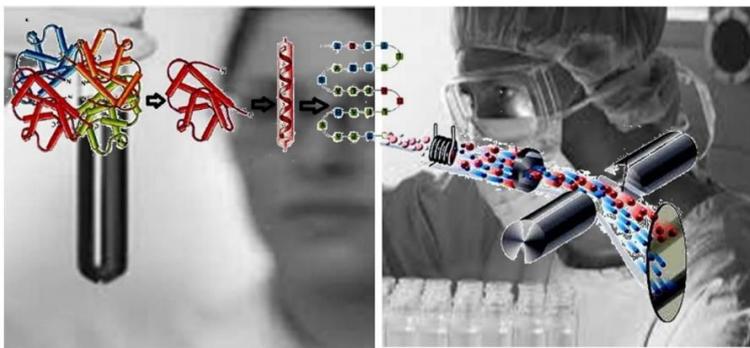


Proteomics Society, India (PSI)

PSI News Letter Vol. 2 (No.3) December 2014

Proteomics in clinics: future vision



**Drawing by Ms. Shimolina Jain: V.E.S. College of Arts,
Science and Commerce, Mumbai**

Editors

Abhijit Chakrabarti

K Dharmalingam

Utpal Tatu

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From the Editors

Dear Members,

The year 2014 has been very busy for the Society and we felt that the best way to end the year would be to bring an “Activity” based issue.

Four workshops were held during the year. This issue presents a glimpse of each of these.

The conveners have promptly sent us information about the workshop—the theme, participants, faculty and most important the outcome. The pictures within the write-ups provide you a glimpse of them all. It is a good feeling that the Society has motivated so many young minds by providing a forum for learning the basics to the state of art techniques in proteomics. Many of the participants were teachers and through them we have reached hundreds of students.

The 6th Annual meeting of the Society was held at IIT Bombay in Dec 2014. Our Convener, Dr. Sanjeeva Srivastava has sent us the highlights and ensured that our members who could not attend the meeting get a birds’ eye view of the proceedings. Do take advantage and read the summary and also log on to the websites for the picture gallery and the abstracts.

We hope you will enjoy the contents.

As usual, we close with a request to send us suggestions for the issues of the News Letters to follow.

*Wishing you all a **A VERY HAPPY NEW YEAR 2015***

With Best Wishes

Editors

PS: Please send your contributions for the News Letter to abhijit.chakrabarti@saha.ac.in

From the President, PSI



Dear Members,

This is the final newsletter for the year 2014.

As we stand at the end of the year before entering 2015, it is a good time to reflect on what we have done in PSI during 2014.

One of our mandates is to create an awareness about Proteomics and to ensure that the latest technologies are taught to students, teachers and researchers embarking on biological queries requiring proteomic tools. Towards this end we have organized four workshops/teacher training programs in Mumbai, Madurai and Hyderabad. The Delhi based PSI members have been conducting 'get togethers' to discuss their research among their groups of students and researchers. Information on these events are given in this newsletter. I invite more members to come forward with ideas for holding such programs.

The event of the year was our 6th Annual Meeting at IITB, Mumbai. We thank our Convener Sanjeeva Srivastava and his team for making this meeting unforgettable. The meeting provided all of us a forum for networking and meeting the who's who in Proteomics and learning about the latest in the different focus areas. Those of you who were unable to attend will get a glimpse of the proceedings in the summary.

During the year we were happy to welcome 62 new members to our Society. However you will note that we are still a small group. I request each member of PSI to encourage their

colleagues and friends to join us. If each one of you brings in one new member we should be able to double our strength in 2015. Looking forward to your support in this mission.

The Society held elections for the vacancies in the Executive Council during the General Body meeting on the 8th Dec 2014 at IITB. We welcome aboard our new members, Dr. Harsh Gowda, Sanjeeva Srivastava, Rapole Srikanth, Suman Kundu and Drs. Subhra Chakrabarty, Niranjana Chakrabarty, Arun Bandopadhyay, Kalpana Bhargava, who were re-elected for the term beginning in Jan 2015.

Wishing each one of you a VERY HAPPY AND WONDERFUL 2015.

