

Volume: 78
Issue No. 3
Year: 2026



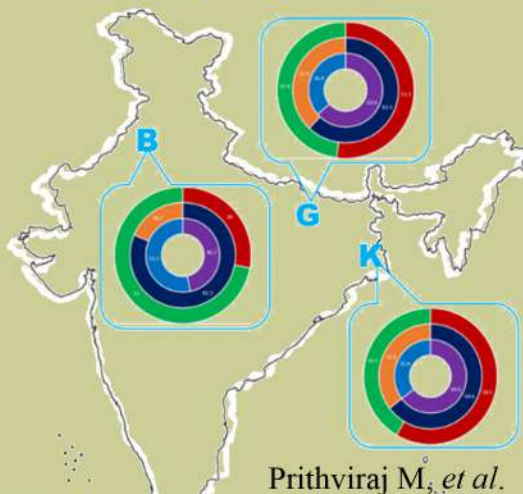
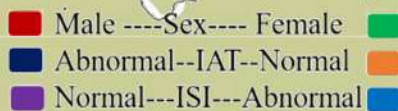
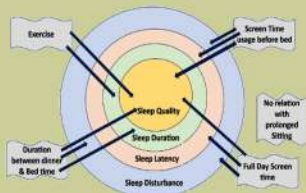
Indian Journal of Physiology and Allied Sciences

An official peer-reviewed journal of

The Physiological Society of India

IJPAS

Vol. 78; No. 3; Year 2026

Prithviraj M, *et al.*Bag S. *et al.*Amit S. *et al.*

Nayak P.

EDITORIAL BOARD

Chief Editor

Dr. Prasunpriya Nayak
Professor, Dept. of Physiology, AIIMS,
Jodhpur, India.

Editorial Board

Dr. Arani Das
Associate Professor, Dept. of Physiology,
AIIMS, Gorakhpur, India.

Dr. Amal K Bera
Professor, Dept. of Biotechnology, BJMSB, IIT
Madras, Chennai, India.

Dr. Armin Just
Academic Faculty, Teaching
Coordinator, Physiologisches
Institut, Dept. 1, Albert-Ludwigs-
Universität Freiburg, Germany.

Dr. Arnab Banerjee
Guest Faculty, PG Dept. of Physiology,
Serampore College, Serampore, India.

Dr. Ayodeji Folorunsho Ajay
Professor & Head, Dept. of Physiology, Ladoke
Akintola University of Technology, Ogbomoso,
Nigeria.

Dr. Debasish Maiti
Professor, Dept. of Physiology,
Tripura University, Agartala, India.

Dr. Gausal Azam Khan
Professor & Chartered Scientist, King
Faisal University, Saudi Arabia.

Dr. Madhumita Debnath
Associate Professor, Dept. of Physiology, Dr.
Kanailal Bhattacharyya College, Howrah, India.

Dr. Makinde Vincent Olubiyi
Lecturer, Dept. of Medical
Physiology, University of Rwanda,
Rwanda.

Dr. Nibedita Naha
Scientist-E, ICMR-National Institute
of Occupational Health (NIOH),
Ahmedabad, Gujarat, India.

Dr. Pallabi De
Director, Therapy Area Head, Global
Regulatory Medical Writing, Teva
Pharmaceuticals, USA.

Dr. Sabyasachi Das
Senior Lecturer, Dept. of Physiology,
Faculty of Medicine, Universiti
Malaya, Malaysia.

Dr. Sanjit Dey
Professor, Dept. of Physiology, University
of Calcutta, Kolkata, India.

Dr. Sarmistha Ghosh
Adjunct Professor, Dept. of Health Professions
Education, Parul University, Gujarat, India.

Dr. Sovan Bagchi
Director-Program & Professor of
Physiology, College of Medicine,
Gulf Medical University, UAE.

Dr. Soumyabrata Banerjee
Assistant Professor, Dept. of Human
Physiology, Vidyasagar University, India.

Dr. Trina Sengupta
Assistant Professor, Dept. of Physiology, ESI-
PGIMS Medical College and Hospital, Joka,
India.

Dr. Uditi Gupta
Associate Professor, Dept. of
Physiology, AIIMS, Jammu, India.

