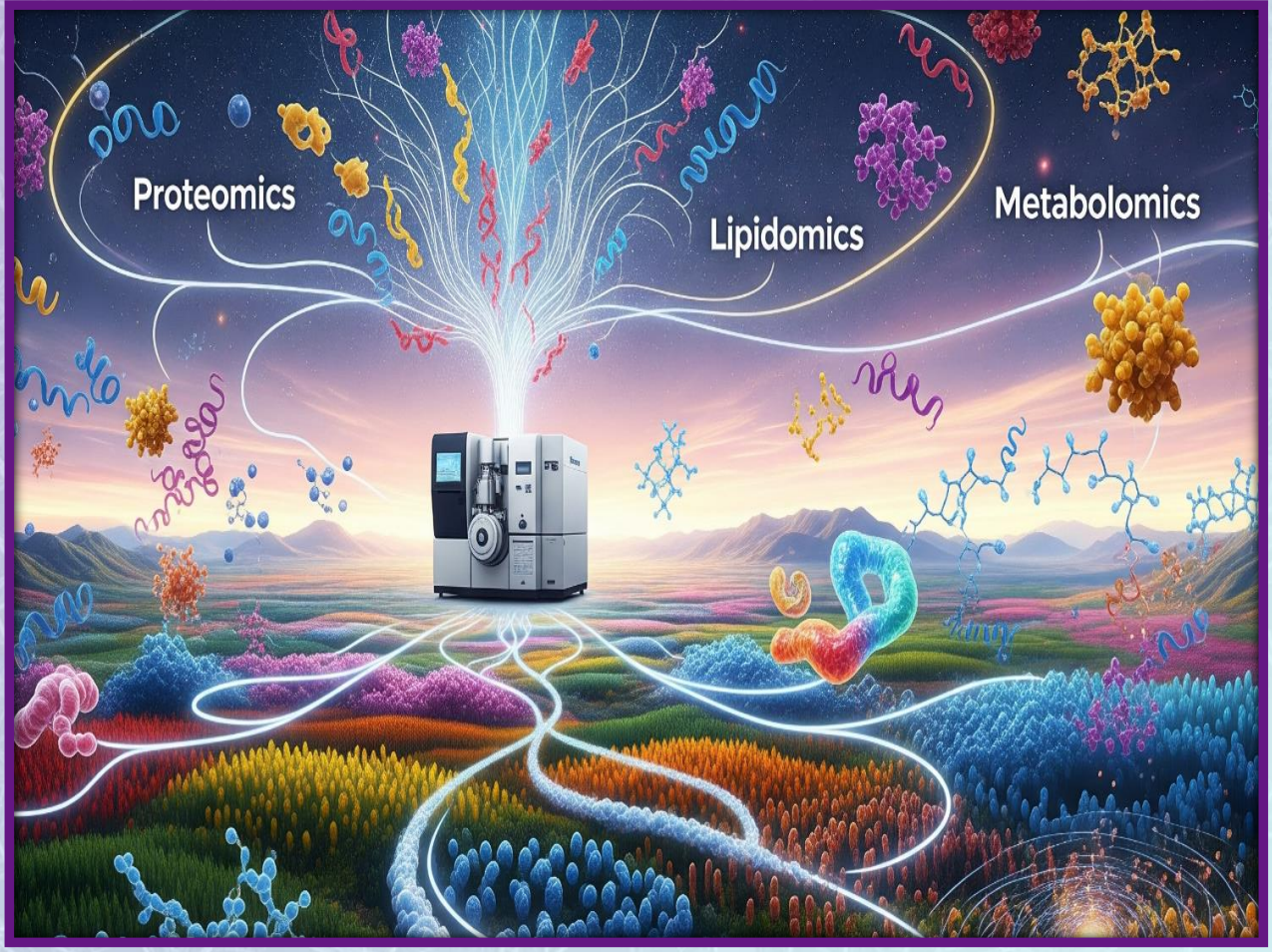
Vol. 13/No. 1/Jan - June, 2025

PROTEOMICS SOCIETY, INDIA (PSI)

NEWSLETTER



EDITORS

Dr. Amol R. Suryawanshi, Dr. Niranjan Chakraborty, Dr. Manas Santra,

Prof. Renu Deswal, Dr. Alka Rao, and Dr. Sandhya Sadashivaiahp

Content

*Cover page and background image created using Gemini

PSI Office-Bearers & Executive Council

PRESIDENT

Dr. Shantanu Sengupta

VICE PRESIDENTS

Dr. Srikanth Rapole

Dr. Suman Kundu

GENERAL SECRETARY

Dr. Tushar Kanti Maiti

TREASURER

Dr. Swasti Raychaudhuri

JOINT SECRETARY

Dr. Srinivas Kiran Ambatipudi

PAST PRESIDENTS OF PSI

Dr. Ravi Sirdeshmukh
(Founder President)

Dr. Surekha Zingde

Dr. Utpal Tatu

Dr. Subhra Chakraborty

MEMBERS

Dr. Subhra Chakraborty

Dr. Arun Bandyopadhyay

Dr. Ashok Kumar Mohanty

Dr. Rakesh K. Mishra

Dr. Surekha Zingde

Dr. Mahesh J. Kulkarni

Dr. Niranjan Chakraborty

Dr. Debasis Dash

Dr. Amol Ratnakar Suryawanshi

Dr. Ramesh Ummanni

Dr. Ashok Giri

Dr. Amit Yadav

Dr. Trayambak Basak

Dr. Ashis Kumar Mukherjee

Dr. Keshava Prasad

Editor's Message

Dear PSI members,

It gives us immense pleasure to present to you the first issue of the Proteomics Society, India (PSI) Newsletter for the year 2025. As always, PSI remains committed to fostering the growth of proteomics and allied fields across India. Through a multitude of academic events, workshops, and symposiums, we continue to build a strong community of researchers, students, and professionals dedicated to advancing proteomics technologies and applications.