With Best wishes

Dr. Surekha Zingde

(President, PSI)

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Proteomic Society, India (PSI)

Members of PSI Executive Council

President: Dr Surekha Zingde

Vice President: Dr Abhijit Chakrabarti

Vice President: Dr Utpal Tatu

Secretary: Dr Shantanu Sengupta

Treasurer: Dr Rakesh Mishra

Jt Secretary: Dr Subhra Chakraborty

Jt Secretary: Dr Mahesh Kulkarni

Members: Dr. Ravi Sirdeshmukh

Dr. M A Vijayalakshmi

Dr Abhijit Mitra

Dr Arun Bandyopadhyay

Dr. K Dharmalingam

Dr. Kalpana Bhargava

Dr Niranjan Chakraborty

Dr Amol Suryawangshi

Dr. T. S. Keshava Prasad

Dr. Suman S. Thakur

Recent Events

“PROTEOMIC TECHNOLOGIES FOR BIOSCIENCES”

25th & 26th August 2014

Convener: Dr Shubhada Nayak, KBP College, Navi Mumbai

A workshop organized by Rayat Shikshan Sanstha’s Karmaveer Bhaurao Patil College (KBP), Vashi, Navi Mumbai in association with Proteomics Society, India and funded by Lady Tata Memorial Trust, Mumbai.

The ‘omics’ science involves global profiling of macromolecules as well as metabolites. The evolution of various high end technologies allowed the utility of this omics approach to understand several biological problems. These technologies are now being taught in colleges across the country. However, several of the teachers do not have the opportunity to understand and appreciate these methods. One approach to solve this problem is to listen to experts who work in these areas. To address this important constraint in effective teaching, **Karmaveer Bhaurao Patil College, Vashi**, had organized a Workshop on “Proteomic Technologies for Biosciences” **in association with Proteomics Society, India** It was a two day workshop in which lectures were held at KBP College, Vashi on 25th August 2014 and some experiments were demonstrated on 26th August 2014 at Advanced Center for Treatment, Research and Education in Cancer, Kharghar, Navi Mumbai. One hundred ninety four participants, including teachers and students attended the lectures on day one and 30 selected teachers visited ACTREC on day two for demonstrations. The teachers belonged to colleges from Mumbai, Navi Mumbai, Bhivandi, Karad, Indore & Gujarat.

At the Inauguration, **Dr. D.B. Thakare, Vice-Principal** and HOD of Microbiology Department, K.B.P. College, welcomed the participants and informed about the importance of the workshop.

Principal of K.B.P. College, Hon. Dr. V.S. Shivankar, informed the audience about the college and its mandates, one of which is Training of Teachers. He expressed the need for teachers to keep updated on the recent trends in biology so that they can teach the students effectively. The Preamble for the Program was delivered by Dr. Surekha Zingde, President, Proteomics Society, India (PSI). In her presentation Dr. Zingde



elaborated on the importance of Human Proteome Project and technological advancements in mass spectrometry, bioinformatics (knowledge base) and antibodies which are now considered the three pillars of Proteomics. She also spoke on the immense contributions of computer modeling and X-ray crystallography in studying protein-protein interactions to understand the proteome. Finally she gave a brief on the lectures to follow and how they form the basic proteomic technologies for any biological research



The first day of the workshop included lectures by 5 eminent speakers with expertise in the field of Proteomics.

Dr. Srikanth Rapole from National Centre for Cell Sciences, Pune, very elegantly described the basic aspects of mass spectrometric techniques used in biological sciences. In addition to the traditional techniques of protein quantification with gel-based approaches, he described stable isotope labeling and label-free methods of mass spectrometry that are used in quantification at the peptide level. He also added that in combination with chromatographic separation techniques, MS is playing an important role in biomarker discovery for various diseases.



Dr. Mahesh Kulkarni from National Chemical Laboratories, Pune, explained the importance of post translational modifications in proteins in his lecture on “Mass spectrometric approaches to characterize post translational modifications”. He described the different mass spectrometry techniques such as collision induced dissociation, electron transfer dissociation, neutral loss scan etc, that facilitate PTM characterization with special reference to characterization of protein glycation in diabetes.