Dr. VBS Chaitanya Thinuguntala
Post Doc, Research and Academic at
Victoria University, Melbourne, Australia.

Dr. Yasser El-Wazir
Professor, Dept. of Physiology, Faculty of
Medicine, Suez Canal University, Ismailia, Egypt.

Dr. Pranav Bhanushali
Physical Therapist, Sutter Health,
California.

Authors' Guidelines: <https://ijpas.org/index.php/ijpas/about/submissions>

The content published in the *Indian Journal of Physiology and Allied Sciences (IJPAS)* is made available under the **Creative Commons Attribution 4.0 International License** (CC BY 4.0).

CONTENTS

EDITORIAL

- Academic campaign of the Physiological Society of India during Foundation Week 2026:
Outcomes and lessons learned** 1-5
Prasunpriya Nayak

PERSPECTIVE

- Physiology: The nucleus of medicine and biomedical sciences** 6-9
Susan M. Barman, Erica A. Wehrwein

REVIEW ARTICLE

- Neurocognitive profiling in Polyendocrine Metabolic Ovarian Syndrome (PMOS):
A mini-review of current evidence** 10-16
Soumen Manna, Saloni Kumari

RESEARCH ARTICLE

- Evaluating the role of lifestyle habits and sleep behavior on sleep quality: A cross-sectional study** 17-21
Steffy Amit, Puja Dulloo, Deepak Sharma
- Dose- and time-dependent polystyrene microplastic exposure alters brain metabolic
markers and behavior in male Wistar rats** 22-34
Sumana Mondal, Susmita Chakraborty, Jyotirmoy Saha, Sudipta Pal
- Unseen efforts, untold stress: Associations of workload and mental health among
ASHA workers in rural West Bengal** 35-41
Trina Paul Das, Upasana Chowdhury, Tamal Das, Somnath Gangopadhyay
- Insomnia among Indian medical graduates: Exploring the impact of internet addiction** 42-45
Manoj Prithviraj, Rama S Rath, Palani S Mohan, Sanjay K Patel, Meena Mirdha, Riya Wasnik, Arani Das
- Clinical profile and outcomes of Tarantula bite: A retrospective observational
study from Eastern India** 46-50
Subhendu Bag, Durga Pada Dolai, Nilotpall Banerjee, Dayal Bandhu Majumdar

Academic campaign of The Physiological Society of India (PSI) during Foundation Week 2026: Outcomes and lessons learned

Prasunpriya Nayak*

ABSTRACT

Physiology, taught well, is a language for understanding one's own body. Yet its transmission across the academic continuum – from the curious schoolchild to the seasoned faculty member is rarely designed as a single, connected experience. This editorial describes and reflects upon a four-tier outreach and pedagogy campaign conducted by the Physiological Society of India (PSI) during its Foundation Week, July 2026, spanning school students, undergraduates, postgraduates, and faculty. Using a purpose–planning–process–outcome framework, I trace how a decentralized, hybrid, and incentive-structured design allowed a single society to engage learners at every stage of the physiology education pipeline within one week. I close with the limitations of this account and what they suggest for future, more rigorously evaluated iterations of such campaigns.

Keywords: The Physiological Society of India (PSI), Foundation Week 2026.

Indian Journal of Physiology and Allied Sciences (2026);

DOI: 10.55184/ijpas.v78i03.627

ISSN: 0367-8350 (Print)

INTRODUCTION

Physiology is sometimes described, only half in jest, as the owner's manual we are never handed at birth. It explains why a poor night's sleep leaves us reaching for a second helping the next morning, why a slow breath can quiet a racing heart, and why the muscle that aches today will be a little stronger tomorrow. For most of us, however, this manual is encountered only in fragments – a chapter in a school textbook, a lecture hall diagram, an examination question – rather than as a continuous thread running through school, university, and professional life.

