All the best Proteomics Researchers!
As we greet 2015 with optimism and expectations, we hope to use this opportunity to reflect, remember and thank the participants of the Proteomics extravaganza that ensued in India, to end the previous year on a high note. The 6th Annual Meeting of the Proteomics Society, India (PSI) and International Proteomics Conference on “Proteomics from Discovery to Function” scheduled from 7th to 9th Dec 2014 at the Indian Institute of Technology Bombay, was one of the highly awaited scientific conference in India. The pre-conference, conference and post-conference activities scheduled during 6th – 11th Dec had attracted over thousand participants. The proceedings of conference, included several stimulating talks from leading scientists across the world. Parallel session on Biosimilars/Biotherapeutics & Proteomics was organized on 8th Dec followed by workshop on the same theme on 9th Dec. Pre-conference Education Day and Indo-US Science and Technology Forum (IUSSTF) Workshop on 6th Dec, followed by post-conference proteomics workshops on 10th and 11th Dec was organized to impart hands-on training to apprise students and help researchers to explore the advances that the emerging field of Proteomics has to offer in Research and Development. The conference and workshop proceedings were published in special issue of Journal of Proteins and Proteomics.

The main conference appeared to have an inimitable impression on the participants. It was for the first time, that India had received the Human Proteome Organization (HUPO) President and Ex-Presidents and other elite scientists of PSI to address a gathering, in such a scale. The plenary talks by leading scientists accounted for one of the main highlights of this event, which was highly covered by Indian media. Lectures delivered over the three days covered a wide array of subjects including, Cancer Biomarkers, Proteomics of Biofluids, Proteomics and Systems Biology, Mass Spectrometry & PTM, New MS Approaches, Interactomics & Multi-Omics Analysis, Human Proteome Project, MS & Metabolomics, Microbial Proteomics, Animal & Plant Proteomics etc. Besides the main conference activities, a parallel Biosimilars and Biotherapeutics session posed as a unique endeavor to bring the academia and Indian Biopharma together to address the common hurdles required to advance pharmaceuticals at national and international level. Participation from representatives affiliated to regulatory bodies like US-FDA, U.S. Pharmacopea and panel discussions added uniqueness to this event.

Allied activities like panel discussions in the field of Clinical Proteomics were organized to benefit scientists to understand and address some of the burning questions. Additionally, the participants had been given an opportunity to showcase their research in the form of ‘Posters’ along with Art and Essay competitions that have been reviewed by notable scientists and acknowledged by leading publishing houses like Springer and Elsevier. Apart from the scientific activities, Indian classical evening on 6th Dec featuring Nrityanjali group, a gala dinner on 7th Dec displaying Indian popular music, Cultural night on 8th Dec featuring Nrityanjali and Terence Lewis Contemporary Dance Company, and on 9th Dec visit to “Chokhi Dhani”, a mirror of Indian village life and Rajasthani culture, provided the national and international delegates a glimpse of the diversity of Indian culture in recent times. These activities rejuvenated the participants after intense scientific sessions each day.

The post-conference workshops on 10th to 11th Dec offered hands-on experience on latest and most sophisticated tools used in research and industry and it was moderated by the leading scientists. These workshops had diverse participation from students, academia and industry personnel, alike. Over a vast range of platforms like Gel-based proteomics, Mass Spectrometry, Label-Free technology, Targeted Proteomics and Protein Microarrays have been covered during these sessions. An endeavor of hands-on proteomics training and 5 parallel sessions on latest proteomics technologies at this scale has not been attempted in India before and to best of our information anywhere in the world. Thus, holistically, the conference and its allied activities, with all certainty, have had a resonating effect on the Proteomics community. The success of this event is majorly attributed to all the distinguished speakers, delegates and participants. We hope that this conference has been as memorable to you, as it has been for us and we sincerely thank you for your full support in this endeavor. This booklet is a memoir of the conference and we wish that these remembrances and experience would last you a lifetime.

