

REGISTRATION FORM

GIAN-PROTEOMICS COURSE

(CEP-MHRD-IIT BOMBAY)

PROTEOMICS: Quantitative and Trans-proteomic Analysis

10th to 19th December 2015

NAME (BLOCK LETTERS) : Dr./Mr./Mrs./Ms. _____

ACADEMIC QUALIFICATION/BRANCH: _____

ORGANIZATION: _____

MAILING ADDRESS: _____

EMAIL: _____

MOBILE NUMBER: _____

QUALIFICATIONS : _____ EXPERIENCE : _____ Yrs.

PAYMENT: D.D. No.: _____ Dt. _____ Rs. _____

[Demand draft should be drawn in favor of "Registrar, IIT Bombay (CEP A/c)".]

Signature of the Applicant

Date

Announcement

GLOBAL INITIATIVE OF ACADEMIC NETWORK

Theme: PROTEOMICS: Quantitative and Trans-proteomic Analysis

10th to 19th December 2015



Course Coordinator: Dr. Sanjeeva Srivastava
Associate Professor

Department of Biosciences and Bioengineering
Indian Institute of Technology Bombay
Powai, Mumbai 400076

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INTRODUCTION

Proteomics is defined as the complement of proteins expressed by the genome, including the set of all protein isoforms and modifications in a given cell at a given time. The proteome is highly dynamic and governs various life processes in an organisms. The domain of Proteomics has benefitted immensely from emerging proteomics technologies which are capable of rapid and accurate screening of thousands of proteins. These find tremendous applications in multidisciplinary research and are largely responsible for propelling proteomics in several areas of modern life-science research. With these rapidly evolving technological platforms, there is a need to keep pace with latest developments in field to explore their versatile applications.

In this light, the Global Initiative of Academic Networks (GIAN) in Higher Education aims to apprise students of the latest developments in upcoming domains of interdisciplinary research, as proteomics. Through this course, we aim to provide an interface between distinguished scientists involved in advanced proteomics research and students. This course would feature an intensive lecture series followed by some demonstrations which would provide the much needed training required for students to explore the endless possibilities in Proteomics research. This 10 day long lecture and practical course series would provide a cutting-edge experience of modern quantitative and targeted proteomic technologies and trans-proteomic pipeline platform.

PROTEOMICS:
Quantitative and Trans-Proteomic Analysis
10 to 19 December 2015, IIT Bombay

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Dr. Robert Moritz
Institute of Systems Biology, USA

Dr. Sanjeeva Srivastava
Course Coordinator
IIT Bombay, India

Dr. Selkanth Rapole
NCS Pune, India

Dr. Mahesh Kulkarni
NCL Pune, India

Course Information:

- * 10 Days Course
- * 2 Credits
- * 2 Modules (TPP & Quantitative Proteomics)
- * Lectures & Hands-on Sessions

For Registrations:

Please contact:

CEP Office cep@iitb.ac.in Ph: 022-25767060	Dr. Sanjeeva Srivastava sanjeeva@iitb.ac.in Ph: 022-25767779
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Mass Spectrometry

Trans-Proteomic Pipeline

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graph LR; A[MS Convert] --> B["X!Tandem  
SpectraST  
Sequest  
Mascot"]; B --> C["Peptide  
Prophet  
iProphet  
PTMPProphet"]; C --> D["ASAPratio  
XPRESS  
Libra"]; D --> E[Protein Prophet]; E --> F["SBEAMS  
PIPUS2"];
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	Duration: Ten days: 10 to 19 December 2015 (No. of participants for the course will be limited to fifty)
Who may benefit	This course is designed for last year of Bachelor's/ M.Tech / M.Sc / PhD students of Life science, Biology, Medicine (with special interest), who are likely to be benefited by learning the fundamental aspects of proteomics and the latest technology, faculty members and Research Associates are also welcome. This is an excellent opportunity for the participants to learn details of fast growing field in life sciences.
Fees	Full course (10 to 19 December 2015; both modules, 2 credits): Rs. 2000-fees for students (academic institutions) Rs. 10000-fees for industry participants Module-I: Trans-Proteomic Pipeline (10 to 14 December 2015, 1 credit) Rs. 1000-fees for students (academic institutions) Rs. 5000-fees for industry participants Module-II: Quantitative Proteomics using Mass Spectrometry (15 to 19 December 2015, 1 credit) Rs. 1000-fees for students (academic institutions) Rs. 5000-fees for industry participants 14.5% service tax applicable Additionally, participants have to pay for their hostel accommodation fees in IIT (subject to the availability of hostel).