This year, we have had an inspiring lineup of events that have truly enriched our scientific ecosystem. The 2025 edition of "Advances in Proteomics Technologies (APT)", held from February 14–17 at IIT Mumbai, was a grand confluence of science, innovation, and collaboration, bringing together leading researchers from across the globe. March 18, celebrated annually as Proteomics Day, was observed with great enthusiasm through the National Symposium on Proteomics for Life: The Intra and Interplay of Proteins in Plants and Microbes organized at CUTN, Thiruvarur. The event saw engaging discussions and presentations on plant and microbial proteomics. Two impactful hands-on workshops namely "Metabolomic Analysis: Unlocking the Power of Mass" and "Fundamentals and Techniques in Proteomics" hosted by Yenepoya (Deemed to be University), Mangalore offered practical exposure to young researchers and students. Furthermore, the National Symposium on Fish Proteomics held at ICAR-CIFA, Bhubaneswar on June 13, 2025, highlighted the growing relevance of proteomics in aquaculture and fisheries research.

We are excited to announce our upcoming flagship event - the 17th Annual Meeting of the Proteomics Society, India and International Conference - 2025, scheduled on November 20–22, 2025 at Yenepoya (Deemed to be University), Mangalore. We encourage all members to actively participate and contribute to this landmark gathering.

This newsletter features detailed reports from these symposiums and workshops that were held across various institutions, capturing the scientific highlights, key discussions, and participant experiences. Additionally, we present a curated section showcasing high-impact research articles authored by Indian scientists, spanning the domains of proteomics, metabolomics, and lipidomics- reflecting the growing global footprint of Indian research in these cutting-edge fields. The newsletter also includes important announcements, such as the launch of the PSI Summer Internship Program 2025, aimed at nurturing young scientific talent, and the PSI Logo Design Contest 2025, inviting creative contributions from our community. For a lighter and engaging touch, we bring you a brain-teasing edition of the PSI Crossword Puzzle, themed this time around Proteomics in Cancer Biology, a field that continues to drive innovation in diagnostics and therapeutics.

We sincerely thank all contributors, organizers, and members for their continued support and engagement. As PSI strides forward, let us collectively aim to push the boundaries of proteomics research and its applications in life sciences and biotechnology.

We hope you enjoy the collation. Your feedback will be much appreciated.

Thank you and Regards,

Dr. Amol R. Suryawanshi

Dr. Niranjan Chakraborty

Dr. Manas Santra

Prof. Renu Deswal

Dr. Alka Rao

Dr. Sandhya Sadashivaiahp

Message from President, PSI

Dear Members of the Proteomics Society of India,

It is a privilege and pleasure to connect with you through this edition of our newsletter as we reflect on the vibrant activities of the first half of 2025 and prepare for an exciting road ahead.

Following the successful conclusion of our Annual Meeting in November 2024, the momentum within the Proteomics Society, India (PSI) has only grown stronger. I warmly welcome all our new members. Your energy, ideas, and leadership are vital to steering PSI towards new milestones. I also wish to acknowledge and thank the present and past Council members for their invaluable support and unwavering commitment that have shaped PSI into the dynamic and inclusive community it is today.

This year, we were delighted to greet our members for the first time with a specially designed **PSI Desk Calendar 2025**, celebrating the spirit of proteomics and marking a small step toward greater member engagement and visibility. In line with our ongoing efforts to strengthen communication, we are also in the process of **updating the contact details and postal addresses of our members**. We encourage everyone to ensure their information is current to stay connected with PSI initiatives and announcements.

The past year has been remarkable, with PSI continuing to lead national efforts in advancing proteomics research, training, and outreach. Our shared dedication has translated into numerous impactful programs and collaborations that have both enriched the scientific ecosystem and empowered our next generation of researchers.

We began 2025 with the **"Advances in Proteomics Technologies (APT-2025)"** meeting, held from February 14–17 at IIT, Mumbai. This flagship event brought together a diverse community of researchers, students, and industry experts, sparking valuable discussions on cutting-edge tools, trends, and translational opportunities across the proteomics landscape.

Proteomics Day was celebrated with great enthusiasm on March 18, 2025, at Central University of Tamil Nadu (CUTN), Thiruvarur, through the **National Symposium on "Proteomics for Life: The Intra and Interplay of Proteins in Plants and Microbes."** This symposium highlighted the emerging significance of plant and microbial proteomics in addressing global challenges such as food security, environmental sustainability, and public health.

In May, **Yenepoya (Deemed to be University), Mangalore** hosted two impactful, hands-on training workshops: **"Metabolomic Analysis: Unlocking the Power of Mass" and "Fundamentals and Techniques in Proteomics".** These sessions provided young researchers with valuable exposure to experimental workflows and data interpretation, strengthening our nation's proteomics capacity.

In June, the **National Symposium on Fish Proteomics**, organized at **ICAR-CIFA, Bhubaneswar** (June 13), spotlighted the role of proteomics in aquaculture, fisheries biology, and marine biotechnology - an area of increasing national importance.

Looking ahead, I am delighted to announce that the **17th Annual Meeting of PSI and International Conference –2025** will be held from **November 20–22, 2025**, at **Yenepoya (Deemed University), Mangalore**. I encourage all members - researchers, educators, students, and industry professionals - to actively participate in what promises to be a vibrant forum for collaboration, innovation, and knowledge exchange.

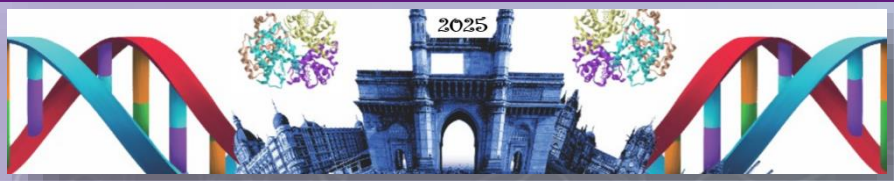
We are also constantly striving to make this newsletter more informative. This edition of the PSI newsletter brings you curated highlights from research groups across India making significant contributions in proteomics, metabolomics, and lipidomics. Their work exemplifies the growing global footprint of Indian science in these interdisciplinary domains. For a touch of scientific fun, don't miss the latest edition of the **PSI Crossword Puzzle**, themed this time around **Cancer Proteomics**, a field driving transformative advances in biomarker discovery and precision medicine.