Sincerely yours,
Dr. Sanjeeva Srivastava
Convener, 6th PSI Meeting & International Conference, IIT Bombay, Mumbai
Indo-US Science and Technology Forum (IUSSTF) Workshop “Proteomics for Translational Research” on 6th December was a platform to help Indian and US researchers to explore the collaborative possibilities that the emerging field of Proteomics has to offer in Proteomics Research and Development, across the borders.
EDUCATION DAY – 6th Dec 2014

The pre-conference Education Day on 6th December 2014 was a unique endeavour to establish a foundation of Proteomics to students and teachers and provide them with a glimpse of the latest advances along with exposure to sophisticated instrumentation.

DECEMBER 7, 2014: MAIN CONFERENCE - DAY 1

The first day of the conference started with a welcome message by the convener, Sanjeeva Srivastava, inauguration by Act. Director of IIT Bombay Prof. H. S. Pandalai, inaugural talk by PSI President Surekha Zingde and keynote lecture by HUPO President Pierre Legrain.

Three core sessions, namely, “Cancer Biomarkers” chaired by Girish Maru & Ravi Sirdeshmukh featured a plenary talk by Gilbert Omenn followed by talks by Sudhir Srivastava, Arun Trivedi and Chung Ching Ming Maxey, “Proteomics of Biofluids” session chaired by K. Dharmalingam & Kumaravel Somasundaram comprising of a plenary talk by Samir Hanash followed by Yetrib Hathout, Abhijit Chakrabarti and Rudolf Grimm and “Proteomics and Systems Biology” session chaired by K. V. Venkatesh & Rakesh Mishra with talks by Brenda Andrews, Andrew Link, Sarath Chandra Janga and Debasish Dash were scheduled on this day.

Additionally, two parallel sessions of panel discussions were conducted. The first panel discussion focused on “Quest of human proteome and missing proteins” with Akhilesh Pandey as the moderator and Gilbert Omenn, Mark Baker and Robert Moritz as panellists. A parallel panel discussion on “Metabolomics & System biology” was moderated by Abhijeet Mitra and Kanury Rao with Harsha Gowda, Mahesh Kulkarni, Rapole Srikanth and Rudolf Grimm as panellists.
Dr. Akhilesh Pandey moderating the panel discussion on “Quest of Human Proteome and missing Proteins”

Dr. Kanury Rao and Dr. Abhijeet Mitra moderating the panel discussion on “Metabolomics & System biology”

A Sublime Invocation by the Nrityanjali group

Dr. Sanjeeva Srivastava felicitating Dr. H. S. Pandalai (Director (Act), IIT Bombay)

Dr. Maru giving a memento to Dr. Sudhir Srivastava

Dr. Rudolf Grimm delivering his lecture

Dr. Sam Hanash delivering his plenary talk in the Proteomics of Biofluids session

Dr. Brenda Andrews delivering a talk in Proteomics and Systems Biology session

Dr. Surekha Zingde, President PS(I) presenting a memento to Keynote speaker, Dr. Pierre Legrain, President HUPO

Dr. Gilbert Omenn’s plenary talk in Cancer Biomarkers session
The second day of the conference included sessions on “Mass Spectrometry & PTM” which was chaired by Keshava Prasad & M. A. Vijayalakshmi. The plenary talk was delivered by John Yates, followed by other talks by David Mudram and Sanjay Gupta. The “New MS Approaches” session was chaired by Akhilesh Pandey & Philip Andrews with plenary lecture by Catherine Fenselau. This session included talks by Philip Andrews, Brendan MacLean, Shantanu Sengupta, Mark McDowall and Juan Calvete. The “Interactomics & Multi-Omics Analysis” session was chaired by Sharmistha Dey & Utpal Tatu with talks by Manuel Fuentes, Prasanna Venkatraman, Utpal Tatu and Robert Karlsson. The “Human Proteome Project” session chaired by Pierre Legrain & Surekha Zingde included a plenary talk by Mark Baker and talks by Robert L. Moritz, Ravi Sirdeshmukh, Sanjay Navani highlighting the respective themes.

