



Department of Physiology,
Velammal Medical College Hospital & Research Institute, Madurai



VELAMMAL MEDICAL COLLEGE
HOSPITAL AND RESEARCH INSTITUTE

DEPARTMENTS OF PHYSIOLOGY & NEUROLOGY
VMCH & RI, MADURAI

CORDIALLY INVITE YOU FOR

JARĀ

Neurobiology of Aging

— INTERNATIONAL CONFERENCE —
(HYBRID)

06.02.2026 - 07.02.2026 - 08.02.2026

6 TNMC Credit Hours
30 TNMGRMU Credit Points

VENUE:
3RD FLOOR AUDITORIUM,
VMCH & RI.





The word “JARĀ” finds its roots in the ancient Sanskrit tradition of Ayurveda, where it denotes the natural process of aging and senescence. It is remarkably fitting, then, that the Departments of Physiology and Neurology at Velammal Medical College Hospital & Research Institute (VMCH & RI), Madurai, chose this evocative title for their inaugural international conference dedicated to the Neurobiology of Aging. Held from the 6th to the 8th of February 2026, **546 participants** all over from India participated in our conference. JARĀ brought together clinicians, basic scientists, postgraduate trainees, undergraduate students, and to examine one of the most pressing biomedical challenges of our time: how the human brain ages, why it sometimes falters, and what can be done to preserve its vitality.

JARĀ assumes a significance that transcends a standard academic conference. It represents a deliberate, multidisciplinary response to the geriatric imperative — a platform where the fundamental physiology of aging is examined alongside its molecular underpinnings, clinical manifestations, psychiatric dimensions, geriatric management, and community-level interventions. The conference’s hybrid format ensured that the reach extended well beyond the auditorium walls in Madurai, connecting scholars and practitioners from across India and abroad.

The conference spanned three meticulously planned days: a day of intensive pre-conference workshops on clinical neurophysiology and intraoperative neuromonitoring (February 6th), followed by two days of plenary lectures, panel discussions, a teaching skills workshop, and vibrant academic competitions for undergraduates, postgraduates, and faculty (February 7th and 8th). The scientific programme was anchored by speakers from institutions of national and international repute, including NIMHANS Bengaluru, AIIMS Madurai, Augusta University (USA), and several leading medical colleges across Tamil Nadu and beyond.

What follows in this report is a detailed account of each workshop, lecture, panel discussion, and competition that constituted JARĀ, presented in the order in which the events unfolded over the three days. Each section captures not only the content delivered but also the manner in which it was received by the audience, the pedagogical approach of the faculty, and the scientific substance that participants carried away.



Pre-Conference Workshops — 6th February 2026 (Friday)

The pre-conference day was designed as a hands-on, skill-intensive immersion for faculty, postgraduate students, and neurophysiology technicians. Two workshops were offered, each limited to 50 participants on a first-come, first-served basis, ensuring an intimate, high-quality learning environment.

Workshop 1: Nerve Conduction Study, Evoked Potentials & EEG

Workshop Chairperson: Dr. Amalraj Iyadurai, DM (Neurology), Senior Consultant, Dept of Neurology, VMCH & RI

Date: 06.02.2026 (Friday)

Timing: 08:00 AM to 12:15 PM

Venue (Orientation): First Floor Lecture Hall, Velammal Medical College Block, Madurai

Venue (Hands-on NCS): Department Male PG Room

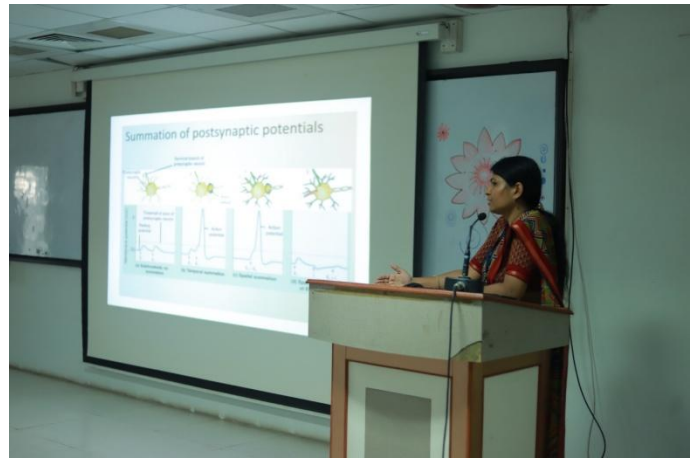
Venue (Hands-on Evoked Potentials): Yoga Lab

Venue (Hands-on EEG): Amphibian Lab

Number of Participants: 62

The first pre-conference workshop was a comprehensive immersion into three foundational pillars of clinical neurophysiology: Nerve Conduction Studies (NCS), Evoked Potentials (EP), and Electroencephalography (EEG). The workshop was structured in a dual-phase format — a general orientation session followed by dedicated hands-on training — a design that proved highly effective in bridging theory with practice.





Segment 1: Nerve Conduction Study (08:00 AM – 10:00 AM)

Faculty: Dr. Jayasurya Suresh, DM (Neurology), Consultant, Dept of Neurology, VMCH & RI

The morning began with all participants assembled in the First-Floor Lecture Hall for a systematic orientation on Nerve Conduction Studies. Dr. Jayasurya Suresh opened the



session by laying out the fundamental electrophysiological principles underlying NCS — the generation and propagation of action potentials along peripheral nerves, the concept of conduction velocity, and the clinical significance of amplitude, latency, and waveform morphology. The presentation moved methodically from anatomy to instrumentation, covering electrode placement protocols, stimulation parameters, and the interpretation of both motor and sensory NCS findings. Dr. Ravindran placed particular emphasis on recognising patterns of demyelination versus axonal degeneration, illustrating each with representative tracings from clinical practice. Common pitfalls in NCS technique — temperature effects, submaximal stimulation, and volume conduction artefacts — were discussed with practical tips for avoidance.

Following the orientation, participants moved to the Department Male PG Room, where NCS equipment was set up for hands-on practice. Working in small groups under direct supervision, participants performed motor and sensory nerve conduction studies on volunteer subjects. Each participant had the opportunity to place surface electrodes, adjust stimulation intensity, record compound muscle action potentials (CMAPs) and sensory nerve action potentials (SNAPs), and calculate conduction velocities. Dr. Renu Meena, Dr. Durai Arasan and Dr. Noel Naveen Johnson assisted the groups aiding Dr. Jayasurya in correcting technique, clarifying doubts in real time, and demonstrating variations in normal findings across different subjects. The tactile, practical nature of this segment was particularly valued by participants who had previously encountered NCS only in textbook illustrations.





