaita Vedantha model of Consciousness, by means of a pedagogical tool called Drig Drishya Viveka. Consciousness is something more fundamental such as matter, energy etc., hence not able to be explained in terms of just matter and energy. Consciousness is an independent, fundamental reality. Similarly Consciousness is the pure subject, which cannot be objectified. Next, by using the phenomenological tool called Drig Drishya Viveka we shall try to understand the concept of “CHAITANYAM” or Witness Consciousness. Now at this stage we have the seer (Drig) and the seen (Drishya), two entities- forms the Dwaita (Dualism) model, Sankhya philosophical view. This differentiation of Mind from the Pure Consciousness is a unique and important peculiarity of the Sankhya and Vedantic approaches. Next is to present the Advaita Vedantic (Non-dualism) perspective of Consciousness by introducing the "Superimposition" concept. The objects of Consciousness are not independent entities apart from the Consciousness but they are Consciousness itself appearing as different names and forms. Then we shall explore how the Advaita Vedantha framework solves most of the unanswered questions of modern consciousness studies. This one non-dual Consciousness forms the substratum for all our Subject-Object experience in this world, ground of this universe, the Existential Reality (Sat). Finally, understanding the real nature of Self as Bliss absolute (Ananda) which is the ground of infinite happiness.

[399] Music Therapy and Synergy of Sound: A Study on the Efficacy of Musical Therapeutic Entrainment in Students with Learning Disabilities

Deepshikha Nigam Sood, Kavita Kumar, Nishith Gaur (DEI)

Abstract

This empirical research examines the synergistic relationship between auditory stimuli and cognitive regulation, with a particular focus on students with Specific Learning Disabilities (SLDs). The study is grounded in the inclusive mandates of India's National Education Policy (NEP) 2020, which focuses on inclusive education. The RPWD Act 2026 also empowers it. In this line music is a cross-modal tool to enhance executive function, emotional resilience,

and academic self-efficacy of learners. The foundation of the music is laid in Sound having ability to transmit vibrations. These vibrations have strong power to alter the states of consciousness by affecting the neuro system of the beings. Leveraging the neurological activation of regions associated with memory, attention and motor control, the research documents the application of music therapy interventions. These interventions are shown to correlate significantly with elevated performance in standardized Board examinations underscoring their potential in academic contexts for students with SLDs. This empirical research examines the synergistic relationship between auditory stimuli and cognitive regulation, with a particular focus on students with Specific Learning Disabilities (SLDs). The study is grounded in the inclusive mandates of India's National Education Policy (NEP) 2020, which focuses on inclusive education. The RPWD Act 2026 also empowers it. In this line music is a cross-modal tool to enhance executive function, emotional resilience, and academic self-efficacy of learners. The foundation of the music is laid in Sound having the ability to transmit vibrations. These vibrations have strong power to alter the states of consciousness by affecting the neuro system of the beings. Leveraging the neurological activation of regions associated with memory, attention and motor control, the research documents the application of music therapy interventions. These interventions are shown to correlate significantly with elevated performance in standardized Board examinations underscoring their potential in academic contexts for students with SLDs.

[437] From Āpaḥ Mahābhūta to Molecular Structuring: Water as a Context-Sensitive Medium

Ayush Agrawal, Pushpendra Singh, Laxmidhar Behera (IIT Mandi)

