



# भारतीय प्रौद्योगिकी संस्थान गुवाहाटी Indian Institute of Technology Guwahati

Two-Day Symposium



# Biomicrofluidics

19<sup>th</sup> and 20<sup>th</sup> February, 2021

**In Virtual mode**

Conducted by :  
Department of Mechanical Engineering

Organized by :  
Knowledge Incubation for TEQIP  
Centre for Educational Technology  
URL: <http://www.iitg.ac.in/cet>



## ABOUT THE COURSE

Biomicrofluidics is an emerging field at the cross roads of microfluidics and life sciences. Microfluidics is been referred to be a game changer in biological science and industry. A great deal of research is been done in recent times in microfluidics, with microfluidic devices being capable of outperforming their traditional counterpart. The development of microfluidics and its capability in depicting complicated phenomenon in several areas of fluid dynamics, biological science, and molecular physics is been largely attributed to the furtherance in micro- and nano fabrication techniques. Microfluidics finds wide application in biological and chemical studies. With the reduced size, small volume of liquid reagents are required to perform complicated chemical reaction. A pathological microfluidic device used for determining blood glucose level requires only a small amount of blood for monitoring the glucose level of the patient. The faster reaction time in microfluidic device helps in studying the behavior of larger bio-molecules such as DNA with a lower coefficient of diffusion.

## SPEAKERS AND TITLE OF THE TALK

**Prof. Gautam Biswas (IIT Kanpur):** Understanding flow dynamics, viability and metastatic potency of cervical cancer cells using Microfluidics

**Prof. Suman Chakraborty (IIT Kharagpur):** Medical Diagnostic Technologies for Resource-Limited Settings

**Prof. Amit Agrawal (IIT Bombay):** Development of state-of-the-art bio-microdevices

**Prof. Ashis Kumar Sen (IIT Madras):** Acoustofluidics for handling droplets and cells

**Prof. Siddhartha S. Ghosh (IIT Guwahati):** Biologic Microfluidic Devices in Cancer Research

**Prof. Dipankar Bandyopadhyay (IIT Guwahati):** Electrorheology of Micro or Nanoscale Soft-Assemblies

**Prof. Pranab K. Mondal (IIT Guwahati):** Introduction Survival of a sessile coughed and sneezed droplet in atmospheric conditions: An analysis from the perspectives of COVID-19 pandemic

**Prof. Amaresh Dalal (IIT Guwahati):** Migration of Hydrogel Drug Carriers through Constricted Microchannel Resembling Blood Microcapillary

## **ELIGIBILITY**

The course is open to faculty members/students from **TEQIP mapped Institutions/Engineering Colleges/ATUs**. No course fee is charged.

## **IMPORTANT DATES**

The last date for the receipt of duly sponsored application:

**Through google form: scanned copy: 15/02/2021**

<https://forms.gle/p25m3kpZgiTJCnCs9>

**Intimation of selection through email: 16/02/2021**

## **SELECTION CRITERIA**

Number of seats: 50.

Selection will be based on First cum first served basis. Participants from TEQIP-III mapped institutes will get preference.

## **ADDRESS FOR CORRESPONDENCE**

Dr. Amaresh Dalal

**Department of Mechanical Engineering**

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## **ABOUT TEQIP**

**TEQIP** conceived in pursuance of the NPE-1986 (revised in 1992) by Govt of India as a long term program to be implemented in different phases. After successful execution of TEQIP II, TEQIP III starts from 2017-18 as Central Sector Scheme with a focus on the Low Income States, Northeast, Hill States and Islands. The third phase of TEQIP is also special in a way that it incorporates twinning arrangements between mentee & mentor institutions with an emphasis on Focused Training (PT) and Focused Interventions from IITs in terms of deliverables and accountability. KIT, established at IIT Guwahati under 2<sup>nd</sup> phase of TEQIP is a focal point for training Faculty, Staff and students from TEQIP-III institutions in Knowledge Engineering, Content Creation, Improving Teaching, Pedagogy & administrative skills in identified niche areas/disciplines.

## **ABOUT KIT**

KIT (**K**nowledge **I**ncubation **C**ell for **TEQIP**) at IIT Guwahati functions as a multi-disciplinary as well as interdisciplinary Innovation Incubation Centre with a focus to impart Knowledge, infusing innovation and leading a path to achieve academic excellence. Its activities are in the area of improving quality of technical education, incubator of Innovative Ideas; implementer of contemporary pedagogy practices and development of Learning Content in Technical institutions while mentoring them.

## **ABOUT IIT GUWAHATI**

IIT Guwahati campus is spread over a sprawling 785 hectares plot of green land on the north bank of the river Brahmaputra around 25 km from the heart of the city. With hills and vast open spaces, the campus provides an ideal setting for training. Details on how to reach IITG Campus are available on the institute website

**Website: [www.iitg.ac.in](http://www.iitg.ac.in)**

# IIT GUWAHATI

**Application Form for Attending TEQIP-III Online Short-term Course on**  
(please send the filled-up application by **email** to the course coordinator)

Title of Course: \_\_\_\_\_

\_\_\_\_\_

Name of Course Coordinator: \_\_\_\_\_

Dates of the Online course: \_\_\_\_\_

1. Name (block letters):

2. Sex:         Male         Female

3. Category:  General         Reserved

4. Highest Academic Qualification:

5. Specialization:

6. Designation & pay scale:

7. Name of the organization:

8. Experience (in years):

(a) Teaching:

(b) Industrial:

9. Address for communication:

Pin code:

Mobile No.:

E-mail:

Place:

Date:

*Signature of the applicant*

## SPONSORSHIP / NOMINATION CERTIFICATE

Prof/Dr./Mr./Ms./Mrs./ .....

.....

is an employee of our institute and his/her application is hereby sponsored/nominated. The applicant is permitted to attend the short-term course “ \_\_\_\_\_ ”

at IIT Guwahati during \_\_\_\_\_ if selected.

I also certify that our institute/college is under the “Institution List” of 3<sup>rd</sup> phase of TEQIP Project of MHRD.

Date

Signature of Authority

Designation

Official Seal

Selected participants will be informed by e-mail. The duly sponsored/nominated application form should be sent by email to the course coordinators