Segment 2: Evoked Potentials & EEG (10:15 AM – 12:15 PM)

Faculty: Dr. S. Anandhalakshmi, MD (Physiology), Professor & Head, Dept of Physiology, AIIMS Madurai and Dr. Shakthi Ravindran, DM (Neurology), Consultant, Dept of Neurology, VMCH & RI

The second segment returned participants to the lecture hall for an orientation on Evoked Potentials and EEG. Dr. Jayasurya Suresh introduced the concept of evoked potentials as electrophysiological responses of the nervous system to specific sensory stimuli, covering the three major modalities — Visual Evoked Potentials (VEP), Brainstem Auditory Evoked Potentials (BAEP), and Somatosensory Evoked Potentials (SSEP). The clinical applications of each modality were discussed: VEP in the assessment of optic pathway integrity and demyelinating diseases, BAEP in evaluating the auditory pathway and brainstem function, and SSEP in monitoring the somatosensory pathways during surgical procedures. The lecture emphasised the role of latency measurements, waveform morphology, and inter-peak intervals as diagnostic markers.

Dr. S. Anandhalakshmi then transitioned to Electroencephalography, providing a lucid overview of EEG principles, electrode placement according to the international 10–20 system, normal EEG rhythms (alpha, beta, theta, delta), and their physiological correlates. The age-related changes in EEG patterns were highlighted, making the session directly relevant to the conference's theme of aging neurobiology. Abnormal EEG patterns such as epileptiform discharges, focal slowing, and generalised periodic patterns were illustrated with representative recordings.

For the hands-on component, participants were divided into two groups. One group proceeded to the Yoga Lab for practical training in evoked potential recording, where they worked with EP equipment to record VEPs and SSEPs under faculty guidance. The second group moved to the Amphibian Lab for EEG recording, where they practised electrode



application using the 10–20 system, recording and interpreting live EEG tracings from volunteer subjects. The groups then rotated, ensuring that every participant gained practical exposure to both modalities. The intimate workshop setting, with dedicated equipment stations and favourable faculty-to-participant ratios, allowed for meaningful skill acquisition that many participants noted would directly benefit their clinical and research practice.



Workshop 2: Intra Operative Neuro Monitoring (IONM)

Workshop Chairperson: Dr. D. Meikandan, DM (Neurology), Emeritus Professor (TNMGRMU) & Senior Consultant, Dept of Neurology, VMCH & RI

Date: 06.02.2026 (Friday)

Timing: 01:00 PM to 05:00 PM

Venue (Orientation): Skills Lab, Velammal Medical College

Venue (Hands-on): Demo Rooms (in batches of two)

Number of Participants: 62

The afternoon workshop on Intra Operative Neuro Monitoring (IONM) represented one of the most specialised and eagerly anticipated components of the pre-conference



programme. IONM is a rapidly evolving subspecialty at the intersection of neurology, neurosurgery, and anaesthesiology, and opportunities for structured training in this domain are relatively scarce in the Indian medical education landscape.

Interesting IONM Case Findings & Discussion

Faculty: Dr. Ganesh Kumar, MCh (Neurosurgery), Senior Consultant, Dept of Neurosurgery, VMCH & RI

The workshop concluded with a compelling case discussion session led by Dr. Ganesh Kumar. Drawing from the VMCH & RI neurosurgical experience, he presented a series of cases in which IONM had played a pivotal role in surgical decision-making — instances where real-time signal changes had prompted modification of the surgical approach, prevented potential neurological injury, or provided reassurance that critical neural pathways remained intact. The cases were presented in an interactive format, with participants invited to interpret the IONM tracings before the outcomes were revealed. This case-based approach was an effective pedagogical strategy, linking the theoretical and practical knowledge acquired earlier in the session to real clinical consequences.



Faculty and Resource Persons

The workshop brought together an elite faculty from NIMHANS, Bengaluru — one of India's premier neuroscience institutions. Dr. A. R. Prabu Raj, MCh (Neurosurgery), Professor, Dept of Neurosurgery, NIMHANS, provided the neurosurgical perspective on IONM, while Dr. M. Radhakrishnan, MD (Anesthesia), Clinical Fellow in Neuroanaesthesia, Professor, Dept of Neuroanesthesia and Neurocritical Care, NIMHANS, addressed the anaesthetic considerations and physiological variables that influence IONM recordings. The



NIMHANS IONM Team accompanied them, bringing with them their institutional expertise and equipment.

The session began in the Skills Lab with a comprehensive orientation. Dr. D. Meikandan, as Workshop Chairperson, set the context by outlining the evolution of IONM from an experimental curiosity to an indispensable surgical safety tool. The NIMHANS faculty then delivered a structured series of presentations covering the principles of IONM — including motor evoked potentials (MEP), somatosensory evoked potentials (SSEP) in the intraoperative setting, electromyography (EMG), and direct cortical stimulation. The physiological rationale for each modality was explained, along with the specific surgical scenarios in which they are employed: spinal cord surgery, posterior fossa surgery, cerebrovascular procedures, and peripheral nerve surgery. Dr. Radhakrishnan's contribution was particularly illuminating, as he detailed the impact of anaesthetic agents — inhalational versus intravenous, muscle relaxants, and temperature management — on the fidelity of IONM signals, a nuance that is often underappreciated by clinicians outside the neuroanesthesia community.

The hands-on training that followed was organised in batches of two participants, who rotated through the demo rooms. Each pair worked directly with IONM equipment under the guidance of the NIMHANS team, learning electrode placement for intraoperative MEP and SSEP recording, signal acquisition and interpretation, and troubleshooting common artefacts and signal loss. The small batch size ensured that each participant received individualised instruction and could engage in detailed discussions with the faculty.

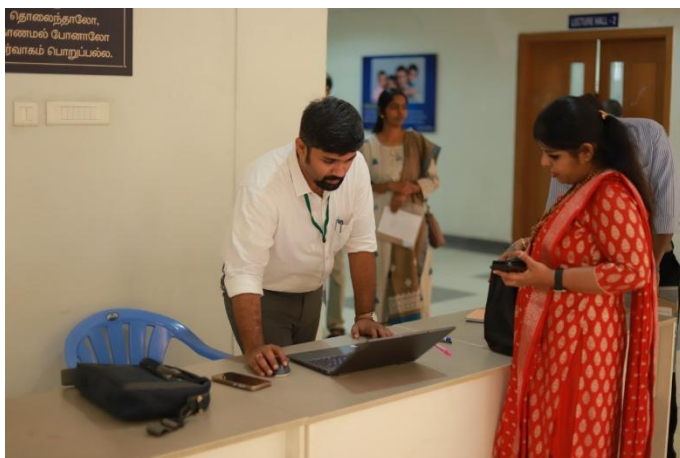




Conference Day 1 — 7th February 2026 (Saturday)

The first day of the main conference opened with a sense of scholarly anticipation. Delegates — faculty from across the country, postgraduate trainees, undergraduate students, and online participants — converged on the 3rd Floor Auditorium of VMCH & RI, Madurai, for a day that would traverse the science of aging from its cellular foundations to its cognitive and behavioral manifestations.