A panel discussion entitled “Meet your Editors and Publishers” by Elsevier was conducted on 8th December with Juan Calvete and Sanjeeva Srivastava as the moderators and Akhilesh Pandey, Chung Ching Ming Maxey, John Yates and Suman Kundu as panelists. Simultaneously an Author’s workshop was conducted by Springer on the same day.
Dr. Fenselau giving a plenary talk in New MS Approaches

Dr. Legrain felicitating Dr. Srideshmukh

Dr. Andrews presenting a memento to Dr. McDowall

Dr. Sengupta being felicitated by Dr. Pandey

Dr. Yates delivering a plenary lecture on MS and PTM

Dr. Srivastava co-ordinating the panel discussion entitled “Meet your Editors” moderated by Dr. Calvete with panellists Dr. Maxey, Dr. Pandey, Dr. Yates, Dr. Kundu

Dr. Dey presenting a memento to Dr. Karlsson

Dr. Nat Kav honouring Dr. Calvete

Dr. Baker addressing the audience with his plenary lecture on the Human Proteome Project

A parallel session on Biosimilars and Biotherapeutics merged the gap between academicians, industry researchers and regulatory body representatives
Extensive interaction between invited delegates, speakers and participants followed the proceedings of the day.

DECEMBER 9, 2014: MAIN CONFERENCE - DAY 3

The third day of the conference had sessions like “MS & Metabolomics” chaired by Abhijit Mitra & Shantanu Sengupta with a plenary talk by Catherine Costello and talks by Kanury V. S. Rao, Rapole Srikanth and Harsha Gowda. This extended session was later moderated by chairs Koel Chaudhary & Mahesh Kulkarni and included talks by P. Babu, K. Chandrashekar Rao and Bhaswati Chatterjee. Later, on the same day, two parallel sessions on “Microbial Proteomics” chaired by Kanury V. S. Rao & Swati Patankar with talks by Pushkar Sharma, Sanjeeva Srivastava, Peter Nilsson, Pooja Jain and Bhakti Basu ensued and the “Animal & Plant Proteomics” sessions chaired by Nat Kav & Subhra Chakraborty included talks by Nat Kav, Suman Kundu, Sixue Chen, H. V. Thulasiram, Ashok Mohanty and Ravi Kumar Gandham.

The final day of the conference came to an end with the valedictory function where the award winners for poster presentations, art, essay competitions and travel grants were felicitated. Surekha Zingde, president PSI felicitated Sanjeeva Srivastava, the convener of this conference on behalf of the Proteomics Society, India. All the speakers and award winners were taken for a gala dinner at Choki Dhani where they got a glimpse of the Rajasthani traditions and culture.
Dr. Costello delivering a plenary lecture in MS and Metabolomics session

Dr. Kundu addressing the participants in Animal and Plant Proteomics session

Dr. Gowda speaking in the MS and Metabolomics session

Dr. Srikanth speaking in MS and Metabolomics session

Dr. Sengupta felicitating Dr. K. Rao

Dr. Srivastava delivering his lecture in Microbial Proteomics session

Dr. Chen addressing the audience in Animal and Plant Proteomics session

Dr. Dash discussing microbial proteomics with Dr. Nilsson

Dr. Patankar felicitating Dr. Srivastava

Dr. Nilsson delivering his lecture in Microbial Proteomics

Dr. Nat Kav at the venue
The Poster, Essay and Art competitions winners were felicitated by many scientists at the Valedictory Function. Participants of the conference interacted with the invited dignitaries before the session finished, which marked the end of the main conference events.
Cultural and Social Nights: 6th – 8th Dec 2014

6th DEC DANCE PERFORMANCE IN GULMOHAR BANQUET HALL

8th DEC DANCE PERFORMANCE IN CONVOCATION HALL

DR. ZINGIDE FELICITATING DR. TUSHAR GUHA

INDIAN CLASSICAL DANCE FORMS PERFORMED BY NRITYANJALI GROUP ON 6TH DECEMBER

COCKTAIL DINNER PARTY ON 7TH DECEMBER AT “OUT OF THE BLUE”