Abstract

Recent literature in quantum electrodynamics, thermodynamics, aquaphotomics, and molecular biophysics has proposed that liquid water can exhibit transient yet structurally ordered states, including hydrogen-bonded clusters, coherent domains, and ferroelectric nanoscale assemblies. At the same time, dominant chemical models treat water as a rapidly fluctuating hydrogen-bond network, leading to persistent skepticism toward claims of long-lived structural or “memory-like” effects due to reproducibility and theoretical concerns. This review addresses the unresolved question of whether reported structural modifications in liquid water under low-energy external influences represent reproducible physicochemical phenomena or experimental artifacts. We critically synthesize peer-reviewed experimental and theoretical studies examining spectroscopic signatures, dielectric responses, relaxation dynamics, and electro-magnetic sensitivity of water under controlled perturbations such as magnetic fields, acoustic stimulation, and boundary confinement. By distinguishing empirical mechanisms from philosophical interpretation, the review situates these findings alongside Indian Knowledge Systems (IKS), where water (Āpaḥ Mahābhūta) is conceptualized as a mediating and context-responsive element. We argue for a cautious, mechanism-focused re-evaluation of water as a structurally responsive medium, with potential implications for biomedical diagnostics, environmental monitoring, and interdisciplinary studies of complex systems.

[490] Dreaming as a State of Consciousness: A Sensory-Integrative-Motor Framework

Swastika, Nitin Kumar, Venkatesh H. Chembrolu, Laxmidhar Behera (IKSMHA, IIT MANDI)

Abstract

What makes dreaming so fascinating and puzzling is that it feels completely real while we are in it, yet it happens when our brain is disconnected from the outside world and our ability to think clearly is turned way down. Dreams have seemed, to many, mere epiphenomena of sleep. But could they instead matter a great deal? That question guides us to explore further. In this paper, we introduce what we call the Sensory-Integrative-Motor (SIM) Framework. It is a way of thinking about how three key processes taking in information, making sense of it, and preparing to act might relate as we move between waking and sleeping. To explore these ideas, we draw on findings from various theoretical perspectives. No single discipline can claim to fully explain dreaming; each offers a different piece of the puzzle. The SIM framework attempts to draw these various pieces into a coherent whole, proposing that dreaming might constitute a qualitatively distinct mode of experience- one shaped predominantly by processes arising from

within. Across diverse methodological traditions, researchers could potentially test predictions that emerge from the SIM model, and there remains considerable room to investigate how dreams may contribute to emotional regulation, the reorganization of memory, and the broader landscape of internal simulation. The clinical relevance for conditions such as affective disorders and PTSDis considerable, and dream science may thus become an important part of mental health research.

[186] A VR-Based Multi-Stream Cognitive Training System Inspired by Avadhana Principles to Enhance Cognitive Functions

Prajna Shetty, Poornachandra Manjunath Hegde, Sahana B, Rohini N, Ananya Patil A (RNS Institute of Technology)

Abstract

Contemporary cognitive science increasingly acknowledges the complexity of managing multiple task streams in dynamic environments. While immersive virtual reality (VR) systems have emerged as promising platforms for studying and engaging cognitive processes, many existing approaches emphasize isolated tasks rather than structured multi-stream coordination. This paper presents an Avadhana-inspired cognitive framework that reinterprets the classical Indian practice of Avadhana as a model of distributed engagement within immersive VR environments. Drawing upon the structural features of Avadhana such as multi-prucchaka task distribution, round-based progression, controlled interruption, and delayed recall, the proposed framework organizes cognitive interaction into a fixed-duration immersive session conceptualized for adolescent participants. The model incorporates cyclical task rotation, continuity of responses across rounds, interruption management, and a structured recall phase within a VR-based setting. An AI-supported performance analysis component generates a session-based cognitive profile reflecting how participants manage distributed streams under constraint. Rather than presenting empirical validation, this work offers a conceptual bridge between Indian Knowledge Systems and contemporary cognitive inquiry. By translating the structural logic of Avadhana into an immersive framework, the study proposes a scalable pathway for modeling multistream cognitive engagement in virtual reality environments.