Delegates registered at the reception desk, collecting their conference kits and identity badges. The registration process was smoothly coordinated by the organising committee, with separate counters for offline and online delegates. The auditorium gradually filled, setting the stage for the day's proceedings.





Physiology of Aging

Speaker: Dr. P. S. L. Saravanan, MD (Physiology), Director & Professor, Institute of Physiology, Madurai Medical College, Madurai

Timing: 08:15 AM – 09:00 AM

Venue: 3rd Floor Auditorium, VMCH & RI, Madurai

Dr. P. S. L. Saravanan opened the scientific sessions with a panoramic overview of the physiology of aging, setting the conceptual foundation upon which the rest of the conference would build. Speaking with the authority of a senior physiologist and the clarity of an experienced educator, he took the audience through the systematic changes that the human body undergoes as it advances through the decades.



The lecture began with an exploration of the theories of aging — from the programmed theories (genetic clock, neuroendocrine theory, immunological theory) to the damage-based theories (free radical theory, wear-and-tear theory, cross-linking theory) — presenting each not as a standalone explanation but as a contributory thread in a complex



tapestry. Dr. Saravanan then guided the audience through the age-related changes in each major organ system: the cardiovascular system (arterial stiffening, reduced cardiac output, impaired baroreceptor sensitivity), the respiratory system (decreased lung compliance, reduced vital capacity), the musculoskeletal system (sarcopenia, osteopenia), the endocrine system (menopause, andropause, adrenal insufficiency), and the nervous system (neuronal loss, reduced neurotransmitter synthesis, slowed conduction velocities). Each system was discussed with reference to the underlying physiological mechanisms and their cumulative impact on functional capacity and quality of life.

The audience found the lecture to be an essential primer that contextualised the more specialised sessions that followed. For the postgraduate students in particular, the session served as both a revision and a deepening of their understanding of normal aging — a process that, as Dr. Saravanan reminded the audience, is not a disease but a universal biological reality that intersects with disease at multiple points.

Molecular Changes in Aging

Speaker: Dr. A. S. Meenakshi Sundaram, MD (Biochemistry), Associate Professor, Dept of Biochemistry, PSGIMSR, Coimbatore

Timing: 09:00 AM – 09:45 AM

Venue: 3rd Floor Auditorium, VMCH & RI, Madurai

Dr. A. S. Meenakshi Sundaram brought the lens of molecular biology to the conference's examination of aging, delivering a meticulously structured lecture that dove beneath the organ-system level into the cellular and molecular events that drive the aging process. The session was a natural and seamless continuation from the physiological overview that preceded it.

The lecture opened with the concept of cellular senescence — the state of irreversible cell cycle arrest triggered by telomere shortening, DNA damage, oncogene activation, and oxidative stress. Dr. Meenakshi Sundaram explained the dual nature of senescent cells: their initial protective role in preventing the proliferation of damaged cells, and their later detrimental effects through the senescence-associated secretory phenotype (SASP), which promotes chronic low-grade inflammation, tissue remodelling, and dysfunction. The molecular pathways governing senescence — including the p53/p21 and p16INK4a/Rb pathways — were elucidated with clarity.



The discussion expanded to encompass mitochondrial dysfunction and the accumulation of reactive oxygen species (ROS), epigenetic alterations (DNA methylation changes, histone modifications, and non-coding RNA dysregulation), impaired autophagy, and the progressive loss of proteostasis. Each of these hallmarks of molecular aging was linked to specific neurodegenerative consequences, making the lecture directly relevant to the conference's central theme. The concept of the “inflammaging” paradigm — chronic, sterile, low-grade inflammation driven by molecular aging — was presented as a unifying framework connecting cellular processes to systemic and neurological outcomes.

The audience, particularly those from clinical backgrounds, appreciated how Dr. Meenakshi Sundaram translated complex molecular biology into clinically meaningful narratives, identifying potential therapeutic targets such as senolytics, caloric restriction mimetics, and NAD⁺ precursors that are currently under investigation for their anti-aging potential.

Aging and Neural Control of Circulation

Speaker: Dr. E. S. Prakash, MD (Physiology), Professor, Dept of Physiology, Augusta University Medical College, Georgia, USA

Timing: 09:45 AM – 10:30 AM

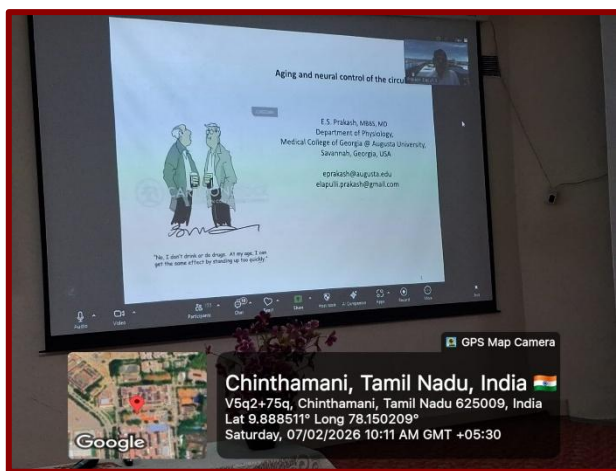
Venue: 3rd Floor Auditorium, VMCH & RI, Madurai

The third plenary lecture introduced an international dimension to the conference. Dr. E. S. Prakash, joining from Augusta University Medical College in Georgia, USA, delivered a focused and research-rich presentation on the effects of aging on the neural control of the cardiovascular system — a topic at the heart of autonomic neuroscience.

Dr. Prakash began by reviewing the normal neural mechanisms of circulatory control: the arterial baroreflex, the cardiopulmonary reflex, the central command during exercise, and



the role of the autonomic nervous system in maintaining hemodynamic homeostasis. He then systematically documented how each of these mechanisms is altered with aging. The baroreflex, in particular, was a central theme: aging is associated with reduced baroreflex sensitivity, which contributes to orthostatic hypotension, falls, syncope, and labile blood pressure — conditions that are exceedingly common and clinically significant in the elderly. The neural substrate underlying this decline — including changes in the nucleus tractus solitarius, the rostral ventrolateral medulla, and the efferent sympathetic and parasympathetic pathways — was discussed with reference to both animal and human studies.