The Physiological Society of India was founded on the conviction that this fragmentation is neither necessary nor desirable. As one of the oldest physiological societies in the country, now in its 92nd year, PSI has long combined scholarly activity with public and academic engagement. For its Foundation Week in July 2026, the Society chose to make that continuity explicit: rather than a single flagship event, it designed four linked initiatives, one for each stage of the academic journey – school, undergraduate, postgraduate, and faculty. I had the opportunity to be closely involved in this campaign, and this article is my attempt to set down, as honestly as a participant-observer can, what we set out to do, how we planned it, what actually happened, and what it taught us.

OBJECTIVE

The campaign was built around a single, deceptively simple aim: to demonstrate that physiology education could be treated as one continuous experience rather than four disconnected ones, and to test whether a professional society – working within a modest budget and a compressed timeline – could design activities appropriate to each stage

Chief Editor, *Indian Journal of Physiology and Allied Sciences*.

President, The Physiological Society of India.

Professor, Department of Physiology, All India Institute of Medical Sciences, Jodhpur.

***Corresponding author:** Prasunpriya Nayak, Professor, Department of Physiology, All India Institute of Medical Sciences, Jodhpur, Email: nprasunpriya@gmail.com

How to cite this article: Nayak P. Academic campaign of the Physiological Society of India during Foundation Week 2026: Outcomes and lessons learned. *Indian J Physiol Allied Sci* 2026;78(3):1-5.

Conflict of interest: None

Submitted: 12/07/2026 **Accepted:** 28/07/2026 **Published:** 30/09/2026

of that continuum while keeping them recognisably part of one shared vision. A secondary, more personal objective was to see whether the enthusiasm generated at one tier (a schoolchild's first quiz, an undergraduate's first conference-style talk) could be made visible to the tiers above and below it, so that the campaign felt less like four events sharing a logo and more like one conversation carried across generations of learners.

PLANNING

Planning began several months before Foundation Week, once the Executive Committee agreed that the 92nd anniversary should mark a shift from isolated events toward a coordinated, tiered structure. Four working groups were formed, each responsible for one audience segment, but reporting into a common calendar so that the tiers would run in a single, overlapping week rather than as scattered, unrelated activities through the year.

Three planning decisions shaped everything that followed. First, we chose curriculum-linked rather than generic themes for each audience – sensory physiology for younger schoolchildren, endocrine physiology and lifestyle for older ones, interdisciplinary topics such as long COVID and the gut microbiota-host axis for undergraduates, and frontier research areas such as ion-channel structural biology for postgraduates – so that participation would reinforce, not compete with, what learners were already studying. Second, we deliberately decentralized the undergraduate seminar series, allowing institutions across India to host their own local sessions under a shared framework rather than requiring travel to a single venue; this was as much a practical necessity as a pedagogical choice, given the geographic spread of our member institutions. Third, for the postgraduate lecture series we adopted a hybrid delivery model from the outset – a physical hub at the PSI headquarters in Kolkata, projection at institutional nodes, and live streaming on YouTube – so that access would not depend on a scholar's proximity to a well-resourced campus.

The faculty-facing component required a different kind of planning. Rather than assuming what practising teachers needed, the organizing team circulated a short questionnaire on theory and practical examinations in advance, and the responses were tabulated and discussed with senior physiologists before the workshop content was finalized. This meant the faculty development day was, in effect, co-designed with its own participants – a detail I consider one of the more defensible methodological choices in the whole campaign.

The Event: How It Unfolded

The week opened on 6 July with the undergraduate seminar series and closed on 13 July with the faculty workshop, the postgraduate lecture series running in parallel across the same span. What struck me most while moving between these strands was how differently each audience showed its engagement, even though the underlying physiology was often the same.

For schoolchildren, engagement demonstrated great team dynamics: teams of three arguing amiably over quiz answers, and drawing tables covered in coloured drawings of the visual pathway or the endocrine axis. The event was hosted at the Rasbehari Siksha Prangan of the University Colleges of

Science, Technology and Agriculture in Kolkata, and for many participants this was their first visit to a university campus – a detail that several accompanying teachers mentioned to me unprompted. Incidentally, the date, 12 July, happened to coincide with the birthday of Professor Claude Bernard, the physiologist credited with establishing the concept of the internal milieu. This coincidence was used to prepare a short video, narrated in Bengali, connecting Bernard's life to the contemporary large language model that shares his first name – a light-hearted bridge between nineteenth-century physiology and twenty-first-century artificial intelligence that the children and their parents seemed to enjoy rather more than I had anticipated.