DR. SRIVASTAVA ADDRESSING THE GATHERING ON CULTURAL NIGHT ON 8TH DECEMBER

CULTURAL PERFORMANCE BY NRITYANJALI GROUP ON 8TH DECEMBER
Cultural and Social Nights: 8th – 9th Dec 2014

Dr. Srivastava felicitating Mr. Terence Lewis

Contemporary and Bollywood dance forms performed by Terence Lewis Dance Company 8th December

Indian village and dinner reception at “Choki Dhani” on 9th December
The post-conference workshops had been organized with the objective to offer a comprehensive educational and hands-on experience on the latest and most sophisticated technologies used in research and industry. These workshops were scheduled for two days, 10th to 11th December and had diverse participation from student, academia and industry personnel alike. Over a vast range of platforms like Gel-Based proteomics, Mass Spectrometry, Targeted proteomics, Label Free technology and Protein Microarray based proteomics have been covered during these sessions.

**GEL - BASED PROTEOMICS WORKSHOP**

This workshop majorly intended to train young researchers with the basic know-hows of the gel-based proteomics platforms that included hands-on training on Cy-Dye labeling of protein samples, isoelectric focussing, SDS-PAGE, gel staining, scanning, and analysis, and different steps of advanced 2D-DIGE technology. The workshop also acquainted the participants with various facets of post-gel electrophoresis work-flow like spot identification, land-marking proteins, and protein identification using MALDI-TOF/TOF analysis.

Over 40 participants were also trained to analyze the outcome of 2-DE and 2D-DIGE gels for differential proteomics analysis. A group of instructors from different countries including Sixue Chen from University of Florida, USA, Jens R. Coorssen from University of Western Sydney, Australia, Rukmini Govekar from Advanced Centre for Treatment, Research and Education in Cancer and Sandipan Ray from Indian Institute of Technology Bombay, India having extensive expertise in various basic and advanced gel-based proteomics technologies, data analysis and interpretation, and scientific writing conducted this workshop.

Additionally, there was active involvements from scientists from different industries, including Karthik Banuchander (Bio Rad Laboratories); Srinivasarao Chennareddy (GE Healthcare); Sivaramaiah Nallapeta (Bruker Daltonics); Aleš Štrancar (BIA Separations); KYV Ramana (PALL Life Sciences) and multiple teaching assistants from IIT Bombay. All in all it was a blend of practical learning and skill developing platform for anyone who wishes to start venturing into gel-based proteomics and resulted into overwhelming feedback from the participants.

The two day gel-based workshop comprised of extensive theoretical as well as practical modules providing a comprehensive overview of the technique.
The Mass Spectrometry workshop was moderated by distinguished scientists from India and USA. The opening lecture for the workshop was delivered by Harsha Gowda, a scientist at the Institute of Bioinformatics, Bangalore. This was followed with a lecture by Rapole Srikanth, a scientist at National Centre for Cell Sciences, Pune. Following his lecture was a demo on iTRAQ labeling by Kishore Gollapalli from Proteomics lab, IIT Bombay. Hands on session on off-gel fractionation and desalting and concentrating peptides were also performed. The first day ended with talks by David Muddiman, a distinguished professor in University of North Carolina, USA and few application scientists - Ashish Pargaonkar & Saurabh Nagpal (Agilent), Sivaramaiah Nallapeta (Bruker) and Rajiv Bharadwaj (Waters). The second day of the workshop included talks from Philip Andrews of the University of Michigan and Catherine Costello from Boston University. The second day also included talks and lab sessions from application scientists Brijesh Pandey (ABSCIEX), Satosh Renuse (Thermo Fisher) and Sebastijan Peljhan (BIA Separations) for latest MS & separation technologies and data analysis. This workshop attended by 40 participants provided much needed basics of mass spectrometry to the participants and was well appreciated.