The lecture also addressed the emerging understanding of sympathetic overactivity in aging, its relationship to hypertension and target organ damage, and the potential for exercise-based and pharmacological interventions to partially restore autonomic balance. Dr. Prakash's presentation was notable for its rigorous reliance on primary research data, and the audience was engaged by his ability to connect basic autonomic physiology with tangible clinical scenarios encountered in geriatric medicine.

Inauguration

The formal inauguration of JARĀ followed the morning's scientific sessions. The ceremony was graced by the institutional patrons including the Chairman Mr. M. V. Muthuramalingam sir, Dean Dr. Thirunavukkarasu Sir, Medical Superintendent Dr. Natarajarathinam Sir, Vice Principal Dr. Mahesh Krishna sir and other senior members of the VMCH & RI administration along with the invited speakers and the Organising Secretaries, Dr. S. Anu and Dr. M. Kavitha. The inaugural address by Dr. S. Anu, welcomed the gathered delegates from all over the country. Mam went onto underscore the importance of research in aging neurobiology and the role of collaborative, multidisciplinary conferences in advancing both knowledge and patient care.



The lighting of the traditional lamp marked the formal commencement of the conference. There afterwards, the session was graced by MBBS students who danced to the tunes of classical music.





Our Chairman Mr. M. V. Muthuramalingam sir delivered a welcome note and gave a rallying cry for the importance of good hospitality and care required for the elders we all care about at home and society. The talk was reciprocated with a thunderous response from the crowd. Inauguration ended with Vote of thanks by Assistant Professor Dr. M. Renu Meena

Physiology of Young and Aging Brain

Speaker: Dr. B. Prem, MD (Physiology), Senior Assistant Professor, Dept of Physiology, Govt Medical College & Hospital, Cuddalore

Timing: 11:00 AM – 12:00 PM

Venue: 3rd Floor Auditorium, VMCH & RI, Madurai

Dr. B. Prem delivered an engaging and thought-provoking lecture that juxtaposed the physiology of the young brain with that of the aging brain, highlighting the contrasts and continuities that define the neural lifespan. The audience was drawn into a narrative that began with the remarkable plasticity and adaptability of the developing brain and culminated in the subtle but consequential changes that accompany normal aging.



The lecture covered the development and maturation of neural circuits, myelination patterns, synaptic pruning, and the establishment of cognitive reserve during the early decades of life. This was contrasted with the age-related processes of cortical thinning (particularly in the prefrontal cortex and hippocampus), white matter hyperintensities, reduced neurogenesis in the hippocampal dentate gyrus, and the decline in neurotransmitter systems — dopaminergic, cholinergic, and serotonergic — that underlie the slowing of processing speed, working memory decline, and attentional deficits observed in older adults. Dr. Prem was careful to distinguish between normal age-related cognitive changes and pathological decline, a distinction that is critical for clinicians managing elderly patients.



The concept of cognitive reserve — the idea that educational attainment, intellectual engagement, physical activity, and social connectedness can buffer the brain against age-related decline — was presented as a hopeful and actionable counterpoint to the inevitability of biological aging. The audience responded with several questions about the practical strategies for building and maintaining cognitive reserve across the lifespan, underscoring the relevance of the topic to both clinical practice and public health.

Cognitive and Behavioural Changes in Aging

Speaker: Dr. Sivakumar Palanimuthu Thangaraju, MD (Psychiatry), Professor & Head, Geriatric Psychiatry Unit, NIMHANS, Bengaluru

Timing: 12:00 PM – 01:00 PM

Venue: 3rd Floor Auditorium, VMCH & RI, Madurai

The final morning session of Day 1 transitioned from the physiological to the psychiatric, with Dr. Sivakumar Palanimuthu Thangaraju from NIMHANS's Geriatric Psychiatry Unit offering a comprehensive exploration of the cognitive and behavioral changes that accompany aging. This was a session that resonated deeply with the audience, as it addressed the lived experience of aging — the changes that patients and their families notice and worry about.



Dr. Sivakumar began by mapping the spectrum of cognitive aging: from the benign forgetfulness of normal aging, through subjective cognitive decline and mild cognitive impairment (MCI), to the dementias. He discussed the neuropsychological profiles associated with each stage, the validated screening tools (MMSE, MoCA, ACE-III) used in clinical practice, and the red flags that should prompt further evaluation. The lecture also addressed the behavioural and psychological symptoms of dementia (BPSD) — agitation, apathy, depression, delusions, and sleep disturbances — which often cause greater caregiver distress than the cognitive symptoms themselves.

A particularly compelling segment of the talk focused on late-life depression, its frequent co-occurrence with cognitive decline, and the diagnostic challenge of distinguishing depressive pseudodementia from true neurodegenerative dementia. Dr. Sivakumar emphasised the importance of a holistic, person-centred approach to geriatric psychiatry, one that addresses not only pharmacological management but also caregiver support, environmental modification, and psychosocial interventions. The audience was left with a deepened appreciation for the complexity and humanity of caring for the aging mind.

Conference Day 2 — 8th February 2026 (Sunday)

The second day of the conference maintained the high intellectual momentum established on Day 1, shifting its focus from the foundational science of aging to its clinical implications, therapeutic frontiers, and community dimensions. The morning was structured as a progressive journey from neurological disease, through treatment innovation, to geriatric management and community care, culminating in an interdisciplinary panel discussion on the provocative topic of age reversal.

Unlocking Neurological Disorders Associated with Aging — Normal Senescence to Disease



Speaker: Dr. Bharathi Sundar, DM (Neurology), Consultant Neurologist, Dept of Neurosciences, Apollo Speciality Hospitals, Madurai

Timing: 08:00 AM – 08:45 AM

Venue: 3rd Floor Auditorium, VMCH & RI, Madurai

Dr. Bharathi Sundar opened Day 2 with a clinically anchored lecture that addressed the critical question every geriatric clinician faces: where does normal aging end and neurological disease begin? The session was framed as a guide for practitioners navigating the often-blurred boundary between age-appropriate neurological changes and the early manifestations of disease.



The lecture systematically reviewed the major neurological disorders associated with aging: Alzheimer's disease and other dementias, Parkinson's disease and parkinsonism, cerebrovascular disease (stroke and vascular dementia), peripheral neuropathies, and age-related movement disorders. For each condition, Dr. Bharathi Sundar highlighted the early clinical features that distinguish it from normal aging, the appropriate diagnostic approach (including neuroimaging, biomarkers, and neuropsychological testing), and the importance of early identification for timely intervention. The presentation was enriched with case vignettes from clinical practice, making the content vivid and relatable for the audience.

