

School of Health, Environment and Sustainability Studies (SHESS), TCG CREST University
invites applications for admission to

SIGNATURE COURSE IN

Bioanalytics in Healthcare

An interdisciplinary course exploring the science, technologies and innovations transforming healthcare diagnostics.



7-21 DEC 2026

45 HOURS THEORY

30 HOURS FIELDWORK

IN-PERSON

25 SEATS

COURSE OVERVIEW

Bioanalytics in Healthcare is an **interdisciplinary course** exploring technologies and scientific principles underpinning modern healthcare diagnostics.

Participants will explore how **sensing technologies**, **micromachining** and **nanotechnology**, **microfluidics**, **quantum technology**, and **artificial intelligence** are transforming healthcare diagnostics particularly in point-of-care and resource-limited settings.



WHAT THE COURSE CONNECTS

Sensing

Healthcare sensors and diagnostics

Principles

Core physical & analytical concepts

Nanotechnology

Micro/nanoscale fabrication

Microfluidics

Small-scale fluid handling

Artificial Intelligence

AI-enabled diagnostics

WHY THIS COURSE?

Truly Interdisciplinary

Global faculty bring expertise across C-MEMS/C-NEMS, diagnostics, MRI, biosensors, lab-on-chip and clinical medicine.

Learn. Discuss. Build.

Sensing, microfluidics, nanotechnology, quantum technology and AI connected directly to real-world diagnostics and frugal healthcare.

Extreme Point-of-Care Focus

Explore accessible, affordable and resource-efficient diagnostic technologies for democratisation of health.

Technology Meets Healthcare

Research discussions, brainstorming and proposal development help participants turn knowledge into practical healthcare solutions.

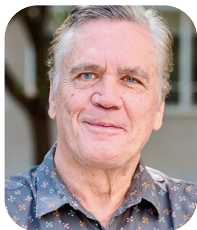
WHO THIS IS FOR

Engineering or science background, including postdoctoral researchers, postgraduate and PhD students, industry professionals, and physicians.

Learn from Experts. Innovate for Impact.



COURSE DIRECTOR



Prof. Marc Madou

International Visiting Fellow, SHESS | Distinguished Professor Emeritus, Department of Mechanical & Aerospace Engineering, UC Irvine | Distinguished Professor, Instituto Tecnológico y de Estudios Superiores de Monterrey (Tec) | NAI Fellow

COURSE COORDINATOR



Dr. Soma Roy

Assistant Professor, SHESS | Chemical Biologist specializing in Nucleic Acid Research | PhD, Indian Institute of Science, Bangalore | Former Ramanujan Fellow, IIT Guwahati

COURSE INSTRUCTORS



Dr. Mallar Ray

Research Professor, Nanotechnology and Semiconductor and Research Group, School of Engineering and Sciences, Tecnológico de Monterrey, Mexico



Dr. Erwin Fuhrer

Assistant Professor, Indian Institute of Technology, Guwahati



Prof. (Dr.) Satadal Saha

Dean, School of Health, Environment and Sustainability Studies | President, Foundation for Innovations in Health | Former Professor, SMST, IIT KGP



Dr. Gaurav Chauhan

Research Professor, Nanotechnology and Semiconductor and Research Group, School of Engineering and Sciences, Tecnológico de Monterrey, Mexico

SHAPE THE FUTURE OF HEALTHCARE

Build the knowledge and skills to pursue opportunities across the rapidly evolving healthcare innovation landscape, including:

- Medical device and diagnostic industries
- Biomedical R&D and Public Health research institutions
- Health-tech startups and point-of-care innovation ecosystems

SCAN THE QR CODE TO LEARN MORE AND APPLY



**Apply before
10th October
2026**