Dr. Sanjeeva Srivastava from IIT, Bombay spoke on “High through put protein array techniques used in biomarker discovery, validation and functional proteomics. He provided an overview of protein microarrays and explained their several applications such as biomarker identification, immunological studies, vaccine development, protein-protein interaction studies and enzyme assays. He shared his findings of the first comprehensive analysis of human meningiomas to identify autoantibody markers using human proteome arrays.



Dr. Geetanjali Sachdeva from National Institute of Research in Reproductive Health, Mumbai described how proteomics is being used for research in reproductive biology. Her presentation “A Proteomic Dive in the Uterine Fluid and Insights into Endometrial Receptivity” made the participants aware of how a biological query can be addressed using proteomic tools. She also showed how the proteins identified in the discovery step have to be functionally validated to understand their role in vivo .



Final presentation on day 1 was by **Dr. Kakoli Bose** from Advanced Centre for Treatment, Research and Education in Cancer, Mumbai. She spoke on- “ Proteomic data bases and their

use for protein-protein interactions”. She began her talk with the basic structures of proteins and went on to explain important hotspots for ligand recognition as well as structural basis of these interactions. She also explained about several relevant biophysical and *in silico* probes along with some Protein-Protein Interaction [PPI] databases that are commonly used to dissect the physiological systems that modulate complex human diseases at the molecular level.



The **day 2** session of the **workshop was held at ACTREC on 26th August 2014**. The day's activities began with talks by two eminent speakers from ACTREC who gave enlightening and informative talks describing the highlights of Proteomics and X-ray crystallography, processing of samples for mass spectrometry and their analysis and demonstrating the range of instrumentation used in proteomic research.

Dr. Rukmini Govekar, opened the morning session by presenting the informative talk on "Analysis driven selection of MS platforms". **Dr. M. V. Hosur** then described in simple terms about "Proteomics and X-ray crystallography".

The **demonstration sessions** were followed by dividing participants into three batches for effective & interactive demonstrations. In the first session **Dr. M. V. Hosur & his team** explained the protocol for preparation of protein crystals & then showed the crystal of lysozyme under the microscope. This was followed by explaining the internal details & working of X Crystallography machine. He also explained data interpretation after crystal analysis and enthusiastically solved queries of participants.



In the second session **Dr. Rukmini Govekar & her team** explained & demonstrated sample preparation for Mass Spectrometer. Using animations they explained internal details & working of MS-MS, MALDI TOF & ESI. They also explained how to interpret MS outputs towards obtaining identity of proteins using search engines such as MASCOT.



The post lunch session was started with a detailed talk cum demo by **Dr. Kakoli Bose's team** on use of Protein databases for proteomic inquiries. Exhaustive demonstration on “Interacting Protein Databases” & “Functional Protein Databases” were presented on the networked computers. Elaborate explanation on applications of various protein databases was also covered. The afternoon session closed with a demonstration on Circular Dichroism Polarimeter, Fluorimeter and Isothermal Titration Calorimeter wherein the internal details & working of these instruments were explained. The team members explained about the applications of the instruments for Proteomics Research.

At the **Valedictory function** many participants shared their critical & unbiased feedback about the Proteomics workshop. Overall, the remarks were very positive and there is a sincere request from all the teacher participants to organize similar workshops. The teachers expressed that they teach several of the techniques covered in this workshop by reading from books and without actually having seen the instruments or undertaking the experiments themselves. Attending this workshop has ensured that they now understand many of the technical details which they can now explain better to their students.

The workshop was formally closed by Dr. Shubhada Nayak, Convener who expressed her vote of thanks to the invited speakers, ACTREC, Lady Tata Memorial Trust and the Proteomics Society, India for helping to make the Proteomic Technologies for Biosciences Workshop a successful event.

CLINICAL PROTEOMICS: METHODS AND APPLICATIONS

10th & 11th October 2014

Convener: Dr. K. Dharmalingam

A Workshop by Proteomics Department, Aravind Medical Research Foundation as a part of the October summit, Madurai.