Regular Session 17:

RS17: Preventive Wellness and Clinical Trials_10 Time: 14:30-16:30, CnP 2 (Hall E) Session Chair:Dr. Venugopal Damerla		
Paper ID	**Paper Titles**	**Authors**
77	Sāṅkhya-Informed Cognitive AI: A Scientific Framework for Designing the MindBalance EEG Wearable.	Kirit Goyal ,Palash Goyal
134	Effect of GoMutra Ark (Arjun Chaal) on Cardiometabolic, Depressive, and Anxiety Parameters: An Exploratory Observational Pilot Study	Shubham Kanungo,Venu Gopal Sadh
137	A Comparative In Vivo Evaluation of Antioxidant Activity And Hepatotoxicity of Kapisa (Madya) with Standard Grape Wine	Atharv Kadam,Ankita Ingole,Nilima Dharkar
140	IMPACT OF CHRONOTYPE ON STRESS, SELF-ESTEEM AND SLEEP AMONG GYM-GOERS	V. Nirmal Kumar, M.M.Gowtham, Damal Chandrasekar Mathangi
225	SWARSHAKTI:An Edge-IoT Enabled Approach to Monitoring Pulse as a Physiological Rhythm in Rural and Integrative Healthcare	Nandagiri Sriharsha,Amey Singh,Manan Jain Naja,Mahi Chauhan,Manoj Kumar Sharma
236	Successful Management of End-Stage Kidney Disease Using Ayurvedic Medicines: Single Case Study	Prashant Khade

249	Efficacy of Shirodhara Using Brahmi Taila in Pediatric Anxiety and Sleep Disturbance Disorders: A Clinical and Neurophysiological Evaluation	Indrajeet Gadge
276	Management of chemotherapy induced alopecia with Kapitthadi lotion; a randomised controlled trial	Dr. Prapti Puddatwar, Dr. Neelesh Patil, Dr. Prashant Khade
384	Integrative Management of Screen Time-Induced Neuro-behavioral Disorders in Children: A Narrative Review on the Restoration of Agni and Manovaha Srotas through Ashtanga Ghrita and Cognitive Behavioral Therapy	Dr. Pratiksha Ulhe, Harikrishnan M, Parvathy Unnikrishnan
433	Exploring the Impact of Integrated Yoga Therapy (IAYT) on Life Skills Development in Male Adolescents Living with HIV	Dr Satya Prakash Purohit, Ms. Shweta Goyel, Mr Ananta Gopal Kuanar Baboo, Ms Manisha Singh

[77] Sāṅkhya-Informed Cognitive AI: A Scientific Framework for Designing the MindBalance EEG Wearable.

Kirit Goyal (Gazelle Information Technologies), Palash Goyal (University of Wisconsin)

Abstract

The current mental health technologies are mostly reactive, diagnosis-driven and intervening only after psychological distress becomes clinically manifest in the individual. In contrast, Indian Knowledge Systems (IKS), particularly the Sāṅkhya and yoga philosophical tradition, conceptualize mental suffering as the cumulative outcome of long-term imbalance in fundamental cognitive qualities. The main framework is the Triguṇa model, which describes mental functioning as a dynamic composition and movement of Sattva (clarity), Rajas (activity), and Tamas (inertia). Even though it is conceptually rigorous, Triguṇa theory has remained largely qualitative, limiting its inte-gration with modern neuroscience and wearable mental health systems. This paper presents the scientific foundations of the MindBalance EEG wearable. It is a a cognitive AI system that uses Triguṇa theory into opera-tional using non-invasive electroencephalography (EEG). Sattva, Rajas, and Tamas are modeled as continuous state variables inferred from normalized EEG output across delta (0.5–4 Hz), theta (4–8 Hz), alpha (8–13 Hz), beta (13–30 Hz), and gamma (30–45 Hz) bands. A mathematically explicit map-ping defines raw guṇa scores as weighted combinations of band powers, normalized to yield a Triguṇa state vector constrained to the probability model at each time epoch. Using exploratory datasets comprising over 78 million EEG epochs from more than 4,000 individuals across meditative, cognitive, and fatigue-related states, we observe consistent alignment between Triguṇa patterns and neural spectral patterns. The results demonstrate internal coherence between Sāṅkhya theory and measurable neural dynamics, reframing mental health monitoring as a continuous, interpretable, and preventive process grounded in Indian philosophical psychology.

