

INTERACTOMICS: *High-throughput Technologies to Study DNA and Protein Interactions*

Feb 24 – 28, 2018

OVERVIEW

Interactomics is the study of a network of interactions. Interactomics utilizes bioinformatics approach along with the experimental data. Interactions resulting from protein-protein, protein-peptide, protein-RNA, protein-DNA or protein- small molecule have immense application in life-sciences and translational biology. With the rapidly evolving technological platforms, there is a need to keep pace with latest developments in field to explore their versatile applications. Through this five day long course, we aim to provide an interface between distinguished scientists involved in advanced interactomics research, industrial partners, faculties and students. This course would feature an intensive lecture series followed by some demonstrations/ hands-on sessions designed to provide the much needed training required to explore the endless possibilities in genomics, proteomics and interactomics research that can be useful for a researcher at any stage.

The primary objectives of the course are as follows:

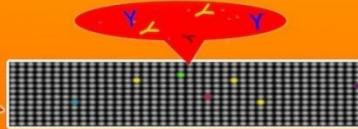
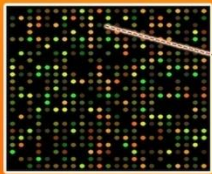
- i) To expose participants concepts of proteomics and interactomics
- ii) Provide exposure of high throughput platforms of interactomics: Protein arrays & Surface Plasmon Resonance
- iii) Provide examples of clinical applications to expose participants applicability of using latest technologies such as mass spectrometry and next generation sequencing.

Modules	Module-I: Protein microarray based platforms: Reverse Phase Protein Array (RPPA) Technology, Nucleic Acid Programmable Protein Array (NAPPA) Technology, Tissue Microarray Technology Module-II: Label-free biosensors: Surface Plasmon Resonance (SPR), Bio-Layer Interferometry (BLI) Module III: Recent advanced technologies: Mass Spectrometry coupled interactomics, Next-Gen Sequencing Technology
You should attend if	This course is designed for the students or young faculty members having interest in Life science and Medical research. Faculty members and participants from engineering backgrounds may also benefit from the exposure of latest interactomics/ proteomics technologies SPR, BLI, MS, NGS etc. This course will provide an excellent opportunity for the participants to learn details of fast growing OMICS field in life sciences.
Fees	The course registration fees are as follows: Participants from abroad: US \$500/- Industry/ Research Organizations: INR: 20000/- Academic Institutions/ Faculty/ NGO: INR: 8000/- Students & Research Scholars: INR: 3000/- The above mentioned registration fee is inclusive of: all instruction materials, reagents and laboratory equipment usage charges, internet facility. Participants should bring their own laptop for data analysis. The participants may be provided with accommodation on additional payment towards accommodation charges.

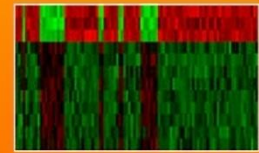


INTERACTOMICS

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Protein Microarray

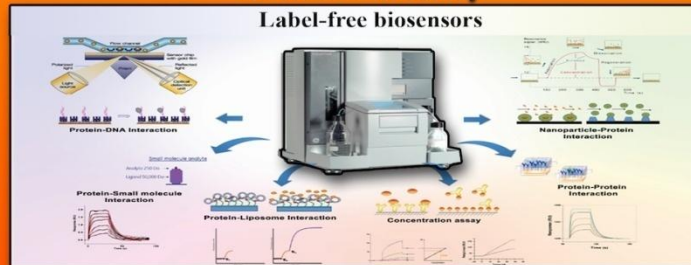


INSTRUCTOR



Dr. Joshua LaBaer
Executive Director, Biodesign Institute
Director, Biodesign Center for
Personalized Diagnostics
Arizona State University, USA

Label-free biosensors



INSTRUCTOR



Dr. Sanjeeva Srivastava
Associate Professor, Proteomics Laboratory
Department of Biosciences & Bioengineering,
Indian Institute of technology Bombay,
Mumbai, India

SPEAKERS



Dr. Ramesh Ummanni



Dr. Sanjay Navani



Dr. V. Prasanna

Contact :-

TELEPHONE:
+91 22 2576 7779

WEBSITE:
<http://www.bio.iitb.ac.in/~sanjeeva/massfiitb>

EMAIL:
massfiitb@gmail.com

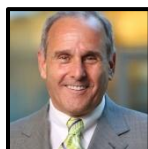
The Faculty

Dr. Sanjeeva Srivastava, Course Coordinator



Dr. Srivastava is an Associate Professor and Group Leader of Proteomics Laboratory at the Indian Institute of Technology Bombay India. His group has developed E-learning resources such as Virtual Laboratory as a community resource and is collaborating actively both across India and internationally to advance this knowledge frontier for the benefit of global health. He has conducted highly successful proteomics courses and workshops on targeted proteomics, trans-proteomic pipeline, microarrays, surface Plasmon resonance and mass spectrometry.