COURSE COORDINATORS

Dr. Sanjeeva Srivastava

Principle Coordinator
Associate Professor
Indian Institute of Technology
Bombay

Dr. Mahesh Kulkarni

Scientist
National Chemical Laboratory, Pune,
India

Dr. Robert Moritz

Professor
Institute for Systems Biology, USA
Vice President, Human Proteome
Organization (HUPO)

Dr. Srikanth Rapole

Scientist
National Center For Cell Sciences,
Pune, India

THE FACULTY



Dr. Sanjeeva Srivastava, Course Coordinator

Dr. Srivastava is Associate Professor and Group Leader of Proteomics Laboratory at the Indian Institute of Technology Bombay India. Dr. Srivastava is recipient of several awards including the National Young Scientist Award (Canada), Young Scientist Awards (India) and the Apple Research Technology Support Award (UK). Recently he was awarded the excellence in Teaching Award – 2014 at IIT Bombay. His group has developed E-learning resources such as Virtual Laboratory as a community resource and is collaborating actively both across India and internationally advance this knowledge frontier for the benefit of global health.



Dr. Robert Moritz, Invited International Scientist

Dr. Moritz, is the Professor and Director of Proteomics Research at ISB. He has designed and implemented a number of technologies such as TPP, PeptideAtlas, SRMATlas, currently used in many proteomics laboratories across the globe. He is continuing that work at ISB by expanding the ISB proteomics centre into a national facility with online tools for data analysis. Recently he was appointed as Vice-president of Human Proteome Organization (HUPO)



Dr. Mahesh Kulkarni, Invited National Scientist

Dr. Mahesh Kulkarni is scientist at CSIR-National Chemical Laboratory Pune. He obtained his Ph.D. from University of Agricultural Sciences Bangalore. He was post-doctoral fellow at CCMB, Hyderabad and Genome Institute of Singapore. His area of research is chemic proteomics, mass spectrometry, diabetes and aging.



Dr. Srikanth Rapole, Invited National Scientist

Dr. Srikanth is working as a scientist at NCCS, Pune. His main research interest is to quantitatively identify the protein signatures involved in human diseases, including cancer, using mass spectrometry-based proteomic approaches. In addition, his group is also working to identify and quantify key metabolites and lipids associated with human diseases using mass spectrometry and bioinformatics. He has received best paper award from CSIR in physical sciences. Recently, he received the DBT-Rapid grant for young investigators award.

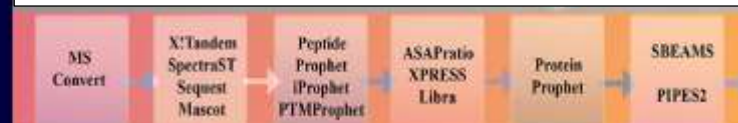
VENUE

Course will be held at the Victor Menezes Convention Centre, IIT Bombay.(Room number 13, 1st Floor)

COURSE OBJECTIVES

Module: Trans-proteomic pipeline (Dr. Robert Moritz)

Proteomics overview: Why Trans-proteomic pipeline?
PeptideProphet for statistical validation, InterProphet and PTMProphet, An overview of XPRESS, ASAPRatio and Libra for TPP, Kojak - Protein Cross-linking, SRM and SWATH targeted proteomics, Proteome Resources – PeptideAtlas, SWATH analysis of Modifications, Advanced analysis of proteomics data, Advanced SWATH Resources



Module: Quantitative & Targeted proteomics (Drs. Srivastava, Srikanth, Kulkarni)

Basics of mass spectrometry and Label-free proteomic techniques, MALDI-TOF/TOF for the PMF and MS/MS analysis, Quantitative proteomics using iTRAQ, PTM studies using Mass Spectrometry, Case studies: studying glycosylation and phosphorylation using MS, Targeted proteomics applications for glycomics, Application of quantitative proteomics, Metabolomics using LC-MS & GC-MS, Multi-Omics and Systems medicine.