Total of 72 students from B.T. Road Government Sponsored H.S. School, Baranagar Rajkumari Memorial Girls' High School, Baranagar Ramakrishna Mission Ashram High School (H.S), Belgharia Jatindas Vidyamandir, Bhavan's Gangabux Kanoria Vidyamandir, Bodhjung Higher Secondary School, Damdama Narendra Memorial High School, Govt. Sponsored Multipurpose School Taki House (Boys), Hindu School, Indira Gandhi Memorial High School, P.P. Memorial Academy, Rahara Bhabanath Institution for Girls, Ramakrishna Mission Boy's Home High School Rahara, Shri Shikshayatan School, Sibpur S.S.P.S Vidyalaya, St. Xavier's Collegiate School, and Vidyapati Vidyamandir participated in the program.

For undergraduates, engagement looked like nervousness giving way to composure. Students prepared formal abstracts and delivered seven- to eight-minute presentations followed by a three-minute question period, a format modelled deliberately on international scientific conferences. Fifteen seminar topics were on offer, grouped loosely around modern lifestyle and technology, emerging medical syndromes, and multi-organ clinical conditions; presentations were judged on originality, clarity, depth, and delivery rather than on how faithfully a slide reproduced a textbook diagram.

All India Institute of Medical College Kalyani, All India Institute of Medical College Raipur, Ananda Mohan College, Bangabasi Evening College Bankura Christian College, Basirhat College, Berhampore Girls' College, Bhairab Ganguly College, Christian Medical College Vellore, City College, Dr. Kanailal Bhattacharya College, ESI-PGIMS Medical College, Harimohan Ghosh College, Hooghly Mohsin College, Mahatma Gandhi Memorial Medical College, Presidency University Kolkata, Ramananda College, Rammohan College,

Table 1: Summarizes the four tiers as they were finally planned.

<i>Tier</i>	<i>Audience</i>	<i>Core activity</i>	<i>Dates (2026)</i>
I	School students, Classes IX–XII	Quiz and drawing competitions on curriculum-linked physiology themes	12 July
II	Undergraduate medical/allied students	Foundation Day Seminar series — 15 interdisciplinary topics, formal abstract and oral presentation	6–11 July
III	Postgraduates and early-career researchers	Hybrid global lecture series by international and national experts	6–13 July
IV	Faculty members	Faculty development workshop on assessment reform and pedagogy	13 July (92 nd Foundation Day)