[134] Effect of GoMutra Ark (Arjun Chaal) on Cardiometabolic, Depressive, and Anxiety Parameters: An Exploratory Observational Pilot Study

Shubham Kanungo (IPS Academy Institute of Engineering and Science Indore), Venu Gopal Sadh

Abstract

A study conducted by Pew Research in 2023 shows that 22% of Americans meditate regularly to feel a connection with the self. An additional 16% of American adults claim they meditate for health, enjoyment, or other reasons. Similarly, a study conducted by Bryan emphasizes the importance of meditation at the workplace by institutionalizing practices that encourage employees to take meditation breaks. In line with this, our current study investigates the role of spirituality, specifically meditation, in enhancing an individual’s overall well-being. The

study aims to evaluate the difference between novice meditators and the expert meditators, through understanding their state of equanimity (mental stability and sense of calmness). We utilize publicly available EEG data to extract and analyse the channel information associated with the brain wave patterns. Out of the 64 EEG channels, we considered channels that are associated with a sense of calmness and stability, i.e., alpha and theta states. These two states primarily originate in the occipital and Frontal lobes of the brain, respectively. The analysis was conducted using the EEG lab of the MATLAB software. The results show notable trends like an increase in amplitude over time, suggesting enhanced neuronal activity and synchronisation during meditation; a decrease in amplitude, potentially indicating relaxation or disengagement of brain regions; and distinct peaks, which correspond to cognitive or emotional processes during meditation. These findings may provide a comprehensive understanding of how alpha and theta waves influence the body and mind responses to external interventions in novice and expert meditators.

[137] A Comparative In Vivo Evaluation of Antioxidant Activity And Hepatotoxicity of Kapisa (Madya) with Standard Grape Wine

Atharv Kadam,Ankita Ingole,Nilima Dharkar (Dr. D Y Patil College of Ayurved Pimpri Pune)

Abstract

Wine, an ancient beverage with cultural, social, and medicinal significance, is widely consumed globally, with red wine noted for its potential cardiovascular and liver benefits. Red wine contains bioactive compounds like resveratrol and flavonoids, which exhibit antioxidant and anti-inflammatory properties, contributing to heart health and potentially protecting the liver. In Ayurveda, similar preparations, such as Mardvik Madya or Kapisa, are believed to offer medicinal benefits, functioning as cardiac tonics and vitality enhancers. This study aims to compare the antioxidant activity and hepatoprotective effects of Kapisa (Mardvik Madya) with standard grape wine. Key objectives include formulating Kapisa, conducting analytical studies, and performing in vivo evaluations. Using Wistar rats over 21 days, the antioxidant and hepatoprotective properties of both Kapisa and grape wine were examined through hematology, liver, and renal function tests, along with histopathological studies and oxidative stress marker analysis (MDA, GSH, Catalase). Results showed that both Kapisa and grape wine significantly reduced oxidative stress, with Kapisa exhibiting higher antioxidant activity and resveratrol content. Hematological and biochemical parameters showed no significant changes compared to the control group. This suggests that Kapisa may offer comparable, if not superior, health benefits to standard grape wine, particularly in terms of cardiovascular and liver protection. The study underscores the importance of moderate consumption to mitigate potential health risks.

