

PSI News Letter Vol. 5 (No.2) July 2017

PROTEOMICS SOCIETY, INDIA (PSI)



EDITORS

Dr. Sanjeeva Srivastava

Dr. Utpal Tatu



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EDITORS MESSAGES

Dear Members,

Proteomics Society, India welcomes all the newsletter readers to its monsoon edition—a quest to gain proteomics knowledge in beautiful monsoon season, as displayed on the cover page.

The year 2017 has been marked with many key proteomics events which aim to bring out the latest research in the proteomics field to the general public. This newsletter highlights few such events from our proteomics quest that ensued in the current period (March– June 2017). For instance, the Proteomics Day which is eagerly awaited by the young students and college teachers was conducted at multiple institutions (at the Indian Institute of Technology, Bombay; National Chemical Laboratory, Pune and AravindEye Research Institute (Madurai). Another major event was the “National Symposium and Workshop on Quantitative Proteomics” which was held at Institute of Life Sciences, Bhubaneswar, Odisha. A hands-on workshop “PROTEOMICS: From Protein Purification to Characterization” was conducted at IIT Bombay for the Continuing Education Program (CEP) from June 27th– July 1st 2017.

This second issue of the Newsletter for the year 2017 reflects upon its achievements witnessed in the current period which fueled an exponential rise of proteomics research in India. We hope that the proteomics community will achieve new heights this year with several interactive workshops being conducted for the young, budding aspirants. Upcoming HUPO meeting in Dublin and PSI meeting in Bhubaneswar are much awaited events and proteomics community in India should actively participate in these events.

Please do contact us for any updates, research highlights or information for any upcoming events by sending an email to sanjeeva@iitb.ac.in or tatu@biochem.iisc.ernet.in. We hope that the readers will appreciate this newsletter and it would pique their scientific curiosity for the recent developments in proteomics.

Best wishes,
Editors

GREETINGS FROM THE PRESIDENT PSI

Dear friends,



I am happy to update you with the progress PSI has made during the last few months. After the highly successful Annual Meeting hosted by Dr. Subra Chakraborty and Dr. Niranjana Chakraborty at NIPGR, New Delhi, Dr. Amol Suryawanshi conducted an exciting Proteomics workshop at ILS Bhubaneswar. Following this, there were Proteomics Day Celebrations at three different centers in India, including IIT (Bombay), NCL (Pune) and Aravind Eye Research Institute (Madurai). In addition, the first News Letter for 2017 was released earlier this year.

The new team of office bearers hope to build on the wonderful work done by the predecessors and take PSI to new heights. I should inform you that several sub-committees are being set up to advance PSI activities in different areas. These include Cancer, Infectious diseases, Animal health, Plant Sciences as well as Ayurvedic Medicine. All the members of our EC will be involved in various categories with some of them taking a lead in the above areas. My hope is that PSI will be able to engage better with the community through these initiatives. We hope to interact and work together with public and private health sector organizations to implement research outcomes in an efficient manner. I am open to any suggestions that you may have in this initiative.

I must also inform you that the official journal of PSI namely JPP is seeing increased acceptance and many more manuscripts are being submitted for publication than ever before. Dr. Suman Kundu's single-minded focus on growth of this journal deserves an applaud in this connection. I am sure JPP will become an important platform for researchers to publish their studies in a fast and efficient manner in the years to come.

I want to remind all the readers of this NL that the upcoming Annual Meeting of the Society is planned at ILS Bhubaneswar on November 30th, December 1st and December 2nd 2017. You will see a curtain raiser Announcement by Dr. Amol Suryawanshi, the Chief Organizer of this meeting in subsequent pages of this NL.

Finally, I want to whole-heartedly thank all our EC members and the community for their support in making PSI a New Age Society that echoes the aspiration of young researchers in the country. With all your continued support PSI will make a mark in the application of Proteomics research in the community.