The workshop on “**Clinical proteomics: Methods and Applications**” was conducted during 10-11th October, 2014 by the **Proteomics Department, Aravind Medical Research Foundation** as a part of the October summit. This workshop was aimed at introducing the young research students to the current state-of-the-art proteomics technologies and its applications, primarily in the area of clinical research. Twenty one participants, all young research scholars pursuing Ph.D from different universities and institutes, took part in this workshop. The workshop was inaugurated by Dr Mohd. Aslam Advisor, DBT, Government of India



Lighting the lamp during inauguration of the Clinical Proteomics Workshop

(from left to right) Dr. Venkatesh Prajna (Clinician Scientist, AMRF), Dr. Jeya Maheshwari (Scientist-Proteomics, AMRF), Dr. P. Namperumalsamy (President, AMRF), Prof. VR. Muthukaruppan (Advisor-Research, AMRF), Dr. Mohd. Aslam (Chief Guest) and Prof. Dharmalingam (Director-AMRF)



Chief Guest Dr. Mohd. Aslam, Adviser, DBT, Govt. of India delivering a speech during the inaugural function of Clinical Proteomics Workshop

Lectures were given by scientists from AMRF and eleven invited speakers namely Dr. Inderjeet Kaur, LVPEI, Hyderabad, Dr. S. Karutha Pandian, Alagappa University, Karaikudi, Dr. Deepalakshmi, IISc, Bangalore, Dr. Santhosh Renuse, Thermosfisher

Scientific, Dr. Ravi Krovvidi, Agilent Technologies Inc., Dr. Shanthanu Sengupta, IGIB, New Delhi, Dr. Suman Thakur, CCMB, Hyderabad, Dr. Mandar Kulkarni, Sandor Life Sciences Pvt Ltd., Hyderabad, Dr. Harsha Gowda, IOB Bangalore, Dr. Karthi Sivaraman, H3Me, Chennai and Dr. Kumaravel Somasundaram, IISc, Bangalore. Some of the participants also presented their research work as posters.

The morning session included a lecture series and the participants got an opportunity to interact with the speakers. The afternoon session was dedicated to providing the participants hands-on training in the data analysis and interpretation of high-throughput proteomics data generated by high resolution Mass Spectrometer Orbitrap Velos Pro with proteome Discoverer. The feedback from the participants highlighted that they would have also liked wet lab training in Proteomics including gel based proteomics and MS.



Participants, speakers and other guests during the first day of the Clinical Proteomics workshop



Group photo of all the participants, speakers, AMRF faculties and organizing team along with Prof. Dharmalingam (Director-AMRF), Dr. Mohd. Aslam (Chief Guest), Dr. P. Namperumalsamy (President, AMRF), Prof. VR. Muthukkaruppan (Advisor-Research, AMRF) [First row from left to right]

The details of the presentations are as follows:

1. Proteomics of Retinopathy of Prematurity - **Dr. Inderjeet Kaur, LVPEI, Hyderabad**
2. Mass Spectrometers as an analytical tool for clinical proteomics- **Dr. Deepalakshmi, IISc, Bangalore**
3. TMT-based multiplexed quantitative proteomics using Orbitrap mass spectrometry- **Mr. Santhosh Renuse, Thermo Fisher Scientific**
4. Profiling of Cell Surface Proteome and Metabolome from an In-Vitro Model System using Agilent Automation and LC/MS Platforms - **Dr. Ravi Krovvidi, Agilent Technologies Inc.,**

5. Analysing the effect of quorum sensing and biofilm inhibitors on human pathogens at proteome level - Gel based proteomic approach- **Dr. S. Karutha Pandian, Alagappa University, Karaikudi**
6. Quest towards identifying potential markers for Coronary Artery Disease- **Dr. Shantanu Sengupta, IGIB, New Delhi**
7. Quantitative high throughput proteomics has potential to improve human health- **Dr. Suman Thakur, CCMB, Hyderabad**
8. The use of LC-MS/MS for rapid detection of carbapenem resistant bacterial infections-**Dr. Mandar Kulkarni, Sandor Life sciences Pvt Ltd., Hyderabad**
9. Transcriptomics and Proteomics in Characterization of Infectious Diseases- **Dr. Karthi Sivaraman, H3Me, Chennai**
10. Proteomic approaches to study glioma-stroma interaction- **Dr. Kumaravel Somasundaram, IISc, Bangalore**
11. Proteomics of Fungal pathogens- **Dr. N.Venkatesh Prajna, Aravind Eye Hospital, Madurai**
12. Proteomics of Glaucoma- **Dr. S.R.Krishnadas, Aravind Eye Hospital, Madurai**
13. Proteomics of Diabetic Retinopathy- **Dr. Kim, Aravind Eye Hospital, Madurai**