We are also excited to announce initiatives that aim to engage and inspire our community:
PSI Summer Internship Program 2025: A wonderful opportunity for students to gain hands-on experience in cutting-edge labs.
PSI Logo Design Contest 2025: Inviting our creative minds to help redefine PSI's visual identity.

As we move forward, I urge our young members to stay curious, ask bold questions, and engage fully with the PSI network. Your passion and insights are central to our shared mission of advancing proteomics in India and beyond. Wishing each of you a productive, collaborative, and inspiring year ahead.

Warm regards,
Shantanu Sengupta
President, Proteomics Society, India

APT-2025 @ IIT Bombay, Mumbai



Advances in Proteomics Technologies
A Grand Confluence of Science, Technology and Collaboration

On February 14-17, 2025 at IIT Bombay, Mumbai
Convener: Prof. Sanjeeva Srivastava

Advances in Proteomics Technologies (APT-2025) held from **February 14–17, 2025**, at the **Indian Institute of Technology Bombay**, was a landmark event celebrating innovation, inclusivity, and the future of proteomics. With **over 2,500 participants** from **16 countries**, **90+ speakers**, and an engaging multi-track agenda, the event reinforced India's emergence as a global hub in proteomics research and education. APT-2025 set a new benchmark in proteomics engagement, combining **cutting-edge science, public outreach, and youth empowerment**. Spearheaded by convener **Prof. Sanjeeva Srivastava** and the dedicated team at IIT Bombay, the event brought together academia, industry, and clinical stakeholders on a single platform, affirming India's growing leadership in the global proteomics landscape.

A Multifaceted Celebration of Proteomics

Pre-Conference Workshops (Feb 14–15, 2025): Twelve parallel workshops delivered a transformative hands-on learning experience across a wide spectrum of themes such as Basic and Clinical Proteomics, Single-Cell and 4D Proteomics, Cell Surface and Plasma Proteomics, Metabolomics & Multi-Omics Integration, AI/ML in Big Data Analysis, Proteomics for Biopharma, Metaproteomics and Plant Proteomics etc.

Participants gained practical training in sample preparation, LC-MS/MS data acquisition, and data analysis using platforms like DIA-NN, Mascot, MetaboAnalyst, and OmicsNet. These workshops were enriched by interactive sessions led by international experts such as **Dr. Arun Wiita**, **Bernd Wollscheid and Dr. Judith Steen**.

APT-2025 @ IIT Bombay, Mumbai

Strong Participation from the PSI Community

APT-2025 witnessed enthusiastic participation from several members of the Proteomics Society India (PSI). Leading researchers including Dr. Niranjan Chakraborty, Dr. Srikanth Rapole, Dr. Amol Suryawanshi, Dr. Suman Thakur, Dr. Mahesh Kulkarni, Dr. Amit Yadav, Dr. Ravi Sirdeshmukh, Dr. Surekha Zingde, Dr. Tushar Maiti, Dr. Debasis Dash, Dr. Keshav Prasad, Dr. Geetanjali Sachdeva, Dr. Ranjan Nanda and many others actively contributed through talks, sessions, and mentoring early-career participants. Their presence reflected the strength and collaborative spirit of the PSI community and its pivotal role in driving proteomics research in India.

Youth Outreach and Public Engagement

In addition to the scientific program, APT-2025 focused on broadening public understanding and inspiring the next generation: **BioQuest**, a hands-on biotech workshop for over 1500 school students, ignited scientific curiosity at a young age and **MOOD-OMICS**, a unique outreach event, creatively blended science and culture to engage the public in conversations around omics technologies.

International Conference (Feb 16–17, 2025)

Under the theme **"Next-Generation Proteomics for Precision Health,"** the two-day conference hosted a stellar lineup of global experts, including speakers from **Harvard Medical School, Stanford University, ETH Zurich, and UCSF**, along with India's top proteomics researchers. Key highlights included talks from **Dr. Joshua LaBaer** on MISPA for early humoral immune response profiling, **Dr. Judith Steen** on single-cell proteomics in neurodegeneration, **Dr. Arun Wiita** on proteome-informed immunotherapy, **Dr. Gabriela Chiosis** on epichaperomics in neurodegenerative disease. Themes spanned **Cancer Proteomics**, **Neurodegeneration**, **Health Informatics**, **Immunopeptidomics**, **Cardiac Regeneration**, and **Drug Discovery**, offering a comprehensive exploration of proteomics frontiers.

Empowering Young Scientists

APT-2025 placed strong emphasis on training and recognition for early-career researchers. Nearly **60 student posters** were presented from across India. **Oral presentation awards** celebrated excellence in student research. A high-energy **Proteomics Quiz** added a fun yet competitive edge to the event.

National Symposium on Proteomics for Life The Intra and Interplay of Proteins in Plants and Microbes

On Mar 18, 2025 at CUTN, Thiruvarur

Convener: Dr. Moumita Malakar & Organizing Secretary: Dr. P. Umadevi

The **National Symposium on Proteomics for Life: The Intra and Interplay of Proteins in Plants and Microbes** was held with the aim of fostering discussions on the latest advancements in proteomics research, technologies, and their applications in various fields of Agriculture with three themes viz. 1: Plant proteomics, 2: Plant associated microbial proteomics and 3: The interplay of plant microbial proteomics.