**With warm regards,
Utpal Tatu**

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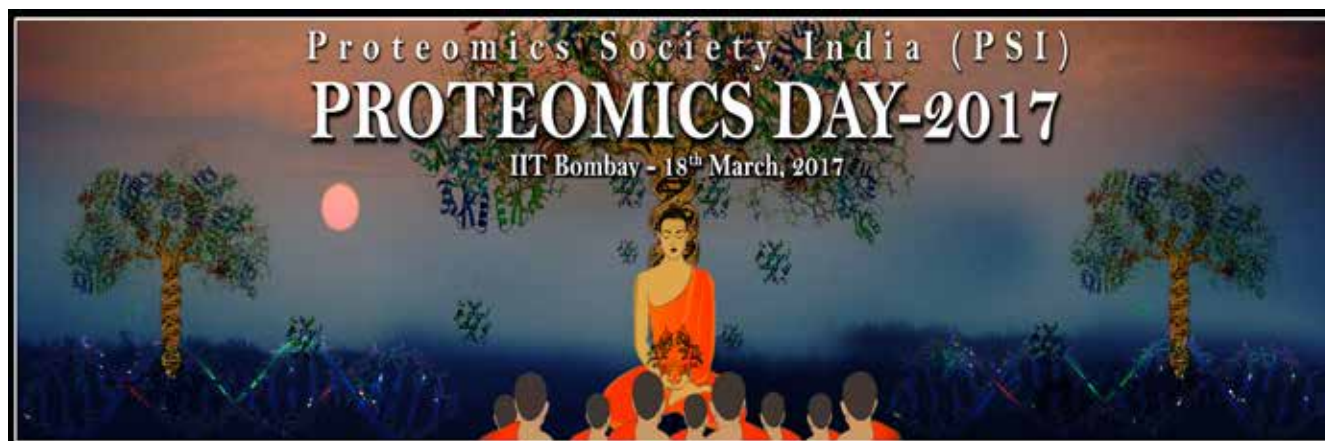
Proteomics Day Celebrations

National Chemical Laboratory, Pune

A Mini-Symposium was organized to commemorate the foundation day of Proteomics Society, India i.e. March 18, 20. About 150 students and 20 faculty /scientists participated in the symposium. Professor Ashwini Kumar Nangia, Director, CSIR-National Chemical Laboratory, Pune and Dr. Archana Pundle, Head, Division of Biochemical Sciences, NCL, gave welcome remarks. The symposium comprised of five lectures by eminent scientists from both Academics and Industry. The inaugural lecture was presented by Dr. Niranjana Chakraborty, Director, NIPGR, Delhi on “Understanding cell wall proteome dynamics and defense response: turning knowledge into innovation”.

The second lecture was presented by Dr. Rajesh Singh from Gennova, Pune, on “Biosimilars and Biosimilarity”. Dr. Harish Shandilya, from Enzene, Pune, delivered the third lecture “Art of protein characterization for complex molecules like Monoclonal antibodies”. Dr. Siddhesh Kamat, a new faculty from IISER, Pune, presented his work on “Enzyme function annotation using an integrated chemical proteomics and metabolomics approach”. And the last lecture “Quantitative proteomics and metabolomics towards novel potential biomarkers for Breast cancer” was delivered by Dr. Srikanth Rapole, NCCS, Pune. The symposium was concluded with vote of thanks by Dr. Ashok Giri followed by Lunch at NCL cafeteria.

Dr. Mahesh Kulkarni,
Scientist, Division of Biochemical Sciences,
CSIR-National Chemical Laboratory, Pune



Venue: Department of Biosciences and Bioengineering, Seminar Room-A; IIT Bombay

Schedule		
09:45 – 10:00 AM	Welcome Address	Dr. Sanjeeva Srivastava Associate Professor, BSBE Group Leader, Proteomics Laboratory IIT Bombay
10:00 – 10:45 AM	Lecture “Proteomics Today: Approaches, Challenges and Expectations”	Dr. Surekha Zingde Ex-President, Proteomics Society, India Ex-Deputy Director, ACTREC
10:45 – 11:15 AM	Tea Break	
11:15 AM Onwards	Lab visits/ Demo Sessions	Facility Coordinators: SPR: Dr. Veenita Shah MALDI: Dr. Aishwarya Rao Microarrays: Ms. Nikita Gahoi/ Apurva Atak 2D-DIGE: Mr. Sandip Patel/ Vipin Kumar LC-MS/MS: Ms. Manali/Kishore Gollapalli

	Group-I	Group-II	Group-III	Group-IV
Group Coordinators	Mr. Kishore Gollapalli	Dr. Sherin Thomas	Ms. Rucha Gadre	Ms. Manu
	Ms. Sujata	Ms. Sohini	Ms. Swati	Mr. Yogesh
BSBE Lab visit				
11:15 – 11:35 AM	SPR	MALDI	Microarrays	2DE/DIGE
11:40 – 12:00 PM	MALDI	SPR	2DE/DIGE	Microarrays
12:05 – 12:25 PM	2DE/DIGE	Microarrays	SPR	MALDI
12:30 – 12:50 PM	Microarrays	2DE/DIGE	MALDI	SPR
CRNTS Lab Visit				
1:10 – 1:30 PM	LC-MS/MS	LC-MS/MS	LC-MS/MS	LC-MS/MS

Proteomics Day, an initiative by PSI (Proteomics Society India), aims to educate the young college students and teachers about the dynamic field of proteomics. It is an excellent platform for enlightening the budding aspirants who are yet to build their expertise about the latest research and developments in the domain of proteomics.