WORKSHOP ON ADVANCED PROTEOMICS

25th November - 1st December 2014

A workshop organized by CCMB, Hyderabad, India

Convener: Dr. Suman S. Thakur

CCMB organized a workshop (25th November to 1st December 2014) on Advanced Proteomics, to coincide with CCMB's Foundation Day celebrations on 26th November 2014. The workshop was completed successfully. The Advanced Workshop covered several topics and specifically focused on hands on training on the mass spectrometers, Orbitrap Velos, Q Exactive, LTQ and MALDI. The training during the workshop covered details of the instrumentation of mass spectrometry, sample preparation, in gel (1D and 2D) and in

solution digestion, quantitative proteomics (Label free, iTRAQ and SILAC), interaction proteomics, plant proteomics etc.

Workshop was conducted with the help of several eminent Professors / Scientists.

Thirty participants from all over the India had registered for the workshop. They were from IISc Bangalore, IIT Kanpur, IIT Delhi, Delhi University (North and South Campus), CSIR Laboratories (IICB-Kolkata, IHBT-Palampur,



NEERI-Nagpur, CFTRI- Mysore), CDFD Hyderabad and VIT Vellore. Notably, more than half the participants were faculty and the remaining were post doctoctoral fellows and Ph.D students.

There were five invited talks during the workshop. **Dr. Ravikumar (NIMHANS, Bangalore)** spoke on the application of mass spectrometry in infectious disease. **Prof. Raghavan Varadarajan (MBU, IISc, Bangalore)** gave a lecture on protein model discrimination and structural analysis.

Prof. K. Dharmalingam (AMRF, Madurai) spoke on quantitative proteomics and **Dr. M. Balasubramanyam (MDRF, Chennai)** about proteomics and metabolomics in diabetes. **Prof. Sandhya S. Visweswariah (IISc, Bangalore)** gave an insight of cyclic AMP in Mycobacteria with special reference to the post-translational modification—acetylation..

The participants benefited from the workshop and thanks are due to all the speakers and participants for success of this program.

The 6th Annual Meeting of the Proteomics Society, India.

6th-11th Dec 2014, Indian Institute of Technology, Mumbai

Convener: Dr. Sanjeeva Srivastava, IITB

The 6th Annual Meeting of the Proteomics Society, India (PSI) and International Proteomics Conference on “Proteomics Discovery to Function” scheduled from 7th to 9th December 2014 was held at the Indian Institute of Technology Bombay, India. The pre-conference, conference and post-conference activities scheduled during 6th – 11th December had attracted over one thousand participants. The proceedings of the conference, in total, included several stimulating talks from leading scientists across the world. Parallel session on Biosimilars/Biotherapeutics & Proteomics was organized on 8th December followed by workshop on the same theme on 9th December. A pre-conference Education Day event and Indo-US Science and Technology Forum (IUSSTF) Workshop on 6th December, followed by post-conference proteomics workshops on 10th and 11th December 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 main conference was much awaited by most participants as; this was 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 first day of the conference comprised of three core sessions, namely, Cancer Biomarkers featuring a plenary talk by Dr. Gilbert Omenn followed by talks by Dr. Sudhir Srivastava, Dr. Arun Trivedi, Dr. Chung Ching Ming Maxey; Proteomics of Biofluids session comprising of a plenary talk by Dr. Samir Hanash followed by Dr. Yetrib Hathout, Dr. Abhijit Chakrabarti, Dr. Rudolf Grimm; Proteomics and Systems Biology session with talks by Dr. Brenda Andrews, Dr. Andrew Link, Dr. Sarath Chandra Janga, Dr. Debasis Dash. The second day of the conference included sessions on Mass Spectrometry & PTM had a plenary talk by Dr. John