The audience found the session to be a practical clinical companion to the more basic science-oriented talks of Day 1, and several clinicians in the audience noted the value of the diagnostic frameworks presented.

Rewiring the Aged Brain — New Frontiers in Treatment of Neurodegenerative Disorders



Speaker: Dr. M. Kavitha, DM (Neurology), Senior Consultant Neurologist & HOD, Dept of Neurology, VMCH & RI, Madurai

Timing: 08:45 AM – 09:30 AM

Venue: 3rd Floor Auditorium, VMCH & RI, Madurai

Dr. M. Kavitha, one of the Organising Secretaries of JARĀ and a leading neurologist at VMCH & RI, delivered what many delegates described as one of the most inspiring sessions of the conference. Her lecture on “Rewiring the Aged Brain” surveyed the cutting edge of therapeutic research in neurodegenerative disorders, offering a vision of what the future may hold for patients with Alzheimer’s, Parkinson’s, and other conditions that have long been considered irreversible.



The lecture began with an honest assessment of the current therapeutic landscape: the limited efficacy of existing pharmacotherapy (cholinesterase inhibitors, memantine for Alzheimer’s; levodopa and dopamine agonists for Parkinson’s), and the reasons why so many drug trials have failed. Dr. Kavitha then turned to the emerging frontiers: monoclonal antibody therapies targeting amyloid-beta and tau in Alzheimer’s disease (including the recent developments with lecanemab and donanemab), gene therapy approaches for familial neurodegenerative conditions, stem cell-based neurodegeneration, deep brain stimulation (DBS) for advanced Parkinson’s disease and its expanding indications, transcranial magnetic stimulation (TMS) and other neuromodulator techniques, and the rapidly advancing field of digital therapeutics and brain-computer interfaces.

The concept of neuroplasticity — the brain’s enduring capacity to reorganise and adapt, even in advanced age — was woven throughout the lecture as a source of both



scientific rationale and clinical hope. Dr. Kavitha concluded by emphasising that while a cure for most neurodegenerative diseases remains elusive, the pace of discovery is accelerating, and the next decade promises transformative advances in how we understand and treat these conditions.

Geriatric Viewpoint on Senescence — Alterations in Various Systems

Speaker: Dr. N. Raja, MD (Geriatric Medicine), Senior Consultant Geriatric Physician, Dept of Geriatric & Internal Medicine, Preethi Multispeciality Hospital, Madurai

Timing: 09:30 AM – 10:15 AM

Venue: 3rd Floor Auditorium, VMCH & RI, Madurai

Dr. N. Raja brought the perspective of a practicing geriatrician to the conference, complementing the neurological focus of the preceding sessions with a whole-body, patient-centred approach to aging. The lecture addressed the multi-system alterations that characterise senescence, emphasising the interconnectedness of organ system decline and its cumulative impact on the elderly patient's functional independence, quality of life, and vulnerability to disease.



The session covered the geriatric syndromes — frailty, sarcopenia, falls, delirium, polypharmacy, and incontinence — as clinical manifestations of multi-system aging. Dr. Raja discussed the principles of comprehensive geriatric assessment (CGA), the importance of functional status over disease labels in geriatric care, and the concept of intrinsic capacity as promoted by the World Health Organization. The practical challenges of managing multiple comorbidities in the elderly, the risks of polypharmacy, and the need for deprescribing were addressed with pragmatic clinical wisdom. The lecture served as a



powerful reminder that the neurobiology of aging does not exist in isolation but is embedded within the broader context of whole-person aging.

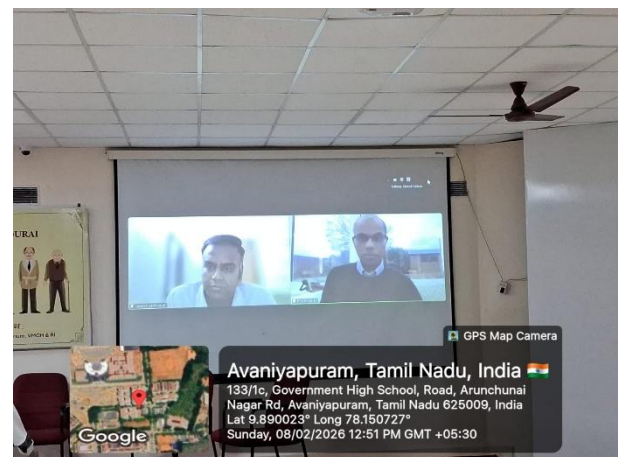
Community Aspects of Geriatric Care — Indian & International Scenario

Speaker: Dr. Vasanth Karthikeyan, Geri Care, Chennai

Timing: 10:30 AM – 11:15 AM

Venue: 3rd Floor Auditorium, VMCH & RI, Madurai

Dr. Vasanth Karthikeyan expanded the conference's aperture beyond the clinic and the laboratory to the community and society at large. His lecture on community aspects of geriatric care provided a comparative analysis of how India and other nations are responding — or failing to respond — to the challenges of an aging population.



The presentation addressed the global demographic transition, the varying models of eldercare (institutional versus community-based versus family-centred), and the policy frameworks that have been implemented in countries such as Japan, the UK, and Scandinavian nations to support aging populations. In the Indian context, Dr. Srinivas discussed the Maintenance and Welfare of Parents and Senior Citizens Act, the National Policy on Older Persons, the National Programme for Health Care of the Elderly (NPHCE), and the rapidly growing private geriatric care sector. He highlighted both the strengths of India's traditional family-based eldercare system and its growing vulnerability in the face of urbanisation, nuclearization of families, and migration. The role of community health workers, telemedicine, and voluntary organisations in bridging the gap between institutional capacity and community need was discussed with practical examples from Dr. Srinivas's own work with Geri Care in Chennai.



Panel Discussion: Age Reversal

Moderator: Dr. M. Kavitha, DM (Neurology), Senior Consultant Neurologist & HOD, Dept of Neurology, VMCH & RI

Timing: 11:15 AM – 01:00 PM

Venue: 3rd Floor Auditorium, VMCH & RI, Madurai

Panelists:

1. Dr. G. Kavitha, MS (Obstetrics & Gynaecology), Professor & Senior Consultant, Dept of OG & Reproductive Medicine, VMCH & RI
2. Dr. R. Ramesh, MD (General Medicine), Senior Consultant, VMCH & RI
3. Dr. M. Anbarasi, MD (Physiology), Professor & Head, Dept of Physiology, Chettinad Hospital & Research Institute, Chennai
4. Dr. M. R. Warun Kumar, DM (Endocrinology), Consultant Endocrinologist, VMCH & RI
5. Dr. Senthilvelou, MD (Physiology), Professor, Department of Physiology, AIIMS Madurai, Ramanathapuram district.