The symposium brought together researchers, scientists, clinicians, and students from across the country to share their insights and findings in the rapidly growing field of proteomics. This hybrid mode symposium had 76 participants in physical mode and 15 participants in Online mode.
The symposium is jointly organized by School of Life Sciences, Central University of Thiruvarur, Tamil Nadu (CUTN) and ICAR-IARI, Rice Breeding & Genetics Research Center (IARI-RBGRC), Aduthurai, Tamil Nadu at Central University of Tamil Nadu. The Chairperson of the Symposium was Prof. S. Manivannan, Dean, School of Life Sciences, CUTN, Thiruvarur and the Co-Chairperson was Dr. S. Gopala Krishnan, Head, Division of Genetics, ICAR-IARI, New Delhi.

The inauguration was on March 18, 2025, presided over by the Honorable Vice Chancellor of CUTN Prof. M. Krishnan. Dr. Gopal Lal, Joint Director, ICAR-NAARM, Hyderabad as chief guest and Prof. R. Thirumurugan, Registrar, CUTN as Guest of Honor. Dr. Moumita Malakar, Asst. Professor, CUTN, Convenor of the Symposium welcomed the gathering. Dr. P. Umadevi, Senior Scientist ICAR-IARI-RBGRC, Organizing Secretary briefed about the symposium. Hon'ble Vice Chancellor, Prof. M. Krishnan, delivered the presidential address, followed by the address by Prof. R. Thirumurugan, Registrar, CUTN and the Chief Guest, Dr. Gopal Lal, Joint Director, ICAR-NAARM. Dr. Amit Kumar Bajhaiya, Asst. Professor, CUTN Convener gave the vote of thanks.

Proteomics Symposium @ CUTN, Thiruvarur

The event featured several prominent keynote speakers: Dr. Renu Deswal, University of Delhi, Dr. Abdul Jaleel, RGCB, Trivandrum, Dr. Keshav Prasad, Yenepoya University, Dr. Gopal Chowdhary, KIIT University, Dr. S. Babu, VIT, Vellore, Dr. Ramarao Golime, CUTN, Thiruvarur, Dr. Sudipta Saha, Bose Institute, each of whom delivered insightful talks on different aspects of proteomics.

In addition to the keynote addresses, the symposium included several focused breakout oral and poster sessions aimed at addressing specific aspects of proteomics research. These sessions provided opportunities for more in-depth discussions with cutting-edge techniques and tools. Best oral and poster presentation awards were given to motivate the participants in the area of proteomics.

The National Symposium on Proteomics was concluded as a resounding success, offering a comprehensive overview of the current state of proteomics research and its applications in various fields. The event provided valuable opportunities for learning, collaboration, discussion, and highlighted the pivotal role proteomics will play in shaping the future of Agriculture.

Metabolomic Workshop @ Yenepoya, Mangalore

YENEPOYA RESEARCH CENTRE

Hands on Workshop on
"Metabolomic Analysis: Unlocking the Power of Mass"

On May 26-28, 2025 at Yenepoya (Deemed to be University), Mangalore
Convener: Prof. Keshav Prasad

The Center for Systems Biology and Molecular Medicine (CSBMM) organized a three-day "Hands on Workshop on Metabolomic Analysis: Unlocking the Power of Mass Spectrometry" from May 26 to 28, 2025, at Yenepoya (Deemed to be University). The workshop brought together students, research fellows, and faculty members to explore the fundamentals and advanced applications of metabolomics. A highlight of the event was a virtual talk by Dr. Jaran Jainhuknan, SEA Applications Support Manager at Bruker Daltonics, Bangkok, Thailand. He delivered an insightful session on "4-D Metabolomics and Applications" sharing the latest advancements and real-world applications in the field. Over the three days, participants engaged in comprehensive sessions covering sample preparation, instrument handling, and data acquisition related to mass spectrometry-based metabolomics. The workshop featured both theoretical sessions and hands on training, conducted in a hybrid mode online and offline to accommodate a wider audience. The practical training sessions offered a valuable opportunity for participants to gain experience in real time workflows using state of the art tools and techniques. This program was designed to enhance the participants skills and understanding of metabolomics, making it highly beneficial for researchers working in life sciences, clinical research, systems biology and phytochemists.

Proteomics Workshop @ Yenepoya, Mangalore

Workshop on “Fundamentals and Techniques in Proteomics"

On May 29-31, 2025 at Yenepoya (Deemed to be University), Mangalore
Convener: Prof. Keshav Prasad

The Center for Systems Biology and Molecular Medicine (CSBMM) at Yenepoya Research Centre (YRC) is a multidisciplinary research hub equipped with cutting-edge infrastructure for advanced proteomics studies. The center houses state-of-the-art high-resolution mass spectrometers, including the Orbitrap Fusion Tribrid and QTRAP 6500. CSBMM scientists conducted a comprehensive hands-on workshop, sharing their expertise in mass spectrometry-based proteomics from sample preparation to data acquisition and analysis. The three-day workshop on “Fundamentals and Techniques in Proteomics“ held on May 29-31, 2025 at Yenepoya (Deemed University), Mangalore, in both online and offline modes, attracted students, research fellows, and faculty members. It featured in-depth training sessions on untargeted and targeted proteomics, post-translational modifications (PTMs), and multi-PTM analysis, offering participants a thorough understanding of current proteomics workflows and data interpretation.

Fish Proteomics @ ICAR-CIFA, Bhubaneswar

National Symposium on Fish Proteomics

On June 13, 2025 at ICAR-CIFA, Bhubaneswar

Convener: Dr. P. K. Sahoo

Organizing Secretaries: Dr. J. Mohanty, Dr. S. N. Sethi, & Mr. Mohan Badhe

ICAR-Central Institute of Freshwater Aquaculture (ICAR-CIFA) recently organized a National Symposium on Fish Proteomics. This significant event brought together top scientists, researchers, and students to explore current advancements and future goals in proteomics within aquaculture. The discussions emphasized how this evolving field is shaping developments across life sciences, agricultural sciences, aquaculture and fisheries, and environmental science.