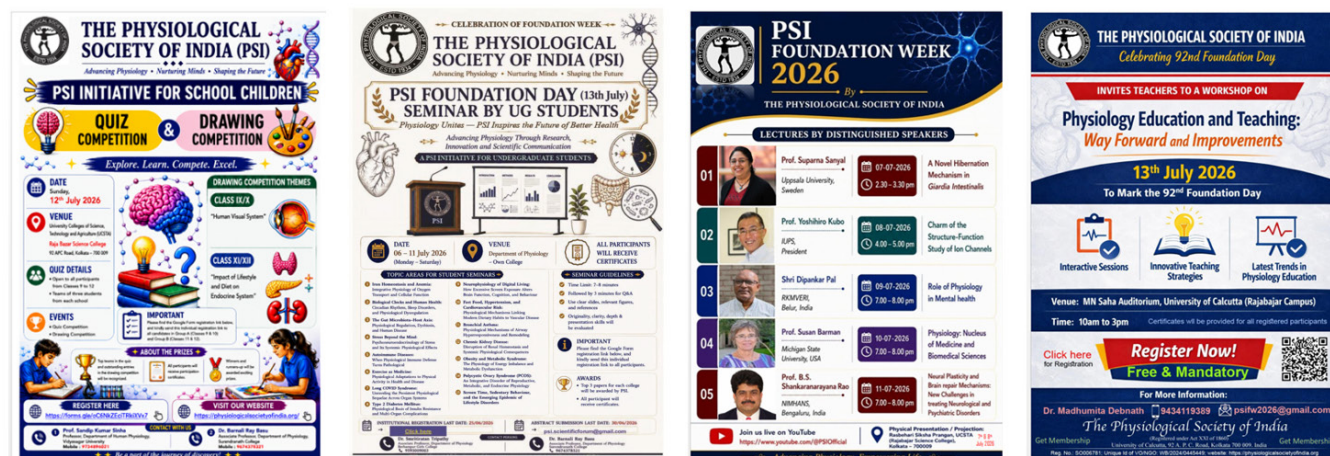


Figure 1: Flyers used for the campaign for the events

Rani Indira Debi Govt. Girls' College, Serampore College, Sister Nibedita Govt. General College, Surendranath College, Trivenidevi Bhalotia College, Vidyasagar College for Women, and Vidyasagar Metropolitan College took part in the undergraduate programme.

For postgraduates, engagement was quieter but no less intense – the kind that shows up as a question typed into a chat window during a live-streamed lecture from a scholar several time zones away. Speakers included faculty from the National Institute for Physiological Sciences in Japan, Uppsala University in Sweden, and Michigan State University in the United States, alongside senior Indian physiologists from institutes such as the National Institute of Mental Health and

Neurosciences and the All India Institute of Medical Sciences. Topics ranged from the structure-function biology of ion channels to a hibernation mechanism in *Giardia intestinalis* and the physiological correlates of mental health – a deliberate signal that physiology is not confined to somatic systems alone.

For faculty, engagement took its most structured form: three sequential sessions on question paper setting, moderation, and evaluation, built directly on the pre-workshop questionnaire responses, followed by an open session in which teachers raised concerns that rarely surface in formal meetings – grading fatigue, inconsistent moderation standards, and the slow pace of curricular reform across



Figure 2: Glimpses of the school-children program

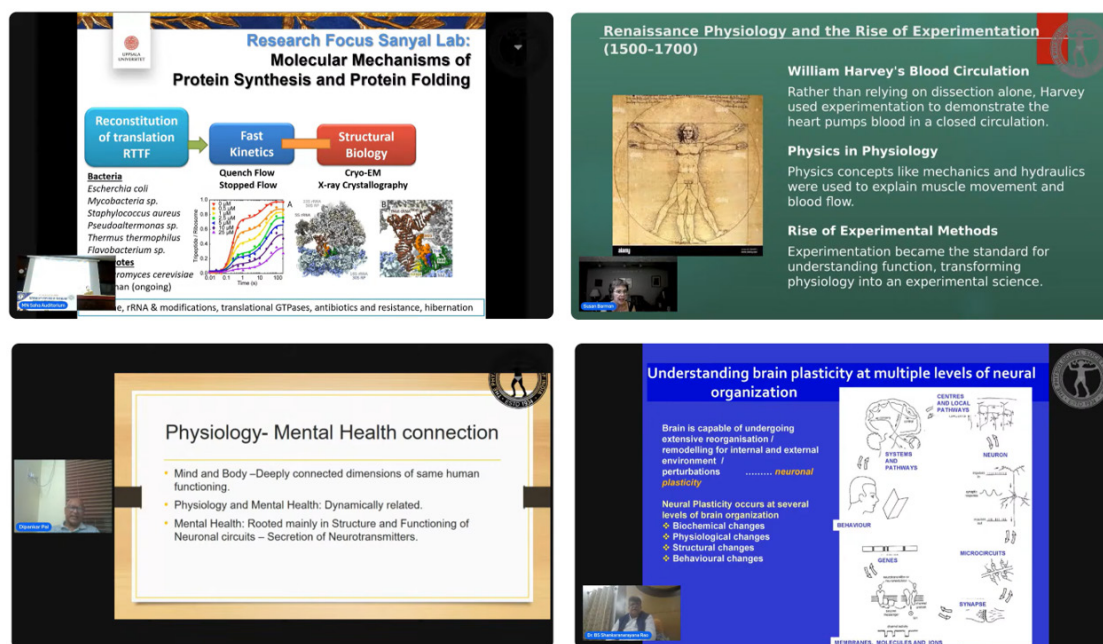


Figure 3: Snippets from the PSI Official YouTube channels, where the lectures are available

Table 2: Sets out the three faculty sessions

Session	Focus
1. Question Paper Setting	Constructing balanced papers that assess understanding rather than recall
2. Moderation & Administration	Maintaining fairness and consistency of examination processes across colleges
3. Examination & Evaluation	Objective grading methods and bias reduction in assessment

affiliated colleges. Fifteen senior academicians were present to mentor and exchange institutional practice. The workshop, held at the Meghnad Saha Auditorium of the University of Calcutta on the Society's 92nd Foundation Day, was free to attend, and every registered participant received a certificate that could be used toward performance review and career advancement documentation.

