

Proceedings of the Fourth Annual Meeting of Proteomics Society, India:

The Fourth Annual Meeting of Proteomics Society, India (PSI) was held at CSIR-National Chemical Laboratory, Pune during November 22-24, 2012. As part of this event an International Symposium on "Proteomics beyond IDs." was organized. The objective of the symposium was to provide a platform to discuss new developments in proteomics, especially involving proteomic characterization including quantitation, post translational modifications, localization, protein-ligand interactions, etc. The symposium covered various themes; Quantitative and Functional Proteomics in human diseases, Activity based proteomics, Proteome mapping and Post translational modifications, Plant Proteomics and Proteogenomics, Chemical and Structural proteomics, and New developments in mass spectrometry and proteomic technologies. Each theme had about 4-5 speakers of international repute both from India and abroad.

The symposium started with welcome remarks by Dr. Sourav Pal, Director, CSIR-National Chemical Laboratory, Pune, Dr. Vidya Gupta Chair, Biochemical Sciences Division, Dr. K. N. Ganesh, Director IISER, Pune, Dr. S. Sivaram, former Director, CSIR-NCL, and Dr. Ravi Sirdeshmukh, Distinguished Scientist, Institute of Bioinformatics, Bangalore and President, PSI. This was followed by a keynote lecture on "Mass spectrometry of proteins and peptides" by Professor Balaram, Director, Indian Institute of Science, Bangalore. The session was concluded with acknowledgements by Dr. Surekha Zingde, Deputy Director, Cancer Research Institute, ACTREC, Navi Mumbai.

The first scientific session of the symposium was on "Quantitative and Functional proteomics in Human Diseases" where in Dr. Ravi Sirdeshmukh described integrated view of using various omics approaches in study of glioblastoma. Prof Ed. Nice, Director, Monash Antibody Technologies, Australia, spoke on discovery and validation of novel biomarkers using targeted proteomics approaches for colorectal cancer. Dr. Abhijit Chakrabarti, Saha Institute of Nuclear Physics, Kolkata, presented his work on differential protein expression in hemoglobinopathy and thalassemia. Dr. Don Jones, University of Leicester, UK, briefed about chemoprevention using quantitative proteomics in his lecture. Dr. Abdul Jaleel, Rajiv Gandhi Center for Biotechnology, Trivandrum, made a presentation on role of protein aging in type 2 diabetes.

The second session was on "Activity and chemistry based proteomics", where Dr. Rainer Bishoff, presented information on quantitative protein analysis of MMP-9 in bronchoalveolar lavage fluid of patients who have undergone lung transplantation. Dr. Shantanu Sengupta, Institute of Genomics and Integrative Biology, Delhi, discussed proteomic profiling in Vitamin B12 deficiency condition. Dr. Sunil Adav from Nanyang Technological University, Singapore spoke on quantitative secretomic analysis of *Trichoderma reesei* strains. Prof. B.C. Harinath, Mahatma Gandhi Institute of Medical Sciences, Sevagram, presented his studies on Mycobacterial Secretary Proteome.

The second day of the symposium started with a session “Proteome mapping and Post translational modifications”. The highlight of this session was a plenary lecture on “A draft map of Human proteome” by Prof. Akhilesh Pandey, from Johns Hopkins University, USA. This was followed by lectures from Prof. Newman Sze (Nanyang Technological University, Singapore); Prof. Karine Roch (University of California, Riverside, USA); and Dr. Kameshwar Rao (Defence Research and Development Establishment, Gwalior). Prof. Sze discussed post-translational modifications for diagnosis and elucidation of molecular mechanisms of disease. While Dr. Roch spoke on Global Mapping of Histone modifications in *Plasmodium falciparum* and Dr. Kameshwar Rao, discussed the post-translation modifications in Ricin.

The second session of the second day was on “Plant and Microbial Proteomics”. The speakers of this session were Prof. Asaph Aharoni, Weizmann Institute of Science, Rehovot, Israel; Prof. Ales Svatos, Max Planck Institute for Chemical Ecology, Germany; Prof. Anil Kumar, Banaras Hindu University, Varanasi; and Prof. Renu Deswal, Delhi University, New Delhi. Prof. Aharoni elaborated the usefulness of proteomic and metabolomics technologies in chemical genetics screens, while Prof Svatos discussed the quantitative and qualitative approaches in plant proteomics. Prof. Anil Kumar made a presentation on systems biology of a *Rhizobacterium* using, proteomic and phenotypic approaches and Prof. Deswal presented a lecture on nitric oxide (NO) based Post-translational modifications (PTM's) under cold stress.

The next session was on “New developments in mass spectrometry and proteomics” and the speakers of this session included mainly application scientists from Mass spectrometry companies. Dr. Ron Bonner, ABSCIEX, Canada briefed about SWATH Acquisition for quantitative proteomics, Dr. Mark Mcdowell, Waters MS Technologies, UK, discussed Traveling-Wave Stacked Ring Ion Guided technology for Electron Transfer Dissociation and Ion Mobility Separations, Prof. Markus Macht, Bruker, Germany presented Integrated proteomic approaches using MALDI and ESI, and Prof. Sham Nal, Agilent, Europe discussed High-Throughput Quantitation approach for Biomarkers discovery and Dr. Andreas Hummer, Thermo Fischer Scientific, Germany highlighted the Impact of High-Performance Mass Spectrometry on Biological Research.

The last day of the symposium began with a session on “Structural and chemical proteomics and protein interaction”. Prof. Anthony Wilkins, University of York, UK, summarized the discovery of inhibitors against a malaria and leishmania target involving chemistry and protein crystallography; Dr. Kaushik Chakraborty, IGIB, New Delhi, described the role of Chemical chaperone assisted intracellular folding to buffer mutational variations; Dr. Chaitanya Saxena, SHANTANI, Pune briefed about Incremental Innovations in Chemical Proteomics Space. This session was followed by a session on Protein interactions. Prof. Karl Anderson, Upsala University, Sweden provided information on Real-time protein interaction assays on living cells; Prof. Desh Deepak Singh, Indian Institute of Advanced Research, Gandhinagar unravelled the systems to study interactome; Dr. R. Srikanth, NCCS, Pune, discussed the role of copper in Microglobulin amyloid formation as studied by Mass Spectrometry.

The meeting was attended by 374 delegates. There were 93 poster presentations which were viewed between the main themed sessions. The last session comprised

of presentations by Best poster Awardees, followed by distribution of Best poster and Travel Awards.

A pre-conference one day workshop on "Tutorial on proteomics workflow" was conducted on the 21st November 2012. During this workshop the participants were given an overview of proteomics and demonstrations for 2DE, DIGE, nano and CHIP LC, label free quantification, iTRAQ, MALDI imaging and post translational modifications by scientists and specialists from different companies for proteomic equipment.

Convenors, 4th Annual Meeting of PSI
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