The event was held on March 18th 2017 at the Indian Institute of Technology Bombay and started off with the welcome address by the convener, Dr. Sanjeeva Srivastava. This was followed by an introductory lecture entitled.

“Proteomics Today: Approaches, Challenges and Expectations” by Dr. Surekha Zingde, Ex-President, PSI. This informative lecture covered present-day proteomics approaches that are being used widely across the globe along with the challenges and caveats that still need to be addressed. Further, demo sessions on,



SPR (Surface plasmon resonance), protein microarrays, 2D-DIGE, MALDI-TOF/TOF and Q-TOF-LC/MS/MS analysis were conducted which further helped the participants in understanding the concepts better through experimental intervention.

This event was well-received by the students' community as they were exposed to different aspects of proteomics research which they can later extrapolate to their own work.





National Symposium and Workshop On Quantitative Proteomics

March 06-10, 2017

Institute of Life Sciences, Bhubaneswar, Odisha, India

National Symposium and Workshop on Quantitative Proteomics (NSWQP2017)

Convener: Dr. Amol R. Suryawanshi

Quantitative proteomics with recent advancement has emerged as an essential technique in biological research as it gives identification and quantification of proteins using mass spectrometry based approach. It has become more useful as it can be applied in various areas of clinical and biological research. The National Symposium and Workshop on Quantitative Proteomics (NSWQP2017) was conducted at Institute



of Life sciences, Bhubaneswar, Odisha, India from March 06-10, 2017. This programme included one day Symposium on Mar 06, 2017 followed by four days workshop from March 07-10, 2017. This was supported by Proteomics Society-India (PSI), GE Healthcare and Sciex, India.

The Symposium was mainly focused on the application of high through put quantitative proteomics techniques to different aspects of life sciences where several eminent invited speakers from different areas presented their research work and shared their knowledge and experiences. Total 80 delegates have attended the symposium including mainly Ph.D. / M.D. Research Scholar and Faculties from Research Institutes, Universities and Medical colleges. Overall, all the scientific talks of symposium were highly motivating and encouraging for the participants. Symposium concluded with remark by session chairs and vote of thanks by the convener.

The workshop was aimed to provide training to research scholars and young faculties working in the field of proteomics. Out of many applications received, total 15 participants from different parts of India were shortlisted which included PhD Scholars and Young Scientists /faculties from many reputed Research Institutes and Universities. The 4-day long intensive workshop was consisting of two modules. First was gel based quantitative proteomics approach conducted on day one that was Demonstration of DIGE experiment and Gel analysis by Decyder software. It was followed by second module called gel free approach that included Introduction to proteomics, Basics of mass spectrometry, Workflow of a typical proteomics study, Protein identification / quantification by Mass Spectrometry (iTRAQ),

5800 MALDI TOF/TOF - A working model of high resolution mass spectrometer and Tandem mass spectrometry data analysis wherein the main focus was to introduce, demonstrate and provide hands-on training for multiplex iTRAQ experiment and mass spectrometry-derived proteomic data analysis.

Participants were highly motivated and found the workshop significant and very much helpful for proteomics users. Workshop concluded with valedictory function by awarding a workshop completion certificate to participants by the chief guest, Mementos as a token of appreciation to the Instructors and finally vote of thanks by the convener.



Group photo of delegates who attended one day Symposium conducted on Mar 06, 2017 during National Symposium and Workshop on Quantitative Proteomics (NSWQP2017) at Institute of Life Sciences, Bhubaneswar, Odisha, India from March 06-10, 2017