The panel discussion on Age Reversal was the intellectual centrepiece of Day 2, and perhaps the most stimulating session of the entire conference. Moderated with incisiveness and poise by Dr. M. Kavitha, the panel brought together experts from endocrinology, obstetrics and gynaecology, general medicine, and physiology to examine the tantalising question: can aging be slowed, halted, or even reversed?



Dr. G. Kavitha addressed the reproductive aging dimension, discussing menopausal hormone therapy, its impact on cardiovascular and skeletal health, and the emerging understanding of how reproductive aging interfaces with brain aging and cognitive decline.



Dr. R. Ramesh contributed the internist's perspective, discussing caloric restriction, intermittent fasting, exercise physiology in aging, and the pharmacological agents being investigated as potential geroprotectors — metformin (the TAME trial), rapamycin analogs, and NAD⁺ precursors. Dr. Anbarasi brought the physiologist's lens to the discussion, presenting evidence on the cellular and molecular mechanisms underlying rejuvenation therapies, including parabiosis research, senolytic drugs, and epigenetic reprogramming.

The moderated discussion that followed was lively and wide-ranging, with audience members posing challenging questions about the ethical implications of life extension, the equitable access to anti-aging therapies, and the distinction between extending lifespan and extending healthspan. Dr. Kavitha deftly guided the conversation, ensuring that each panelist's expertise was fully utilised and that the discussion remained grounded in evidence while also entertaining the speculative frontiers of the field.

Valedictory Function

The conference concluded with the Valedictory Function, during which the Organising Secretaries, the institutional leadership, and the invited speakers reflected on the three days of academic exchange. Prizes for the various competitions were distributed, outstanding contributions were recognised, and a vote of thanks was delivered. The ceremony marked the formal closure of JARĀ, but the knowledge, connections, and inspiration it fostered will continue to resonate among its participants.



Lights, Camera, Action! — Teaching Skills Workshop

Workshop Moderator: Dr. Mythili Bhaskaran, MD (Physiology), Professor of Physiology; Former Dean, Stanley Medical College; Former Vice Chancellor, Saveetha University; Former Director, IPEM, Madras Medical College; Former Director, Institute of Physiology, Madurai Medical College

Dates: 07.02.2026 (2:00 PM – 5:00 PM) & 08.02.2026 (2:00 PM – 4:30 PM)

Format: Online & Offline Sessions

Attendance: 25 participants

The “Lights, Camera, Action!” Teaching Skills Workshop was an innovative and integral component of JARĀ, recognising that postgraduate medical students are not only learners but also emergent educators. The workshop was conceived to equip them with the foundational pedagogical skills required to become effective and inspiring teachers - a dimension of medical training that is often neglected in traditional curricula.

Day 1 Sessions (07.02.2026, 2:00 PM – 5:00 PM)

Session 1: Setting the Stage — Foundations for Effective Teaching

Facilitator: Dr. A. Precilla Catherine, MD (Physiology), Professor & Head, Dept of Physiology, GTVMMC, Tiruvannamalai

Dr. Precilla Catherine opened the workshop by exploring the theoretical foundations of effective teaching, including learning theories (constructivism, social learning, experiential learning), the principles of adult learning (andragogy), and the alignment of learning objectives with instructional strategies and assessment. The session was interactive, with participants reflecting on their own learning experiences and identifying the characteristics of teachers who had most influenced them.





Session 2: Bringing Concepts Alive — Interactive Methods & Thoughtful Use of Technology

Facilitator: Dr. K. M. Prathibha, MD (Physiology), Professor & Head, Dept of Physiology, SRMC & RI, Chennai

Dr. Prathibha focused on transforming passive lectures into active, engaging learning experiences. The session covered a range of interactive teaching methods — think-pair-share, case-based learning, flipped classroom approaches, audience response systems, and the judicious integration of technology (presentation software, video, simulation tools) into medical teaching. Emphasis was placed on the principle that technology should serve pedagogy, not the other way around.



Session 3: Holding the Room — Techniques to Capture & Sustain Learner Attention

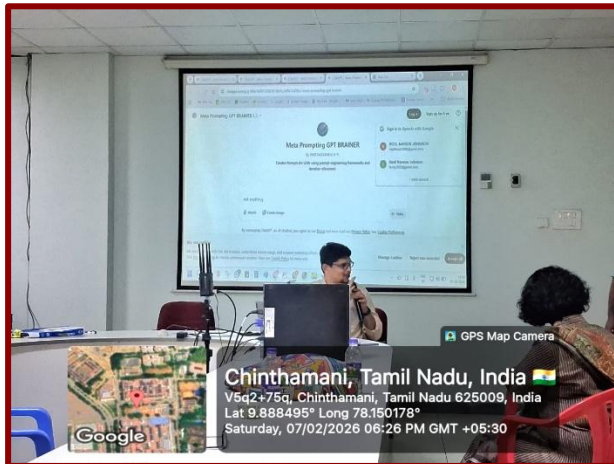
Facilitator: Dr. A. S. Meenakshi Sundaram, MD (Biochemistry), Associate Professor, Dept of Biochemistry, PSGIMSR, Coimbatore

The final session of Day 1 addressed the performative aspects of teaching — voice modulation, body language, storytelling, managing the physical space of the classroom, and strategies for regaining attention when it wanders. Dr. Meenakshi Sundaram drew from both educational research and his own extensive teaching experience to provide practical, immediately applicable techniques.



Day 2 Session (08.02.2026, 2:00 PM – 4:30 PM)

The second day was devoted entirely to practice. Participants engaged in microteaching exercises, delivering short teaching segments to their peers and receiving structured feedback from both the moderator, Dr. Mythili Bhaskaran, and their fellow participants. The feedback focused on content clarity, engagement strategies, time management, and presentation skills. Role-play scenarios simulating challenging classroom situations (disengaged students, difficult questions, time constraints) were also included, providing a safe space for participants to experiment with different approaches.



Conference Competitions

JARĀ featured an extensive programme of academic competitions for Faculty & PG students as well as Undergraduates. The competitions were conducted across multiple sessions, venues, and modalities (online and offline), with distinguished judges drawn from medical colleges and institutions across India. The following tables detail the competition schedule, judges, and venues.

Paper and Poster competitions:

This category was conducted for both Faculty and PG students in a hybrid mode, with participants enrolling equally for both the mode of competitions.