[140] IMPACT OF CHRONOTYPE ON STRESS, SELF-ESTEEM AND SLEEP AMONG GYM-GOERS

V. Nirmal Kumar, M.M.Gowtham, Damal Chandrasekar Mathangi (Sri Ramachandra Institute of Higher Education and Research, Porur, Chennai, India)

Abstract

Aim: To assess the impact of chronotype on stress, self-esteem & sleep among gym-goers. Methodology: A sample of 128 gym-goers aged 20-50 years was recruited, of which 64 were categorised into morning-group and the remaining 64 into evening-group according to their gym time. Eligible participants were included after receiving an explanation of the study protocol and obtaining informed consent. Study participants filled out the questionnaire for the study which included personal profile, Munich Chronotype Questionnaire(MCTQ), Rosenberg Self-Esteem Scale(RSE), Pittsburgh Sleep Quality Index(PSQI) & Perceived Stress Scale(PSS) was assessed. Results:There were significant differences in stress levels between evening and morning gym-goers, with morning gym-goers experiencing higher stress levels. Most participants in both groups had poor sleep quality, with no meaningful difference in the PSQI scores, although some components differed. Self-esteem was slightly higher among evening gym-goers, however this was not statistically significant. Chronotype correlated with gym-going times; nevertheless, there were no significant relationships between chronotype and stress levels, sleep quality, or self-esteem.

Conclusion:The significance of the study is evident in the context of the relationship between the timing of exercise, chronotype, stress, and sleep quality among gym-goers. It was observed that morning exercise was linked to higher levels of perceived stress, while poor sleep quality was common to both morning and evening exercise groups. Although chronotype was related to the preferred timing of exercise, it showed no significant relationship with stress, sleep quality, or self-esteem.

[225] SWARSHAKTI: An Edge-IoT Enabled Approach to Monitoring Pulse as a Physiological Rhythm in Rural and Integrative Healthcare

Nandagiri Sriharsha,Amey Singh,Manan Jain Naja,Mahi Chauhan,Manoj Kumar Sharma (Shobhit Institute of Engineering and Technology, Meerut, India)

Abstract

Continuous monitoring of cardiovascular parameters such as pulse rate and heart sounds is essential for early detection and management of cardiac abnormalities, particularly in resource-limited and remote healthcare environments. This paper presents the design and implementation of a low-cost, embedded digital signal processing system for real-time pulse and heart sound monitoring, utilizing the ESP32 microcontroller and an HW-484 analog microphone module. Pulse-related mechanical vibrations are non-invasively acquired from the wrist region, while cardiac acoustic signals are captured from the chest region. The acquired analog signals undergo analog-to-digital conversion and are processed in real-time using digital band-pass filtering algorithms to extract physiologically relevant frequency components. Peak detection techniques are subsequently applied to estimate pulse rate in beats per minute (BPM). For heart sound monitoring, the conditioned signals are transmitted wirelessly as real-time audio to facilitate phonocardiographic analysis. The system demonstrates effective integration of embedded hardware with digital signal processing for affordable cardiac monitoring applications. Future enhancements include improving filter design, incorporating machine learning for heart sound classification, and expanding wireless capabilities for telemedicine integration.

[236] Successful Management of End-Stage Kidney Disease Using Ayurvedic Medicines: Single Case Study

Prashant Khade (Dr D Y Patil College of Ayurved & Research Centre Pimpri Pune)

Abstract

Background: Stage 5 chronic kidney disease (CKD) carries a poor prognosis with dependence on dialysis. Ayurveda offers an adjunctive potential especially through srotoshodhana and dosha balancing, yet case-level evidence remains limited. Objective: Document multimodal Ayurvedic management outcomes in a 40-year-old female with stage 5 CKD (eGFR 4 mL/min/1.73 m²), post-hemodialysis, presenting with edema, dehydration, and comorbidities (T2DM, hypertension). Materials and Methods: The Patient was administered Vrikkakwath, Vrikkamrut, Raktamrit, Vrikkajala, Pranamrit, Chandraprabha vati, Gandharva Haritaki, and Gandhaka Rasayana over a period of 7 months (April-November 2025), alongside stable antidiabetic/anti-hypertensive drugs. Monitoring tracked serum creatinine, urea, electrolytes, eGFR (MDRD), and symptoms at monthly intervals. Results: Results were remarkable, with serum creatinine dropping precipitously from 11.9 mg/dL (08/04/2025) to 0.70 mg/dL (01/11/2025), with concomitant elevation of the eGFR value to 112.3 mL/min/1.73m². Serum urea returned to normal (normal 135-25 mg/dL), with complete resolution of bilateral pedal edema, facial edema, weakness, anxiety, and distension. No adverse events noted. Conclusion: The Ayurvedic Polyherbals resulted in the dramatic remission of stage 5 CKD parameters and symptoms, thus preventing the need to undergo dialysis. Mechanisms involve nephroprotection, ama clearance, and dhatu rejuvenation, supporting clinical trials for broader ESRD application.

