



MEDICAL TRANSLATIONAL RESEARCH FROM BENCHTOP TO BEDSIDE

Department of Biotechnology

February 24, 2025 - March 07, 2025

Delhi Technological University, Delhi -110042

Course Overview

This course introduces key concepts in biomedical engineering, material science, and chemical engineering, aiming to address the growing demand in the medical device industry. The course "Medical Translational Research from Benchtop to Bedside" aims to bridge the gap between the clinicians and basic scientists, equipping the next generations of scientists with essential skills in biomaterials, testing, commercialization, and startup development, providing practical insights for taking medical innovations from the lab to clinical application.

Who Should Attend this Course?

- Executives, engineers, and researchers from chemical and biological sciences and engineering industries, service and government organizations including R&D laboratories involved in medicine (hospitals), medical devices, and biomedical engineering. Students at all levels (B.Tech./M.Sc./M.Tech./Ph.D.) or faculty from academic and technical institutions.

Course Objectives

The primary objectives of the course are as follows:

- i) Translational research and the development of a global perspective on interdisciplinary issues (biology, materials science, chemistry and engineering) involved in biomaterials.
- ii) Host reaction to biomaterials and their evaluation
- iii) Biological testing of biomaterials (*in vitro* and *in vivo*)
- iv) Applications of biomaterials
- v) Commercialization and legal aspects of biomaterials
- vi) Importance of teamwork and effective communication of ideas

Registration Fee

The participation fees (including GST@ 18%) for taking the course is as follows:

- Participants from abroad: US \$ 100
- Industry/ Research Organizations: Rs. 2360 /-
- Academic Institutions (Faculty): Rs. 1180 /-
- Research Scholars/students: Rs. 590 /- (Rs. 295 /- for SC/ST students)

The registration fee should be paid through NEFT only as per the details given below.

Name of Beneficiary	Registrar, DTU Receipt A/c
Bank Account No.	30875679275
Bank name	State Bank of India
Branch Name	Delhi College of Engineering
IFSC Code	SBIN0010446
Branch Code	10446
MICR code	110002438
Swift code	SBININBB776
Type of Account	Current A/c

Course Contents

- Properties of biomaterials (metals, ceramics, polymers)
- Surface modifications and characterization
- Biomimetic and hemocompatible materials
- Biocompatibility and biofilm formation
- Applications and failures of medical devices
- Regulatory compliance and commercialization
- Grant writing and scientific presentation skills

After successful payment of the requisite participation fee, the participants are required to fill the google form using the following link (or) Scan QR code to complete the registration process.



<https://forms.gle/8z1d9DsPk8apo1jh6>

Last Date of Registration: January 31, 2025

The shortlisted participants will be informed through e-mail. The above fee includes all instructional materials, laboratory equipment usage charges, computer usage for tutorials and assignments. The course fee does not include boarding and lodging. The paid hostel/ guest house accommodation may be provided on **first come first serve basis** with prior request.

External Expert



Prof. Hitesh Handa is an Associate Professor and Distinguished Faculty Fellow in the College of Engineering at the University of Georgia, with extensive experience in both academic and industrial settings. He is also the founder and Chief Scientific Officer of two medical device startup companies. His research focuses on developing medical device coatings to prevent thrombosis and infection, leveraging his expertise in materials chemistry, surface engineering, molecular interactions, and the use of animal models for testing biocompatibility and hemocompatibility.

Dr. Handa's innovative work has secured over \$10 million in funding, resulting in more than 100 publications, and led to 35 patent applications. His research is supported by the National Institutes of Health (NIH), the US Army, the Centers for Disease Control and Prevention (CDC), and various industrial grants. He has received numerous awards, including the NIH Career Development Award, the Fred C. Davison Early Career Scholar Award, the Innovation Fellow Award, UGA's Entrepreneur of the Year, UGA's Research Excellence Award, and UGA's Creative Research Medal. Recently, he was elected as a Senior Member of the National Academy of Inventors (NAI).

With his extensive experience in surface science, polymeric coatings, blood-surface interactions, and animal models, Dr. Handa aims to bridge the gap between engineers and clinical researchers in the field of biocompatible materials.

Course Coordinator



Prof. Yasha Hasija is the Head of the Department of Biotechnology at Delhi Technological University (DTU). She has significantly advanced the field of biotechnology through her teaching, research, and leadership. She has published over 150 research articles and review papers, with her work cited 1,565 times, holding an h-index of 18 and an i10-index of 28. She has authored and edited notable books in Biotechnology and Bioinformatics.

Dr. Hasija has been recognized with prestigious awards, including the Department of Science and Technology Award for attending the Lindau Nobel Laureates' meeting, and the Human Gene Nomenclature Award at Montpellier, France. She has received DTU's Research Excellence Awards consecutively from 2018 to 2024. As a Project Investigator, she has led research projects funded by DST, CSIR, and DBT. Her research focuses on genome informatics, systems biology, and machine learning applications in healthcare.

Patron

Prof. Prateek Sharma
Hon'ble Vice Chancellor
Delhi Technological University

Contact Details

Course Coordinator

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Need assistance?

Feel free to reach out to us for any queries or support. We're here to help!



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