Dr. Joshua LaBaer, Invited International Scientist



Dr. LaBaer is the Director of Center for Personalized Diagnostic at the Biodesign Institute, Arizona State University. His work focuses on the discovery and validation of biomarkers - unique molecular fingerprints of disease - which can provide early warning for those at risk of major illnesses, including cancer and diabetes. His major research interests include finding drug and vaccine targets for bio-defense pathogens, disease biomarker discovery, Estrogen resistance in breast cancer, protein microarray technology and protein interaction mapping, and DNA-damage checkpoint regulation.

Dr. Ramesh Ummanni, Invited National Scientist



Dr. Ummanni is a Research Scientist at Indian Institute of Chemical Technology, Hyderabad, India. His group is actively pursuing investigations in understanding disease mechanisms and suitable drug targets specific to different solid tumors. His group is also working towards identifying new molecular entities against reverse transcriptases with anti-viral activities.

Dr. Prasanna Venkatraman, Invited National Scientist



Dr. Venkatraman is a Principal Investigator at TMC, ACTREC. Her group is interested in the general understanding of the mechanism of cellular homeostasis both in health and in disease. Emphasis is to understand the molecular details of protein-protein interactions and deciphering the code buried in the language of communication between the proteasome and the vast and diverse family of proteins within the cell.

Dr. Sanjay Navani, Invited National Scientist



Dr. Navani is a surgical pathologist at Lab Surgpath in Mumbai. He is a part of the Swedish Human Protein Atlas (HPA) program that has been set up to allow for a systematic exploration of the human proteome using Antibody-Based Proteomics. The vision is to systematically generate quality assured antibodies to all non-redundant human proteins, and to use these reagents to functionally explore human proteins, protein variants and protein interactions. The data is publically available and presented as high resolution images of immunohistochemically stained tissues and cell lines (www.proteinatlas.org).

Course Coordinators

Dr. Sanjeeva Srivastava
Principal Coordinator
Associate Professor
Indian Institute of Technology
Bombay, India
Tel: +91-22-2576 7779
Email: sanjeeva@iitb.ac.in

Dr. Joshua LaBaer
Director
Center for Personalized
Diagnostic,
Biodesign Institute,
Arizona State University, USA

Dr. Ramesh Ummanni
Research Scientist
Indian Institute of Chemical
Technology,
Hyderabad, India

Dr. Prasanna Venkatraman
Principal Investigator
TMC-ACTREC,
Kharghar, Navi Mumbai, India

Dr. Sanjay Navani
Surgical pathologist
Lab Surgpath
Mumbai, India

**GIAN Short Term Course on
INTERACTOMICS**

24th – 28th February 2018

REGISTRATION FORM

Name (in block letters): _____

Qualification: _____

Designation: _____

Organization: _____

Mailing Address: _____

Mobile: _____

Fax: _____

Email: _____

Payment Rs: _____

IIT Guest House/ Hostel accommodation required (will be provided as per availability and on a payment basis): YES / NO (Please contact the course co-ordinator for the availability details).

Signature of Applicant: _____

Date:

Venue for Classes

Classes will be held in *Seminar Room, VMCC, IIT Bombay*

Lecture Notes

To fully realize the objectives of the course, the lecture notes will be made available at the time of registration at IIT Bombay.

Date & Time of Registration:

24th February 2018, 8.45 AM at Registration Desk, VMCC, IIT Bombay.

COURSE FEE

Participants from abroad: US \$500/-

Industry/ Research Organizations: INR: 20000/-

Academic Institutions/ Faculty/ NGO: INR: 8000/-

Students & Research Scholars: INR: 3000/-

The above fees include all instructional materials, laboratory usage charges, free internet facility. Participants should bring their own laptop for data analysis.

Subject to availability, the participants will be provided with accommodation on payment basis. This payment will be made separately by the participant at the accommodation venue.

The course fees have been paid by (Please tick appropriate option)

- (i) Logging in at <https://portal.iitb.ac.in/ceqipapp>. You will have to create a login ID, look up this course and fill up a registration form. After approval of the faculty co-ordinator, you can pay the fees.

OR

- (ii) Demand draft drawn in favour of **“The Registrar, IIT Bombay - CEP Account”**. **If payment is by DD, please furnish the following details:**

- (iii) DD No.: _____ Dt: _____

All completed registration forms with bank transaction details may be mailed to: Proteomics Lab, 304, Department of Biosciences and Bioengineering, IIT Bombay, Powai, Mumbai 400076