Targeted proteomics is an emerging and fascinating field of proteomics to quantify the set of proteins in complex biological samples. A two day workshop was conducted to cover this module. The workshop was moderated by Brendan Maclean from Washington University, USA, Mahesh Kulkarni from National Chemical Laboratory, India, Christina Ludwig from ETH Zurich, Switzerland, Meena Choi from Purdue University, USA and Panga Jaipal Reddy from IIT Bombay, India. “Skyline” the software tool used for targeted proteomics was the major focus of this workshop. This was the first time a “Targeted proteomics” workshop has been conducted in India by Brendan and his group. The workshop refreshed the basics of discovery proteomics and provided with an introduction to targeted proteomics (SRM/MMR), SRM assay development and discussed important parameters to be considered for SRM assay and instrumental setup. After an introductory lecture, Brendan spoke on “Skyline” followed by the skyline tutorial (hands-on-experience) where all the students were involved in editing the method directly in skyline. The next tutorial was on “Method refinement” where participants learnt how to import data from different fractions into a single replicate, generating MS/MS spectral library, measuring the peak intensity and picking measurable precursors and transitions. In addition, automated refinement, scheduling the retention time for better acquisition and creating the scheduled transition list were discussed. All the participants had hands-on-session on Triple quadruple mass spectrometry instrument and Progenesis QI software to analyze the label-free data and interacted with all the participants for discussion.

The second day of workshop started with lectures by Mahesh Kulkarni and Meena Choi followed by hands-on-session on MS stats for data quality control and fold change prediction and also on data dependent acquisition (ODA) using skyline. Finally, Brendan conducted hands-on-session on PRM analysis using skyline. Both the days in the evening, application scientists - Ashish Pargaonkar (Agilent), Paul Goulding (Waters), Michael Andersen (Bruker), Santosh Renuse (Thermo Fisher) and Brijesh Pandey (ABSCIEX) gave brief lectures on latest MS instrument and software platforms used for targeted analysis. Skyline training was very well appreciated by approx. 35 participants who attended this workshop.

The two day targeted proteomics workshop comprised of an extensive tutorial on this module which was the first of its kind in India.
Protein microarrays workshop was conducted at IIT Bombay, India with participants from across the country. A total of 36 participants, representing graduate students as well as faculties from reputed universities from the country attended this workshop. Speakers with expertise and diverse knowledge in DNA and protein microarray field contributed immensely in this workshop. Manuel Fuentes, Sudha Narayana Rao, Anuj Gupta, Santosh Noronha, Sanjay Navani and Faiz Abuzar were the honorable speakers who shared knowledge with the participants. Their lectures shed light on various fields of microarray experiments starting from experimental planning, coating of slides, printing of DNA or protein on slide and data analysis. Tips, troubleshooting strategies and experimental procedures explaining methodologies to acquire good quality microarray data were discussed in great detail. Data analysis which is important aspect of microarray experiment was well explained and various examples were discussed for statistical data analysis. Various applications of protein microarrays were explained to the participants and hands-on experiments were conducted for serum screening for auto-antibody detection by Rekha Jain and Shabarni Gupta. Excellent feedback was received from all the participants.

The protein microarrays workshop provided a complete overview of the basic principal, types and applications of microarrays along with experimental hands-on experience followed by data analysis tutorials.
Conference and workshops got good press coverage. Print and electronic media highly appreciated and publicized this event. Event was also live stream on internet and large number of participants were able to participate in conference on internet.

ANNOUNCEMENT FOR UPCOMING SPECIAL ISSUE
We are pleased to announce a special issue “PROTEOMICS IN INDIA” to be published in “Journal of Proteomics”. Full-length manuscript submission is open.
THANKS FOR ATTENDING THE PROTEOMICS CONFERENCE AND WORKSHOPS AT IIT BOMBAY, MUMBAI

Thanks to all the sponsors and partners!

IT WAS
REFLECTIONS PS(I) 2014
Thanks for making it very memorable!