Yates and other talks by Dr. David Muddiman and Dr. Sanjay Gupta; New MS Approaches containing a plenary lecture by Dr. Catherine Fenselau followed by talks by Dr. Philip Andrews, Dr. Brendan MacLean, Dr. Shantanu Sengupta, Dr. Mark McDowall; Interactomics & Multi-Omics Analysis chaired by Dr. Sharmistha Dey & Dr. Utpal Tatu with talks by Dr. Manuel Fuentes, Dr. Prasanna Venkatraman, Dr. Utpal Tatu, Dr. Robert Karlsson, Dr. Juan Calvete; Human Proteome Project included a plenary talk by Dr. Mark Baker and talks by Dr. Robert L. Moritz, Dr. Ravi Sirdeshmukh, Dr. Sanjay Navani highlighting the respective themes. The third day of the conference had sessions like MS & Metabolomics with a plenary talk by Dr. Catherine Costello and talks by Dr. Kanury V. S. Rao, Dr. Rapole Srikanth, Dr. Harsha Gowda and short oral presentations by Dr. P. Babu, Dr. K. Chandrashekhar Rao, Dr. Bhaswati Chatterjee. Later, on the same day, there were two parallel sessions on Microbial Proteomics with talks by Dr. Sanjeeva Srivastava, Dr. Peter Nilsson, Dr. Deepa Bisht, Dr. Pushkar Sharma, Dr. Pooja Jain, Dr. Bhakti Basu and Animal & Plant Proteomics sessions with talks by Dr. Nat Kav, Dr. Suman Kundu, Dr. Sixue Chen, Dr. H. V. Thulasiram, Dr. Ashok Mohanty, and Dr. Ravi Kumar Gandham.

Besides the main conference activities, a parallel Biosimilars and Biotherapeutics seminar 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. Pharmacopeia and panel discussions added uniqueness to this event. This session featured plenary lectures by Dr. Anurag Rathore, Dr. Mike Boyne and Dr. Constance Sobsey. The involvement of all major pharmaceuticals and regulatory bodies in India made this parallel event an equally great success.

The pre-conference Education day scheduled on 6th Dec 2014 was an attempt to keep up with the pace of current trends and advancements in education system and the need for academic institutions to develop the necessary infrastructure that can provide practical training facilities to learners. This event included several modules like the Gel Based Proteomics Module which was filled with stimulating talks Dr. Jens Coorsen, Dr. Niranjana

Chakraborty and Dr. Subhra Chakraborty. The Mass Spectrometry based Module had interesting talks by Dr. P. Babu and Dr. Sudha Rajagopalan. The module of Label free technologies had talks by Dr. Ed Nice and Dr. Sebastijan Peljhan. The Proteogenomics module had intriguing lectures by Dr. Debashish Dash and Dr. Keshava Prasad. Participants were also given a demonstration of gel based experiments like 2D Gel electrophoresis and mass spectrometry based experiments. The event was graced by the presence of Dr. Mark Baker who spoke on similar initiatives by HUPO to propagate education and awareness amongst budding researchers. The Indo-US Bilateral Workshop entitled “Proteomics for Translational Research” was also scheduled on 6th Dec 2014. Dr. Sanjeeva Srivastava, India and Dr. Philip Andrews, USA served as the joint coordinators for this scientific event. This event involved 31 of the most eminent proteomics researchers from USA and India with a goal to discuss many of the existing technological limitations for the translational proteomics research and make recommendations for the future collaborative research projects to overcome such limitations.

Allied activities like panel discussions addressing some of the recent advances in the field of Biomedical and Proteomics were organized and were open for discussion with the conference participants. On 7th December two such parallel sessions were conducted. The first panel discussion focused on Quest of human proteome and missing proteins with Dr. Akhilesh Pandey as the moderator and Dr. Gilbert Omenn, Dr. Mark Baker, Dr. Robert Moritz and Dr. Sudhir Srivastava as panelists. A parallel panel discussion on Metabolomics & system biology was also conducted with Dr. Abhijeet Mitra and Dr. Kanury Rao as moderators and Dr. Harsha Gowda, Dr. Mahesh Kulkarni, Dr. Rapole Srikanth, Dr. Rudolf Grimm as panelists. A panel discussion entitled “Meet your Editors and Publishers” was conducted on 8th December with Dr. Juan Calvete as the moderator and Dr. Akhilesh Pandey, Dr. Chung Ching Ming Maxey, Dr. John Yates and Dr. Suman Kundu as panelists in parallel to an Author’s workshop conducted by Springer on the same day. 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 Elsevier and Springer.