The symposium highlighted the vital role of proteomics in addressing major global challenges such as climate change, aquaculture development, and Ayurveda. Discussions also covered the use of cutting-edge genetic technologies, such as CRISPR-CAS9 and shRNA, to study gene functions by observing protein behaviour. This included research using epithelial cell lines to analyse how proteins interact and to identify any unintended effects of gene editing. In the area of fish biotechnology, the importance of mass spectrometry in detecting disease biomarkers and developing antiviral drugs was emphasized. This method enables precise protein analysis, which supports medical research, particularly in areas such as viral studies and marine bioresource exploration.

Fish Proteomics @ ICAR-CIFA, Bhubaneswar

The event also looked back at decades of proteomics research in aquaculture, especially in identifying protein-based biomarkers and developing vaccines. Notably, it showcased a successful vaccine developed to protect fish from Argulus, a harmful parasite. Talks further explored how proteomics can support traditional medicine systems like Ayurveda. Themes included the correct identification of medicinal plants, using zebrafish as a model for toxicity studies, and understanding individual body types (Prakruti) to predict disease. Industry experts highlighted the application of LC-MS/MS-based proteomics in animals and fish, underlining the significance of high-precision diagnostics, reproducibility, and data validation. Tools like MaxQuant and UniProt were spotlighted as essential components in proteomics workflows. A powerful message emerged that proteomics is now an accessible field open to all researchers, not just a few selected. New initiatives like the Bhubaneswar Proteomics Club were introduced to encourage collaboration and idea-sharing.

The symposium concluded with a shared vision to establish a national network that connects proteomics with other scientific disciplines. The event inspired young researchers and underscored India's growing leadership in sustainable and advanced aquaculture practices.

Yenepoya @2024-29

Proteomics Society, India

Yenepoya-BIC

Yenepoya (Deemed to be University), Mangaluru
&
Proteomics Society, India

17th Annual Meeting of Proteomics Society, India and International Conference On

PROTEOMICS BEYOND BOUNDARIES: INTEGRATING OMICS FOR INNOVATION

: TO NURTURE HUMAN, ANIMAL, PLANT AND ENVIRONMENTAL HEALTH

Dates:
20th to 22nd November, 2025

Center for Systems Biology and Molecular Medicine
[*An ICMR-Collaborating Centre of Excellence 2024-2029*]
Yenepoya Research Centre,
Yenepoya (Deemed to be University)
University Road, Deralakatte, Mangaluru 575018, India

www.yenepoya.edu.in/
www.csbmm.yenepoya.res.in
https://proteomicssociety.in/

psicon25@gmail.com

Scan QR to open link to submit your abstract for oral and poster presentation (Deadline: July 31, 2025)

Upcoming events

Forthcoming International conferences and workshops

Sl. no	Conference and workshop Details	Online link
1.	Annual International Conference on Intelligent Systems for Molecular Biology and European Conference on Computational Biology (the 24th Annual Conference), ISMB/ECCB 2025 at Liverpool, United Kingdom from July 20-24, 2025	https://www.iscb.org
2.	The 13th International Conference on Intelligent Biology and Medicine (ICIBM 2025) at Columbus, Ohio, USA from August 3-5, 2025	https://icibm2025.iaibm.org
3.	The 15th International Symposium on Proteomics in the Life Sciences Broad Institute at Cambridge, MA, USA from August 17–21, 2025	https://www.asbmb.org
4.	6th European Symposium on Single-Cell Proteomics (ESCP-2025) at Vienna Biocentre, Austria from August 26-27, 2025 and pre-symposium workshop on Aug 25, 2025	https://www.apma.at
5.	Computational Biology Conference 2025 at Basel, Switzerland from September 8-10, 2025	https://www.bc2.ch
6.	Computational Intelligence for Bioinformatics & Biostatistics (CIBB 2025) at Milan, Italy from September 10–12, 2025	https://www.bioinformatics.polimi.it
7.	Genomics & Proteomics 2025, at Rome, Italy from September 11–12, 2025	https://scientificwisdom.org
8.	International Conference on Systems Biology (ICSB-2025), at Dublin, Ireland, from October 5-9, 2025.	https://icsb2025.com
9.	Human Proteome Organization (HUPO), 24th World Congress at Toronto, Canada from November 9-13, 2025	https://2025.hupo.org
10.	International Conference on Bioinformatics & Biomedicine (ICBB) 2025 at Goa, India, from December 11-12, 2025	https://waset.org/

--------0--------

Newsletter conceptualized and designed by

PSI Newsletter Committee

Dr. Amol R. Suryawanshi, Dr. Niranjan Chakraborty, Dr. Manas Santra, Prof. Renu Deswal, Dr. Alka Rao & Dr. Sandhya Sadashivaiahp

*Cover page and background image created using Gemini

PSI Summer Internship program 2025

The Proteomics Society, India (PSI) is proud to announce the launch of its **Summer Internship Program 2025**, a two-month immersive research training initiative designed to nurture and mentor the next generation of life science researchers. Starting **July 15, 2025**, this program will provide selected students with a unique opportunity to gain hands-on experience in cutting-edge areas of proteomics, systems biology, metabolomics, and bioinformatics. Interns will be placed in leading research laboratories across India and mentored by eminent scientists associated with PSI. Following a rigorous national-level selection process, **four exceptional students** have been chosen for this prestigious opportunity. Selection criteria included academic excellence, clarity of purpose, strong recommendations, and demonstrated interest in proteomics and life sciences research.

During the internship, students will receive practical training in advanced experimental and analytical techniques such as SDS-PAGE, 2D-DIGE, HPLC, LC-MS/MS, western blotting, ELISA, and protein microarrays. Beyond laboratory skills, the program emphasizes scientific thinking, collaborative learning, and real-world problem-solving. Each intern will receive a **monthly stipend of ₹5,000** for the duration of the program. In addition to technical training, participants will benefit from exposure to a dynamic scientific environment, expert mentorship, and access to professional networks across academia and industry. This initiative reflects PSI's strong commitment to supporting young scientific talent and promoting research-driven education. By offering a platform for discovery, innovation, and skill-building, the PSI Summer Internship Program aims to inspire students to pursue impactful careers in biosciences. We congratulate the selected interns and look forward to supporting their journey into the exciting world of proteomics. Here's to a summer of learning, growth, and inspiration!