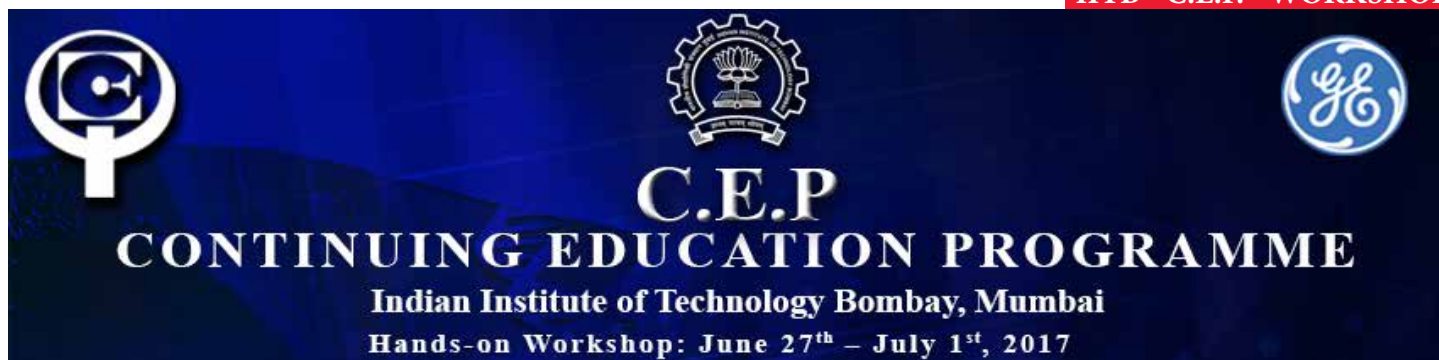


Group photo of workshop participants of National Symposium and Workshop on Quantitative Proteomics (NSWQP2017) conducted at Institute of Life Sciences, Bhubaneswar, Odisha, India from March 06-10, 2017.

Photoes of NSWQO2017





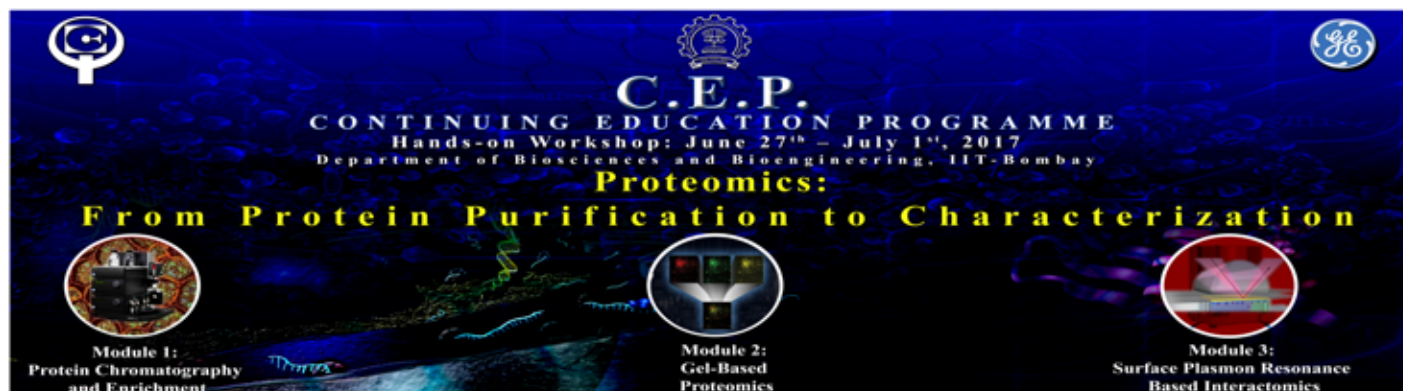


Another milestone event of the year was the hands-on workshop, “PROTEOMICS: From Protein Purification to Characterization” which was conceptualized with the aim of imparting hands-on training to scientists from both academia and industry. The event took place in the Institute of Technology Bombay from June 27th–July 1st 2017 in collaboration with GE Healthcare and saw an enthusiastic participation not only from the college professors and industry scientists but also from young Ph.D. scholars who had a keen interest in exploring different proteomics approaches which could possibly support them in their research.



Convener
Prof. Sanjeeva Srivastava,
IIT Bombay, Mumbai

The study of any protein involves extensive separation and purification steps followed by protein identification from complex mixtures using combinations of chromatographic and gel-based techniques. In addition, label-free techniques such as Surface Plasmon Resonance (SPR) are a great boon in investigating interactions between two proteins, or a protein and small molecule can be tested using. Considering this the workshop was conducted in three modules namely, Protein Chromatography and Enrichment, Gel-based proteomics and Surface Plasmon Resonance-based interactomics that covered these crucial concepts. The workshop was a good blend of theory and experimental demos and the training involved concomitant learning through both classroom lectures and hands-on sessions. The first module was focused on the chromatography-based protein separation and purification using AKTA protein purification systems. More emphasis was given to chromatographic techniques like Size exclusion and Ion exchange chromatography, fractionation steps and data analysis. The module also witnessed the purification of a tagged recombinant protein which was a great learning experience for all the participants.



