

ABOUT THE SPEAKERS



Dr. Balaji Iyer (Ph.D., IIT Bombay)
Assistant Professor, Chemical Engineering,
IIT Hyderabad

Research interests: Soft condensed matter,
Multi-scale modelling and simulation,
Biomimetics and intelligent materials



Dr. Satyavrata Samavedi (Ph.D., Virginia Tech)
Assistant Professor, Chemical Engineering,
IIT Hyderabad

Research interests: Polymeric biomaterials,
Controlled drug delivery, Stem cell differentiation,
Immunomodulation



Dr. Lopamudra Giri (Ph.D., University of Iowa)
Assistant Professor, Chemical Engineering,
IIT Hyderabad

Research interests: Systems biology,
Bio-chemical engineering, Drug design and
pharmacogenomics

ABOUT IITH

IITH started functioning in August 2008. Currently it has 2374 students in total and offers undergraduate programs in 9 disciplines, M.Tech in 16 disciplines, M.Sc. in 3 disciplines, M.Phil program in 5 disciplines, M.Des program and Ph.D. in all engineering, science, liberal arts and design. IITH is in its 10th year and has 185 faculty members. It recently achieved 9th rank among the top universities and educational institutes in India (NIRF).

4-DAY WORKSHOP ON

BIOMIMETICS & BIOLOGICAL SOFT MATERIALS

(Biomimetic systems, Soft matter, Hierarchical organization, Self-assembly, Ligand-Receptor Interactions, Bio-transport)

**Includes hands-on wet-lab sessions,
simulation tutorials & case studies**

SPONSORED BY TEQIP

27th – 30th June 2018

Indian Institute of Technology Hyderabad



Conveners

Dr. Satyavrata Samavedi & Dr. Balaji Iyer

**Department of Chemical Engineering
Indian Institute of Technology Hyderabad
NH-65, Kandi, Sangareddy, Medak,
Hyderabad, Telangana 502285**

ABOUT THE WORKSHOP

Objective: The objective of this workshop is to provide exposure to fundamental scientific concepts from various disciplines as they apply to biomimetics and biological soft matter. This interdisciplinary 4-day workshop will cover exciting topics that lie at the interface of materials, soft matter, biology and chemical engineering. Special emphasis will be given to the use of physical approaches to understand bio-soft matter.

Sessions: The sessions will cover biomimetic systems, biological soft matter, hierarchical organization motifs, principles of self-assembly and biological transport.

Application: Specific applications include biomimetic design, soft materials for protein/cell delivery, hydrogels for tissue engineering and hierarchical modeling in soft matter systems.

Outcome: The primary outcome of the workshop will be to learn key principles that will enable the design, creation and mimicry of soft materials that can interact with, and influence biological systems.

COURSE CONTENTS

- Soft matter solutions, Biomimetics and self-assembly, Biological membranes, Natural polymers, Hydrogels, Surface effects, Protein structure/hierarchy/folding/function, Biological transport and Ligand-receptor interactions
- Hands-on wet-lab sessions, simulation tutorials and case studies

INTENDED PARTICIPANTS

The workshop is intended for faculty, research scholars and students from academia and relevant industries interested in the areas of soft matter, biomimetics and bioengineering. No prior knowledge of the area is expected. The maximum number of participants will be 24. On successful completion of the course, participation certificate will be awarded.

REGISTRATION FEES

There is no fee for participants from *TEQIP*-sponsored colleges. Nominations along with registration forms should be sent through the coordinator to biosoftmatter@iith.ac.in. For participants from Non-*TEQIP* institutions, the course fee is INR 15,000.

The registration form can be downloaded from:
[<https://www.iith.ac.in/teqip/upcoming/Biosoft/index.html>]

All payments should be made in any of the below two modes:

1. Demand Draft in favour of 'IIT Hyderabad', payable at Hyderabad.
2. Electronic Fund Transfer (Recommended):

Name of the Bank: State Bank of India

Branch: IIT Kandi (Branch code: 14182), Hyderabad, India

SWIFT Code: SBIN0014182

Account Number: 30859878032 (Current A/c)

ACCOMMODATION

Limited accommodation is available within IITH premises. Participants who wish to avail this facility are advised to write to the coordinators at the earliest (biosoftmatter@iith.ac.in). CGR Manjeera, Redlas Inn, Hotel Janapriya and Pankaj Palace are some hotels/lodges near the IITH campus.

IMPORTANT DATES

Application deadline: 13th June 2018

Participant intimation: 15th June 2018

Workshop dates: 27th-30th June 2018

Contact:

**Dr. Satyavrata Samavedi &
Dr. Balaji Iyer
(biosoftmatter@iith.ac.in)**

Volunteers:

**Dhivya V (Ph: 8124467646)
Ajinkya A (Ph: 8985748526)**