[249] Efficacy of Shirodhara Using Brahmi Taila in Pediatric Anxiety and Sleep Disturbance Disorders: A Clinical and Neurophysiological Evaluation

Indrajeet Gadge (Dr. D Y Patil College of Ayurved Pimpri Pune)

Abstract

Background: Anxiety and sleep disturbances are increasingly observed in children due to psychosocial stress, academic pressure, and excessive digital exposure. Prolonged stress during childhood can negatively influence emotional regulation and neurocognitive development. Ayurveda explains these conditions as disturbances of Manovaha Srotas with dominance of Rajas and Tamas. Shirodhara, a classical Murdhni Taila therapy, is traditionally used to calm the mind and restore Satva. Brahmi Taila, prepared from Bacopa monnieri, possesses Medhya and Manas Shamak properties, suggesting its role in managing pediatric neurobehavioral disorders. Objective: To evaluate the clinical and neurophysiological efficacy of Shirodhara using Brahmi Taila in children with anxiety and sleep disturbances. Methodology: A randomized controlled clinical study was conducted on 60 children aged 8–14 years. Group A (n=30) received Shirodhara with Brahmi Taila (40 ml for 20 minutes daily for 14 days), while Group B (n=30) received placebo massage with sesame oil. Outcomes were assessed using the Pediatric Anxiety Rating Scale, Sleep Disturbance Scale for Children, pulse rate, and salivary cortisol levels. Statistical analysis was performed using paired and unpaired t-tests. Results: Group A showed significant reduction in anxiety scores and marked improvement in sleep quality ($p<0.001$). Salivary cortisol levels decreased by 32%, with normalization of pulse rate. No adverse effects were reported. Conclusion: Shirodhara with Brahmi Taila is a safe, non-invasive therapy that effectively reduces anxiety and improves sleep quality in children, possibly through HPA axis modulation and enhancement of Satva.

[276] Management of chemotherapy induced alopecia with Kapitthadi lotion; a randomised controlled trial

Dr. Prapti Puddatwar, Dr. Neelesh Patil, Dr. Prashant Khade (Dr D Y patil college of Ayurved and research institute pune)

Abstract

Background: Alopecia or hair loss is a major side effect caused by chemotherapy. Ayurveda formulations have demonstrated effective results for alopecia but no such study has been done against chemotherapy induced alopecia. Objective: A randomised controlled clinical trial was performed to evaluate the efficacy of Kapitthadi lotion compared to standard care of treatment in chemotherapy induced alopecia to provide a feasible, effective and harmless formulation. Methods: 50 patients with grade 1-4 Dean scale hair loss due to chemotherapy from age group 18-80 years with no history of thyroid or dermatological disorders were randomly assigned i.e. 25 in each group for Kapitthadi Lotion application (case) and standard care (control group). Lotion application was advised daily for one month at night only on the affected part of the scalp. The outcomes were evaluated based on (a) the Number of patches, (b) the Size of patches and (c) the Trichoscope test on the 15th and 30th day. Results: By using Kapitthadi lotion, 48% of patients showed marked improvement in the case group, with no adverse effect during or after the study. In the case group, the number of patches showed a 23.42% significant effect, the size of patches showed a 30.33% effect and trichoscope showed a 34.97% significant increase. Whereas, in the control group, the number of patches showed a -7.38% negative effect, the size of patches showed -14% and trichoscope showed a -9.09% negative result, i.e. $p<0.05$ in all parameters. Thus, a statistically significant result was observed. Conclusion: Kapitthadi lotion demonstrated effective results in chemotherapy induced alopecia with no side effects. Also, it showed higher efficacy than standard care of treatment.