6.1. Postgraduate Competitions

6.1.1 Online Paper Presentation (PG- 17 participants)

Session	Judge 1	Judge 2	Judge 3	Date	Time
Session 1	Dr. Roopa	Dr. Ravikiran Kisan	Dr. Nalini Y.C.	04.02.2026	02:00 – 04:00 PM
Session 2	Dr. K.N. Maruthy	Dr. Navin Rajaratnam	Dr. Suganthi V.	05.02.2026	02:00 – 04:00 PM
Session 3	Dr. D. Celine	Dr. Vikram Gowda	Dr. Jayalakshmi M.K.	04.02.2026	02:00 – 04:00 PM

Winners:

PG - Oral Paper Presentation (Online)			
	First	Second	Third
Session I	Dr. Prathiba Sri Ramachandra Medical College	Dr. Dasari Tejaswi Mahavir Institute of Medical Sciences	-
Session II	Dr. Ganingston M Shri BM patil medical college hospital & research institute	Dr. Velavan Govt cuddalore medical college	Dr. Sam Jeshuran Madras medical college
Session III	Dr. Malavika M S Govt Kozhikode medical college	Dr. Varna Saveetha medical college	-

6.1.2 Offline Paper Presentation (PG-19 participants)



Session	Judge 1	Judge 2	Venue	Date	Time
Session 1	Dr. Anbarasi	Dr. A. Precilla Catherine	Lecture Hall 1	08.02.2026	8:15 – 10:15 AM
Session 2	Dr. Jayalakshmi M.K.	Dr. B. Prem	Lecture Hall 2	08.02.2026	8:15 – 10:15 AM
Session 3	Dr. M. Virgin Joena	Dr. K. M. Prathibha	Lecture Hall 3	08.02.2026	8:15 – 10:15 AM



Winners:

PG - Oral Paper Presentation (Offline)			
	First	Second	Third
Session I	Dr. Parkavi Govt. Thanjavur medical college (Book prize)	1. Dr.Raguraman Govt cuddalore medical college 2. Dr. Kaviya Madurai medical college	-
Session II	Dr. Vignesh gowda ESIC medical college	Dr. Athisaya Madurai medical college	Dr. Divya bharathi Govt Thanjavur medical college



	(Book prize)		
Session III	Dr. Kalaiselvi M Kilpauk medical college (Book prize)	Dr. Santhoshkumar Thanjavur medical college	Dr. Soundarahari saravanan SV medical college, Tirupati

6.1.3 Online Poster Presentation (PG – 27 participants)

Session	Judge 1	Judge 2	Judge 3	Date	Time
Session 1	Dr. Subhasis Das	Dr. Shivayogappa S. Teli	Dr. Noel	04.02.2026	10:30 AM – 12:30 PM
Session 2	Dr. T. Uma Maheshwari	Dr. Bindhu C.B.	Dr. Renu	04.02.2026	10:30 AM – 12:30 PM
Session 3	Dr. Suzanne Maria D'cruz	Dr. Niraimathi D.	Dr. Ajit	04.02.2026	10:30 AM – 12:30 PM
Session 4	Dr. Preetha Paul	Dr. M. Sudha	Dr. Keba	05.02.2026	10:30 AM – 12:30 PM

Winners:

PG - ePoster Presentation (Online)			
	First	Second	Third
Session I	Dr. Poonthamil, Vinayaka mission's kirupanandha variyar medical college	Dr. Sowbarni Chettinad medical college	Dr. Manellore charisma Sri venkateswara medical college
Session II	Dr. S.B.Gokul Seth GS Medical college, Mumbai	Dr. I.R.Rohan ESIC medical college, Bangalore	Dr. Prabakaran Govt Cuddalore medical college



Session III	Dr. Vyas Haril Jigish Seth GS Medical college, Mumbai	Dr. L. Lavanya Saveetha medical college	-
Session IV	Dr. Katta mahesh babu Lady hardinge medical college	Dr. Renu singh Govt Dehradun medical college	-

6.1.4 Offline Poster Presentation (PG – 20 participants)

Session	Judge 1	Judge 2	Judge 3	Venue	Date	Time
Session 1	Dr. K. Rekha / Dr. Srinivasa	Dr. Premaraja	Dr. Divya R.	Lecture Hall 1	07.02.2026	11:30 AM – 1:00 PM
Session 2	Dr. Shanmugapriya	Dr. K. Shantha Sheela Kumari	Dr. Karthika Jyothish	Biochem Demo	07.02.2026	11:30 AM – 1:00 PM
Session 3	Dr. Selvarani C.	Dr. P. P. Sheela Joice		Lecture Hall 1	07.02.2026	11:30 AM – 1:00 PM

Winners:

PG - ePoster Presentation (Offline)			
	First	Second	Third
Session I	Dr. Athisaya Madurai medical college (Book prize)	Dr. Kalaiselvi Kilpauk medical college	-
Session II	Dr. Keerthana Govt Ongole medical college (Book prize)	-	-



Session III	Dr. Sibin Sadik Govt ongole medical college (Book prize)	Dr. Guhacharan Kasturba medical college	-
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6.1.5 Velammal PG e-Poster Competition (8 Participants)

Judge 1	Judge 2	Date	Time
Dr. Justin Cornelius	Dr. Meikandan D	06.02.2026	2:00 – 4:00 PM

Winners:

Velammal PG - E poster presentation		
First	Second	Third
Dr.Mohamed Mohaideen (Book prize)	1.Dr.Mohan Ram S 2.Dr. Malavika	Dr. Saipriya M



6.2. Faculty Competitions

6.2.1. Faculty Online Paper and Poster Presentation (9 Participants)

Judge 1	Judge 2	Date	Time
Dr. Milind V Bhutkar	Dr.Kalavathi Lakshmipathy	03.02.2026	2 to 4 PM

Winners:

Faculty - Paper Competition (Online)		
First	Second	Third
Dr Rajalakshmi JIPMER	Dr Geerthana BG Hospital Tiruchendur	Dr Shyamala Gowri KMCH Coimbatore

Faculty - e-Poster Presentation (Online)		
First	Second	Third
Dr Cheraku Divya Naga Teja Army college of dental	-	-



6.2.2.Faculty Offline Paper and Poster Presentation (8 Participants)

Judge 1	Judge 2	Venue	Date	Time
Dr. Anandhalakshmi	Dr.Kalavathi Lakshmipathy	Demo room, Biochemistry Department, VMC	07.02.2026	2 to 4 PM

Winners:

Faculty - Paper Presentation (Offline)		
First	Second	Third
Dr. Karthika jyothish PIMS, Pondicherry (Photoframe prize)	Dr.Kayalvizhi Meenakshi medical college	Dr.Sheela joice Vinayaka missions medical college

Faculty - Poster Competition (Offline)		
First	Second	Third
Dr. Sheela joice Vinayaka missions medical college (Photoframe prize)	Dr. Jayalakshmi PEMS medical college	-

6.2.3.Faculty Academic Video Making Competition

Session	Judge 1	Judge 2	Judge 3	Date	Time
Session 1	Dr. J. Keba	Dr. Hariharan	Dr. Senthil Kumar	02.02.2026	11 AM TO 1 PM

Faculty - Academic Video Competition (Online)		
First	Second	Third



Dr.K.Vanathy Bharath medical college (Rs.1000 cash prize)	Dr. Divya R Trichy SRM medical college	Dr.Nalini Manakkula vinayagar medical college
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Feedforward Inhibition

21-02-2026 FB & FF INHIBITIONS NYC

SPECIFIC LEARNING OBJECTIVES

- Define dark adaptation
- To enumerate the mechanisms involved in dark adaptation
- Applied physiology

6.3. Undergraduate Competitions

In addition to the above faculty and PG competitions, the conference featured a rich programme of undergraduate competitions including the Symposium Competition, Model Making Competition, Concept Paper Competition, and Offline Paper Presentation. These competitions provided a valuable platform for undergraduate students to engage with the conference theme and develop their academic presentation skills.

6.3.1 Concept Paper Competition (UG) and Offline Paper Presentation (18 participants)

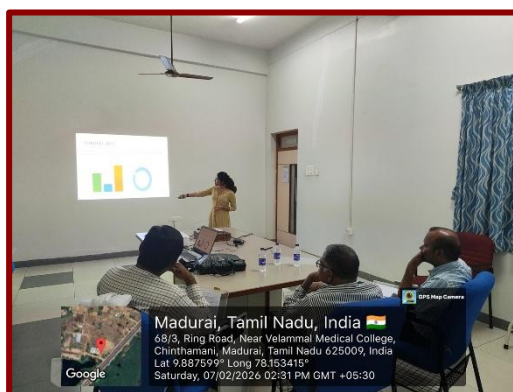
Session	Judge 1	Judge 2	Judge 3	Venue	Date	Time



**Department of Physiology,
Velammal Medical College Hospital & Research Institute, Madurai**



Session 1	Dr. S. P. Kausikan	Dr. A. Ramesh	Dr. Senthil Murugan R.	Seminar Hall, Department of Physiology, VMC	07.02.2026	2:00 – 4:00 PM
Session 2	Dr. Vidhya K.	Dr. Saravanan M. (AIIMS)	Dr. E. Kayalvizhi	Auditorium, 3 rd floor Hospital Block	08.02.2026	2:00 – 4:00 PM



Winners:

UG - Concept Paper Presentation (Offline)			
	First	Second	Third



Session I	Malavika Sajith Meenakshi medical college (Rs.2000 cash prize) + book	Ponselva jayanth Madurai medical college (Rs. 1500 cash prize)	Vishali Meenakshi medical college
Session II	Sarah preethi Vinayaka missions (Rs.2000 cash prize) + book	Jeni Mariya Vinayaka missions(Rs. 1500 cash prize)	Aashika Vinayaka missions

Winners:

UG - Oral paper presentation			
Session 1	First	Second	Third
	Larsini, Krishnammal memorial	1.Vishal thulasimani Vinayaka missions 2. Bharathi Tirunelveli medical college	-

Velammal UG Concept paper (13 Participants):

Session	Judge 1	Judge 2	Venue	Date	Time
Session 1	Dr. Virgin Joena	Dr. Trupthi Bodhare	Seminar Hall, Department of Physiology, VMC	23.01.2026	2:00 – 4:00 PM
Session 2	Dr. Karthik Raj	Dr. Anand Rajendran	Seminar Hall, Department of Physiology, VMC	24.01.2026	2:00 – 4:00 PM

Winners

UG Velammal - Concept Paper Presentation (Offline)			
	First	Second	Third



Session I	Ms.Meenakshi Unnithan	Ms.Adithi Krishnaji	Mr.Manishankar
Session II	Mr.Anbuselvan	Ms.Mahima	



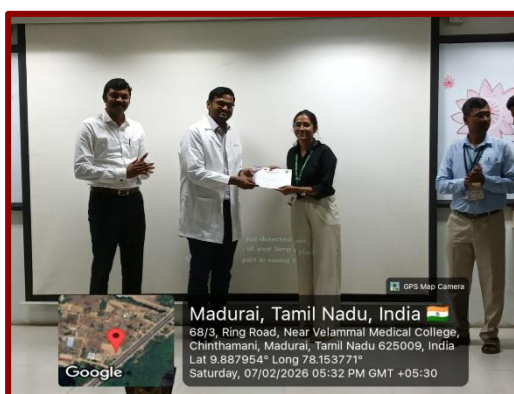
6.3.2.Symposium Competition

Winners:



UG - Symposium (Offline)

	First	Second	
Session I	Trichy medical college: Physiology of memory formation (Sarah, devika, ajeey, yogeshwari, chelsa) Rs. 5000 cash prize	Meenakshi medical college: Seizures (devadarshini, Girrishanth, rikital, anshu, sejai) Rs. 3000 cash prize	AIIMS, madurai: Effectr of gut microbiome in neurobiodevelopment of infants (arman, gautham, kesya, selas, snigdha) certificates only
Session II	AIIMS, Madurai: Neural repair and regeneration Rs. 5000 cash prize	Srinivasan Medical college: Morbidity & polypharmacy in the elderly: Changes and approach in modern geriatric prractice Rs. 3000 cash prize	Vinayaka mission college Neurophysiology of aging: Why memory declines with age (certificates only)



6.3.3.Model Making Competition

Session	Judge 1	Judge 2	Venue	Date	Time
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Session 1	Dr. Camilla Preethi	Dr. Jeyashri m	Hematology Lab, Department of Physiology, VMC	07.02.2026	2:00 – 4:00 PM
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Winners:

UG - Model Making (Offline)			
	First	Second	Third
Session I	Rs. 5000 cash prize Thenamuthan & team Tiruvannamalai medical college	Rs.1500 cash prize each team 1. S.yazhini & team Dhanalakshmi srinivasan medical college 2. Bharath & team Dhanalakshmi srinivasan medical college	Rs. 1000 cash prize each 1. Sathvika & team Meenakshi medical college 2. Athira & team Vinayaka missions





**Department of Physiology,
Velammal Medical College Hospital & Research Institute, Madurai**