Congratulation!!!

List of selected students for Summer Internship program 2025

Bikash Mahto

M.Sc. in Biotechnology
Central University of Haryana
Computational Proteomics and Bioinformatics

Yukta Tomar

M.Sc. In Biotechnology
TERI school of Advanced studies, New Delhi
Functional Proteomics

Prateeksha Majee

M.Sc. in Molecular and Human Genetics
University of Sheffield, UK
Clinical Proteomics

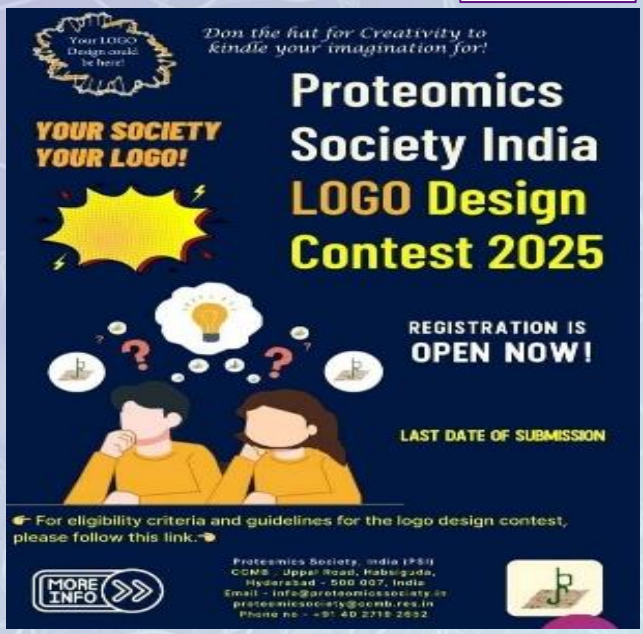
Pravanjan Dash

M.Sc. in Zoology,
Dr. H. Gour Vishwavidyalaya Central University, Madhya Pradesh
Structural biology, proteomics, bioinformatics

Announcing the PSI Logo Design Contest 2025

Theme: "Your Society, Your Logo"

The **Proteomics Society, India (PSI)** is thrilled to announce the **Logo Design Contest 2025**, inviting creative minds to shape the visual identity of India's leading proteomics community. PSI is a national platform dedicated to advancing the science of proteomics through collaboration, innovation, and education. As part of its ongoing efforts to engage and empower its vibrant community of scientists, students, and professionals, PSI is launching this unique opportunity to design a logo that reflects its mission and vision. The contest is open to all students, researchers, designers, and science enthusiasts. Participants are encouraged to submit an original logo design accompanied by a short concept note explaining the inspiration behind it. The design should symbolize key themes in proteomics such as molecular complexity, discovery, integration, and its impact on health and biotechnology. A panel of scientists and design experts will evaluate entries based on creativity, relevance, clarity, and alignment with PSI's core values.



The **winning logo** will become the **official emblem of PSI**, featured on its website, events, and publications. Finalists will receive special recognition, and **all valid entries** will earn a **certificate of appreciation**. The logo must be versatile, scalable, and effective across both digital and print platforms. It should represent not only scientific excellence but also the inclusive and collaborative spirit of PSI. This is more than a design competition, it's a chance to leave your creative mark on Indian proteomic landscape. Let your imagination lead and help shape the future face of the Proteomics Society, India.

Submission Deadline: Refer to the official contest poster. **Submit your entry and concept note via:** [official PSI email or portal]. We look forward to your innovative designs!

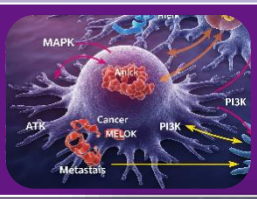
--------0--------

PSI Crossword Puzzle 1 - Answer keys

- Swedish chemist **Jacob** (last name) coined the term 'Protein' in 1838.
- **Aston** (last name) and Thomson were the first to use mass spectrometry (1897 – 1898).
- The first mass spectrometer constructed in 1912 by J. J. Thomson was originally called a **parabola spectrograph.**
- Modern techniques of mass spectrometry were devised by **Dempster** (last name) and Aston in 1918 and 1919 respectively**.**
- **Stephens** (last name) from University of Pennsylvania developed the first TOF-MS in 1946.
- Edman degradation protein sequencing method was discovered by **Pehr Victor Edman** (full name) in 1950.
- In 1952, **Frederick Sanger** determined the amino acid sequence of insulin.
- **Paul** (last name) and his student developed the quadrupole mass analyzer and the 3D quadrupole ion trap in 1953.
- **T**he first commercially available HPLC system, the **ALC100 HPLC,** was developed by Waters Associates, in 1967.
- **Perutz** (last name) and Kendrew received the Nobel Prize in Chemistry in 1962 for their major achievement of successfully using X-ray crystallography.
- **OFarrell** (last name) and Klose independently developed 2D Gel electrophoresis technique in 1975.
- **Cooks** (last name) and his team reported the MRM mass spectrometry technique in 1978.
- The electrospray ionization technique was first reported by Masamichi Yamashita and **John Fenn** in 1984.
- **Wüthrich** (last name) developed NMR methods to map the 3D structure of proteins in mid 1980s.
- John B. Fenn and **Koichi Tanaka** developed methods for mass spectrometric analysis of biological macromolecules in the 1980s.
- **Rosenfeld** (last name) and his team developed the protein in-gel digestion method for internal sequence analysis in 1992.
- The term **Proteome** was coined by Marc Wilkins in 1994.
- **Marc Wilkins** coined the term "proteomics" in 1996.
- **Macquarie** University also founded the first dedicated proteomics laboratory in 1995.
- **Minden** (last name) and Waggoner invented 2D DIGE in 1997.
- Synder and his team developed the first **microarray** Chip for Analysis of Proteins in 2001.
- **HPA** is abbreviation of Swedish-based program launched in 2003 to map all the human proteins in cells.
- **DIA** is an alternative to DDA where a fixed number of precursor ions are selected and analyzed by tandem mass spectrometry.
- In 2024, chemistry Nobel was awarded for developing a AI tool for predicting protein structures called **AlphaFold.**
- **HPP** was abbreviation of program launched by HUPO in 2011 to Map the entire human proteome.
- **Kirschner** and his team performed the first single cell proteomics analysis in Xenopus laevis egg in 2014.
- **A proteoform** is a defined form of a protein from a given gene with a specific amino acid sequence and localized PTMs.
- **Platinum** is a next-generation protein sequencing platform that was launched by Quantum-Si in 2022.
- Akoya Biosciences is credited with developing the **spatial** proteomics method that won the 2024 Nature Methods award.
- PTMs are a diverse group of **chemical** modifications to the protein that can be naturally derived.