[384] Integrative Management of Screen Time-Induced Neuro-behavioral Disorders in Children: A Narrative Review on the Restoration of Agni and Manovaha Srotas through Ashtanga Ghrita and Cognitive Behavioral Therapy

Dr. Pratiksha Ulhe, Harikrishnan M, Parvathy Unnikrishnan (AMRITA SCHOOL OF AYURVEDA)

Abstract

The pervasive integration of digital technologies has substantially increased screen exposure among children and adolescents, with accumulating evidence linking excessive use to sleep disturbances, attentional deficits, and behavioral instability. Evening exposure to blue light and sustained cognitive stimulation disrupt melatonin secretion and circadian rhythm synchronisation, contributing to impaired sleep architecture and altered neuroendocrine balance. Chronic sleep disturbance and stress reactivity in screen-exposed youth underscore the need for comprehensive explanatory and therapeutic frameworks. Cognitive Behavioral Therapy (CBT) is widely recognized as the gold-standard, first-line intervention for paediatric sleep and behavioral disorders. Through structured cognitive restructuring, behavioral modification, and sleep hygiene training, CBT effectively addresses maladaptive thought patterns and behavioral reinforcement cycles. Nevertheless, therapeutic outcomes often depend on sustained adherence, motivation, and consistent implementation, which may be challenging in paediatric populations. These considerations support exploration of adjunctive, non-sedative integrative approaches to enhance and sustain therapeutic benefits. Ayurveda offers a systemic paradigm centred on Agni, the regulatory principle governing metabolism and systemic transformation. Dysregulation of Agni (Agnidushti) may impair Dhatuposhana and higher cognitive-emotional functioning, while disturbance of Manovaha Srotas may manifest as behavioral and attentional alterations. Ashtanga Ghrita, a classical Medhya Rasayana formulation with Ag-ni-modulating and Vatahara properties, may support metabolic equilibrium and mental stabilization. Integrated with CBT, it represents a complementary strategy targeting both behavioral dysregulation and underlying metabolic neurophysiological imbalances in screen-induced paediatric disorders.

[433] Exploring the Impact of Integrated Yoga Therapy (IAYT) on Life Skills Development in Male Adolescents Living with HIV

Dr Satya Prakash Purohit, Ms. Shweta Goyel, Mr Ananta Gopal Kuanar Baboo, Ms Manisha Singh, (S-VYASA, Deemed to be University, Bengaluru)

Abstract

Background- Individuals living with HIV often confront multifaceted challenges encompassing not only physical health but also emotional, mental, and social dimensions, which can culminate in diminished social engagement and pronounced social discomfort. Life skills are critical for fostering holistic psychosocial well-being and empowers adolescents with resilience. This study endeavors to assess the life skills of adolescent HIV patients. Methods- A single-group Group Pre-Post design was designed to evaluate the impact of the Integrated Approach of Yoga Therapy (IAYT) for two months on life skills among 30 male adolescents, in an orphanage in Jaipur, India. The demographic and the life skills data were collected from the participants before and after the intervention supervised within a small-group setting facilitated by a research supervisor. Results- Significant changes ($p < 0.001$) were observed in all the mentioned variables of the Life Skills Scale among the HIV adolescents. Conclusion- The two-month IAYT intervention significantly boosted life skills among adolescent HIV patients, suggesting that the yoga-based program may strengthen psychosocial resilience, social engagement, and overall well-being in the vulnerable youth population.

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