This was followed by the second module wherein the participants were introduced to the traditional gel-based proteomics approaches, with more emphasis given to the advanced 2D-DIGE (Difference in gel electrophoresis) technique. 2D-DIGE is an extremely powerful platform for analyzing differences between the proteomic profiles of normal vs. diseased or drug-treated vs. untreated sample/condition. To further enhance the understanding of 2D-DIGE technique, a session on gel analysis using IQTL software was also conducted.

The third module was focused on Surface Plasmon Resonance which is often used to study the affinity and kinetics of protein-protein interactions. The hands-on session consisted

of ligand immobilization, binding, and kinetics analysis of protein-protein and protein-small molecule interactions by SPR.

Scientists from the biopharma industry who are developing biosimilars or new drugs can use the SPR technique to test and compare the binding and the kinetics patterns of biosimilar compounds to the drug molecules. This is especially important in the current scenario where India is seeing a robust growth in the Biosimilars market and the need of the hour is to rigorously test biosimilars against reference compounds.

This workshop was a befitting opportunity for the participants to discover the challenging and exciting world of proteomics and played an instrumental role in showcasing the current advancements in protein-based research and development by employing state-of-the-art proteomics tools.



INVITATION

9th Annual Meeting of Proteomics Society, India (PSI) & International Conference on Proteomics in Health and Disease

**Institute of Life Sciences (ILS), Bhubaneswar
November 30-December 02, 2017**

Registration and abstract submission will open shortly.

Deadline for registration and abstract submission is 30th Sept
2017

Convenor:

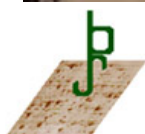
Dr. Amol R. Suryawanshi

Institute of Life Sciences,
(An Autonomous Institute of Dept. of Biotechnology, Govt. of India),
Nalco Square, Chandrasekharpur
Bhubaneswar-751023, Odisha, India
Office- +91-674-2304329

Email: psimeeting2017@gmail.com; amolsurya@gmail.com
www.ils.res.in



**Come.. & Join.. for
9th PSI meeting at ILS, Bhubaneswar**



Proteomics Society, India



जीव विज्ञान प्रतिष्ठान

INSTITUTE OF LIFE SCIENCES

An Autonomous Institute of Department of Biotechnology, Govt. of India

12th Australian Peptide Conference

Peptide Discovery and Development - Making Waves in Peptide Science

15th – 20th October 2017

Peppers Noosa Resort

Noosa, Australia

Key Speakers

Mibel Aguilar - Monash University, AUS
David Craik - The University of Queensland, AUS
Mark Currie - Ironwood Pharmaceuticals, USA
David Fairlie - The University of Queensland, AUS
Shiroh Futaki - Kyoto University, JPN
Laura Kiessling - University of Wisconsin-Madison, USA
Keliang Liu - Beijing Institute of Pharmacology & Toxicology, CHN
Tom Muir - Princeton University, USA
Raymond Norton - Monash University, AUS
Alleyn Plowright - Sanofi, GER
Uracha Ruktanonchai - National Nanotechnology Centre, THA
Tomi Sawyer - Merck Research Laboratories, USA
Mark Smythe - Protagonist, AUS
Kristian Strømgaard - University of Copenhagen, DNK
Natia Tsomaia - Ipsen, USA
Dek Woolfson - University of Bristol, GBR

Main Topics

- Advances in peptide synthesis
- Bioactive peptides and cell signaling
- Cell membrane interactions & bioavailability
- Cell penetrating peptides
- Drug discovery and development
- GPCRs and structure-based drug design
- Peptide Vaccines
- Peptides and peptidomimetic drugs
- Peptides in immunology
- Structure function studies and new targets
- Transcriptomics/ Proteomics

Abstract submission and early bird
registration open

www.apc2017.org

Satellite Meetings

Venoms to Drugs



9-14 October 2017
Peppers Noosa Resort

Modern SPPS



12-14 October 2017
Kingfisher Bay, Fraser Island

Omics Revolution



15 October 2017
Peppers Noosa Resort

4th Meeting of Asia Oceania Agricultural Proteomics Organization The International Proteomics Conference (IPC) 2017

“Proteomics in Biotechnology & Life Sciences” in conjunction with the 4th meeting of Asia Oceania Agricultural Proteomic Organization (AOAPO) will be held from August 15-17, 2017 in Kuala Lumpur, Malaysia.



Dublin Ireland

17 - 20 September 2017



15th Human Proteome Organisation World Congress



11th January 2017
Opening of
registration



11th January 2017
Call for
abstracts



5th April 2017
Close of
abstracts



31st May 2017
Notifications of
acceptance



14th June 2017
End of Early
Registration



16th August 2017
End of Regular
registration

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