OUTCOME

There was no formal evaluation, but observation and the degree of enthusiasm amongst participants indicated that the week achieved what it set out to do. All four levels ran as scheduled, and each generated its own visible marker of engagement: certificates for schoolchildren and undergraduates, recorded lectures and live interaction for postgraduates, and a set of discussion points and informal recommendations from the faculty open session. The decentralization of the undergraduate model allowed participation from institutions outside the main location without requiring a single, resource-intensive central venue. Likewise, the hybrid postgraduate format helped a scholar in a smaller town to be able to interact with global leaders of physiology, - Ganong's Review author or an IUPS office-bearer without leaving their department.

Perhaps the least tangible but most encouraging outcome was the sense, repeated by several participants across tiers, that physiology had stopped being felt like an isolated examination-oriented subject and had started to feel like a shared, cross-generational enterprise. A schoolteacher's remark that her students now 'talk about hormones the way they talk about cricket scores' has been a long-lasting encouraging feedback that any formal feedback form would not have captured.

The faculty workshop produced a further, more concrete outcome: a set of working recommendations on standardizing question-paper setting and moderation across affiliated colleges, developed collaboratively rather than handed down, which the Society intends to carry into its next academic year.

LIMITATIONS

This account is a reflective, descriptive perspective rather than an evaluative study, and its limitations follow directly from that point. As no pre- and post-participation assessment was administered at any level, so claims of improved understanding or change in attitude are drawn from the impression and informal feedback rather than measured outcomes. Participation was mostly from schools in West

Bengal and institutions already affiliated with or aware of PSI, which limited the generalized view of physiology education nationally. The other point of concern is whether the enthusiasm observed in July will persist into the following academic term since no structured mechanism has been worked out to follow participants beyond the week itself. Hence, questions about durability remain unanswered. Finally, as an organizer and participant in several of these events, this article is a frank and honest reflection, but it might not be totally unbiased.

A more rigorous account of future iterations would benefit from validated pre/post instruments, a defined comparison or historical baseline, and a follow-up survey conducted some months after the event.

CONCLUSION

What this campaign demonstrated, at least provisionally, is that a professional society need not choose between reaching schoolchildren, undergraduates, postgraduates, and faculty – it can design for all four within a single coordinated week, provided the themes are matched to each audience, the format is decentralized enough to travel, and access is not gated by geography. Whether this model can be sustained and rigorously evaluated in future years is a separate and open question, one I hope this article encourages others in physiology education to take up alongside us.

Gymguard-SCD Clinical Decision Support System

GYM GUARD-SCD: THE FUTURE OF SPORTS CARDIOLOGY AND PREVENTIVE CARDIOLOGY



DR. SUJOY MUKHERJEE,
MBBS, MD (Physiology),
DM Resident, AIIMS Patna

Dr. Sujoy Mukherjee (Inventor):
dr.sujoywbmes123@gmail.com
Mobile: +91-8620937923

**SYSTEM AND METHOD
FOR PRE-EXERCISE
DYNAMIC ELECTRO-
AUTONOMIC INSTABILITY
DETECTION**

Assistant Professor, WBMES

Contact number: +91-8620937923
Email ID: dr.sujoywbmes123@gmail.com

MISSION IS ATMANIRBHAR BHARAT & VIKSIT BHARAT

* GymGuard-SCD is an advanced clinical support system designed for multi-parametric sudden cardiac death risk stratification. This innovative device performs pre-exercise electro-autonomic instability detection, representing the future of sports cardiology and supporting the vision of Atmanirbhar Bharat.