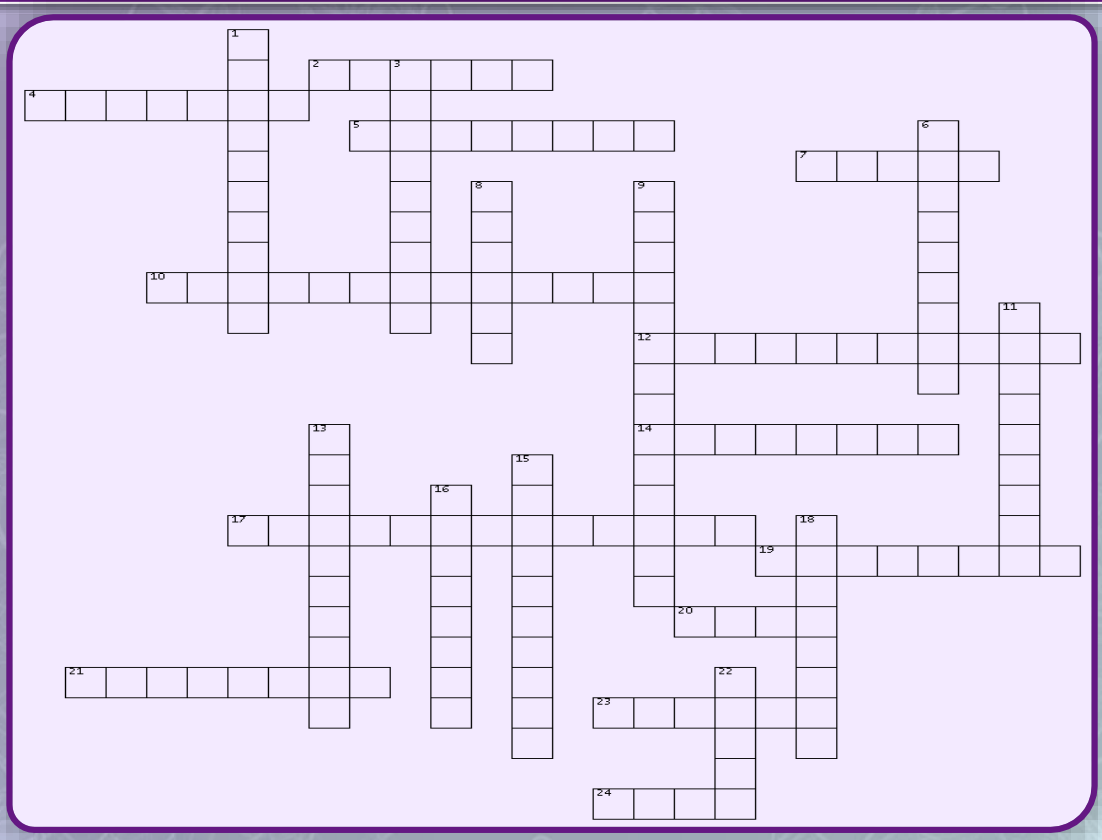
High impact articles published by Indian groups in the field of Proteomics / Metabolomics / Lipidomics