Apart from the scientific activities, Indian classical evening on 6th December featuring Nrityanjali group, a gala dinner on 7th December displaying Indian popular music, Cultural night on 8th December featuring Terence Lewis Contemporary Dance Company (TLCDC) and Nrityanjali and on 9th December visit to “Chokhi Dhani”, a mirror of Indian village life, provided the national and international delegates a glimpse of the diversity of Indian culture in recent times. These activities rejuvenated the participants after intense 11-hour scientific session each day and served as an ideal break from the busy proceedings of the conference related activities.

The post-conference workshops had been organized with the objective to provide an educational overview along with hands-on experience on the latest and most sophisticated tools used in research and industry by the very scientists pioneering these technologies. 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, Label Free technology, Targeted Proteomics and Protein Microarrays have been covered during these sessions. An endeavor of parallel hands-on proteomics training at this scale has not been attempted in India before and to best of our information anywhere in world.

Thus, the conference and its allied activities, has been a memorable event for the Proteomics community. The success of this event is majorly attributed to all the invited speakers, delegates and participants.

You can connect to the Photo gallery which gives you picture view of the event at the following link: http://www.bio.iitb.ac.in/~sanjeeva/psi2014/?page_id=5960.

The conference proceedings are available at:

<http://jpp.org.in/index.php/jpp/article/view/111/93>

The winners for different events at the 6th Annual PSI meeting at IITB are given below:

Competition Winners

Poster Competitions:

Theme	Poster No.	Name and Topic	Institute
Cancer Biomarkers and Drug Discovery	D-1-12	Tushar More : Metabolomic and Lipidomic Profiling using Mass Spectrometry based approaches towards detection of early disease markers for breast cancer	NCCS Pune
Proteomics of biofluids	D-1-40	Shweta Bhat : Proteomic Analysis of Immune Complexes in Diabetes	National Chemical Laboratory, Pune
Proteomics and systems biology	D-2-09	Siddhart Nimkar : Characterizing the role of Cas 3 helicase domain in CRISPR-Cas interference	Indian Institute of Technology Guwahati
Mass Spectrometry and PTM	D-2-23	Pragya Barua : Dynamics of chick-pea phosphorylome reveals shared and distinct proteins, and identifies Ca DREPP1 that functions in stress adaptation	National Institute of Plant Genome Research, New Delhi
New approaches in MS	D-2-30	Debika Datta : Investigation into the role of amphiphilicity in A β 16-22 self-assembly	Indian Institute Of Technology , Guwahati
Interactomics , Microarrays and Label-free and Human Proteome Project	D-2-42	Padma Nanaware : Discovery of interacting partners of gankyrin, an oncogenic non-ATPase subunit of the proteasome- Evidence for common hotspot sites of interaction	TMC- ACTREC, Navi Mumbai

Interactomics , Microarrays and Label-free and Human Proteome Project	D-2-49	Madugundu A.K: Human proteome map portal as a resource of high- quality mass-spectrometry derived data to study the expression of proteins across human tissues	Institute of Bioinformatics, Bengaluru
MS Application and Metabolomics	D-2-53	Sandip Patel: Metabolomics analysis of Plasmodium vivax and Plasmodium falciparum Induced alterations in humans to decipher disease pathogenesis	Indian Institute of Technology Bombay
Microbial Proteomics/ Metabolomics	D-3-24	Panda Bandita : Stress Responsive proteome dynamics in cyanobacterium <i>Anabena</i> sp. Strain PCC7120	Bhabha Atomic Research Center Mumbai
Plant and animal proteomics	D-3-27	Divya Mishra: CaTLP1 promotes vegetative growth in plants and enhances stress tolerance through ABA-dependent signaling.	National Institute of Plant Genome Research, New Delhi

Art Competition:

Reg. No.	Name and topic	Institute
827	Ms. Shimolina Jain: Proteomics in clinics: future vision	V.E.S. College of Arts, Science and Commerce, Mumbai
184	Mr. Bodhisattwa Saha: Proteomics journey from 1990 – 2020	Bose Institute, Kolkata
8	Ms. Apoorva Venkatesh: Proteomics in clinics: future vision	IIT Bombay
5	Mr. Vishnu Pandey: Proteomics in clinics: future vision	IIT Bombay
287	Ms. Lalita Limaye: Proteomics in clinics: future vision	Bhavans College, University of Mumbai

Essay Competition:

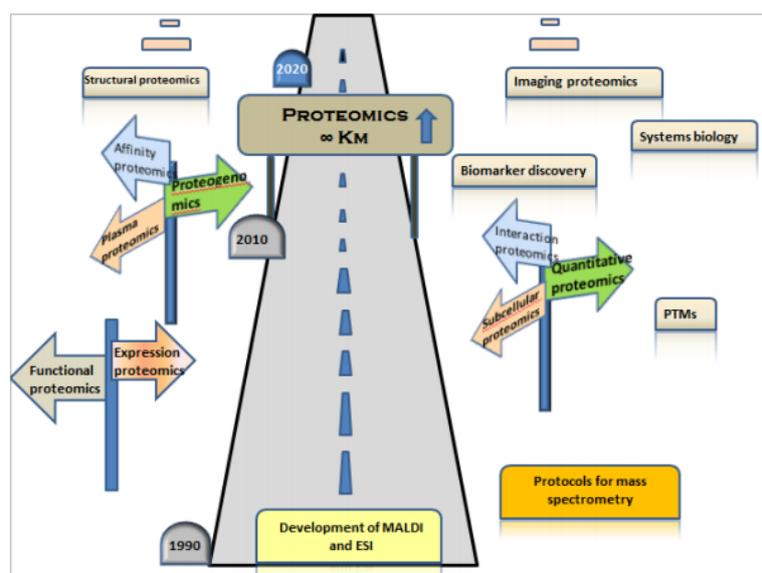
Reg. No.	Name and topic	Institute
184	Mr. Bodhisattwa Saha: Biomarker pipeline: Challenges vs Failures	Bose Institute, Kolkata
9	Ms. Shabarni Gupta: Integrated Personalized Omics in Clinics : Hope or Hype	IIT Bombay
538	Ms. Shuvolina Mukherjee: Biomarker pipeline: success vs. failure	IIT Bombay
270	Mr. Mohd Yasser: Draft human proteome map: where are the missing proteins?	ACTREC, Navi Mumbai
544	Ms. Amruta Bhawe: Proteomic assays for clinics: vision 2020	IIT Bombay

Travel Awards:

Reg. ID	Name	Institute	Poster
691	Mr. Ajay Bhat	CSIR-IGIB, New Delhi	Molecular mechanism of Cysteine induced toxicity using <i>Saccharomyces cerevisiae</i> as a model system
571	Mr. Sourav Roy Choudhury	Indian Institute of Technology, Kharagpur	Serum lipidomics study in women with polycystic ovarian syndrome (PCOS) using mass spectrometry
210	Ms. Rupsi Kharb	Institute of Genomics & Integrative Biology, New Delhi	Proteomics of induced Arthritis in Female Lewis rats by M1 type of Group A <i>Streptococcus</i> (GAS)
39	Mr. Arunkumar Venkatesan	National Institute for Research in Tuberculosis, Chennai	PknI, a serine/threonine protein kinase interacts with Rv2159c of <i>Mycobacterium tuberculosis</i>
241	Dr. Toyanji Joseph	University of Delhi South Campus, New Delhi	Functional analysis of SNPs in Dopamine- β -Hydroxylase gene by genotype-phenotype correlations
563	Mr. Karan Karkra	CBST, VIT, Vellore	Conjoint Methacrylate Monolithic IMAC: Plasma Proteome
793	Ms. Swati Varshney	CSIR-IGIB, New Delhi	Identification of metabolic markers in CAD using an untargeted LC-MS based metabolomics approach
451	Ms. Jasmine Naru	Punjab University, Chandigarh	Differential Proteomic Profile In HPV Positive Retinoblastoma Using Two-

			Dimensional Difference Gel Electrophoresis (2D-DIGE): A Pilot Study
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Proteomics journey from 1990 – 2020



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