Sl. no	Publications details	PMID / online link
1	Gupta P, Chakroborty S, Rathod AK, Kumar KR, Bhat S, Ghosh S, Rao T P, Yele K, Bakthisaran R, Nagaraj R, Manna M, **Raychaudhuri S**. **Kingdom-specific lipid unsaturation calibrates sequence evolution in membrane arm subunits of eukaryotic respiratory complexes.** Nat Commun. 2025 Feb 27;16(1):2044. *Impact Factor: 14.7*	40016208/ 10.1038/s41467-025-57295-7
2	Rawat A, Antil N, Meenakshi, Deshmukh B, Rai AB, Nagar A, Kumar N, Prasad TSK, Karmodiya K, **Sharma P**. **PfPPM2 signalling regulates asexual division and sexual conversion of human malaria parasite Plasmodium falciparum.** Nat Commun. 2025 May 23;16(1):4790. *Impact Factor: 14.7*	40410154 / 10.1038/s41467-025-59476-w
3	Garg P, **Verma N**, Valsan A, Sarohi V, Basak T, Gupta T, Kaur P, Ralmilay S, Singh S, De A, Premkumar M, Taneja S, Duseja A, Singh V, Bajaj JS. **Proteomics-guided Biomarker Discovery, Validation, and Pathway Perturbation in Infection-related Acute Decompensation of Cirrhosis.** Clin Gastroenterol Hepatol. 2025 Feb 7:S1542-3565(25)00084-9. *Impact Factor: 12*	39924007/ 10.1016/j.cgh.2025.01.005
4	Gayen D, Kumar S, Barua P, Lande NV, Karmakar S, Dey AK, Gayali S, Maiti TK, Molla KA, Murumkar S, Chakraborty S, **Chakraborty N**. **OsDUF2488 acts synergistically with OsPrx1.1, regulates ROS metabolism and promotes dehydration tolerance in rice.** Plant Biotechnol J. 2025 Jun 17. *Impact Factor: 10.5*	40525256/ 10.1111/pbi.70182
5	Jadhav DB, **Roy S**. **Circadian Proteomics Reassesses the Temporal Regulation of Metabolic Rhythms by Chlamydomonas Clock. Plant Cell Environ. 2025 May;48(5):3512-3528.** Plant, cell & environment, 48(5), 3512–3528. *Impact Factor: 6.3*	39777639/ 10.1111/pce.15354
6	Rahman S, Bhattacharya A, Jana P, Ganguly M, Das AK, Hazra D, **Roychowdhury A**. **Subtractive proteomics unravel the potency of D-alanine-D-alanine ligase as the drug target for Burkholderia pseudomallei**. Int J Biol Macromol. 2025 Jun;314:144106. *Impact Factor: 8.5*	40393604/ 10.1016/j.ijbiomac.2025.144106
7	Kumar R, Haripriya V, Patra A, Kalita B, Vanuopadath M, Nair BG, Mahato R, Lalremsanga HT, Khan MR, Bala A, **Mukherjee AK**. **Proteomic and functional characterisation of Trimeresurus popeiorum (Pope's pit viper) venom proteins: Role of enzymatic and non-enzymatic venom toxins in envenomation pathophysiology.** Int J Biol Macromol. 2025 Apr;304(Pt 1):140638. *Impact Factor: 8.5*	39914545/ 10.1016/j.ijbiomac.2025.140638
8	Bhaskar V, Kumar R, Praharaj MR, Gandham S, Maity HK, Sarkar U, **Dey B**. **A bovine pulmosphere model and multiomics reveal early host response signature in tuberculosis.** Commun Biol. 2025 Apr 4;8(1):559. *Impact Factor: 5.2*	40186000/ 10.1038/s42003-025-07883-6



PSI Crossword Puzzle - 2

Theme: Proteomics in Cancer Biology



ACROSS

2. The specific site on an enzyme where a substrate binds. Often targeted by drugs. (6)
4. A holistic approach to understanding complex biological interactions within a system. (7)
5. The systematic investigation to establish facts and reach new conclusions. (8)
7. Foundational scientific inquiry that explores basic biological mechanisms. (5)
10. The process by which cells multiply and increase in number, often unregulated in cancer. (13)
12. Proteins involved in immune responses that can be targeted in cancer immunotherapy. (9)
14. A controlled study often involving patients to evaluate the effectiveness of new treatments. (8)
17. The study of how proteins interact with each other within a cell or system. (11)
19. The intricate networks of biochemical reactions within cells that are often dysregulated in cancer. (8)
20. A substance, often a small molecule, used therapeutically to treat disease. (4)
21. The study of proteins found in bodily fluids, crucial for non-invasive cancer detection. (7)
23. The complete set of genes within a cell or organism, often analyzed alongside proteomics. (6)
24. The fundamental unit of life, where cancerous changes initiate. (4)

DOWN

1. A lab technique that uses antibodies to detect specific proteins in a sample. (11)
3. Treatments specifically designed to interfere with molecular targets in cancer. (9)
6. A biological molecule, often a protein, that indicates the presence or progression of a disease. (9)
8. A targeted drug that inhibits specific protein kinases, often used in cancer therapy. (8)
9. The process of determining the amount of a specific protein in a sample. (13)
11. The process of finding and developing new biomarkers or drug targets. (9)
13. The comprehensive study of all proteins in a biological system, key to understanding cancer. (10)
15. The spread of cancer cells from the primary tumor to other parts of the body. (10)
16. A structured collection of information, like proteomic data, accessible by a computer system. (9)
18. A type of precision medicine where drugs are designed to interact with specific molecular abnormalities. (7)
22. New or previously unknown entities, often referring to proteins in cancer research. (5)

Information about PSI

Proteomics Society, India

Registered under Andhra Pradesh Societies Registration Act. (35/2001) (Regd. No. 286/2009)

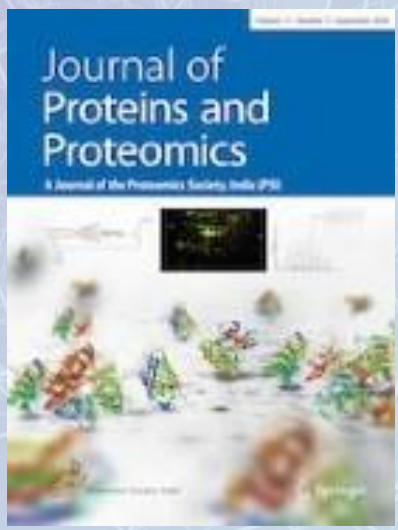
The Proteomics Society, India, established in 2009, serves as a vibrant community of proteomics researchers dedicated to fostering knowledge exchange, collaboration, advancing proteomics research by disseminating cutting-edge information, facilitating networking opportunities, offering specialized training, and promoting scientific developments to nurture a robust proteomics culture across India. The Society which is strongly dedicated to education for research in Proteomics.

Join Us

For PSI Membership scan / Click on

https://proteomicssociety.in/MemberShip.aspx

Journal of Proteins and Proteomics



JPP administered by Proteomics Society of India (PSI), is a peer reviewed international journal published by Springer Nature

(https://link.springer.com/journal/42485)

Location

CSIR- Centre for Cellular & Molecular Biology (CCMB), Uppal Road, Habsiguda, Hyderabad - 500 007 Telangana, INDIA.

Contact us

Phone- +91 40 2719 2632

Email- proteomicsociety@ccmb.res.in

Website- www.proteomicssociety.in