BIOSOC

PLACEMENT BROCHURE 2025-2026

DEPARTMENT OF BIOLOGICAL SCIENCES AND BIOENGINEERING

Message from HOD

Amitabha Bandyophadyay

KENT chair for entrepreneurship & innovation
Professor-in-charge, Startup Incubation and Innovation Centre

The **Department of Biological Sciences and Bioengineering, IIT Kanpur** is delighted to invite you to this year's placement session. Since its inception, our department has been dedicated to training students and conducting high-quality research in various aspects of bioengineering, including biomaterials, tissue engineering, bioinformatics, and medical device development.

Our students at IIT Kanpur, especially those in the BSBE Department, undergo a rigorous **interdisciplinary curriculum**, including courses in statistics, basic sciences, computing, electronics, engineering, professional communication, and humanities. Our academic curriculum provide them with exceptional flexibility to prepare for diverse careers in academia, industry R&D, entrepreneurship, consulting, software development, business analysis, and investment.

Recent government investments in MedTech and Biotechnology, along with institutional development, highlight the sector's growth potential. The department is dedicated to preparing students with a strong engineering foundation and multidisciplinary education to excel in the industry and drive growth in this dynamic field.

Biological Sciences and Bioengineering Department

Mehta Family Centre of Engineering and Medicine

ABOUT US

Since its establishment in 2001, the department has been pioneering research and education in Biological Sciences and Bioengineering with distinguished faculty, cutting-edge research facilities, and vibrant graduate community. BSBE hosts excellent ongoing research and academic courses for students in molecular and structural biology, biomaterials, tissue engineering, Optical imaging, immunology, bioinformatics, and neuroscience build a strong foundation in core bioengineering in students.

Owing to ongoing large-scale impact bioengineering projects, collaboration, the establishment of dedicated centers, and strong academic programs, BSBE has evolved to become a seat of innovation.

Gangwal Medical School

Animal Facility

Notable Achievements

COLLABORATIONS

- Collaboration with Laurus Labs on gene therapy.
- BSBE faculty members lead a project for an indigenous artificial heart - LVAD
- During the COVID-19 pandemic, we developed products ICU ventilator, oxygen plant, and N-95 grade face masks.

PATENTS

- Breakthrough in disaggregating and solubilizing synthetic polypeptides.
- Development of a drug screening process and formulation for Huntington's disease.
- Creation of a novel fly tumor model for drug screening.

RESEARCH

- Elastomeric biodegradable antioxidant polymer for cardiac tissue patches.
- Nanoparticle-based drug delivery system for niclosamide and combinations.
- Successful sustained delivery of potential osteoarthritis therapy.

Centers & Ongoing Projects

2012

Creation of the Bioincubator

2017

Bio-Nest (15 crore) BIG (30 crore)

2019

MFCEM (USD 2.5 Million)

2019

- EMI/EMC Testing Facility (15 crores)
- Medical Device Rapid Prototyping Facility (5 Crore)

2020-21

- NOCCARC Ventilator
- N-95 masks
- Oxygen Plant

2022

- Gangwal School of Medical Sciences and Technology
- ICMR Centre of Excellence for Medical Devices (15 Crore)
- Handheld Mobile X-Ray (5 Crore)
- LVAD (Flagship Project of GSMST)
- Biodesign PROGRAM WITH KGMU (10 Crore)

SKILLS

RESEARCH

- Biomaterials
- Protein Biochemistry
- Developmental Biology
- Microscopy & Imaging
- Microbiology
- Neurobiology
- Biophysics
- Structural and Computational Biology
- Genetic engineering
- Tissue engineering
- Oncology

COMPUTATIONAL

PyMOL

TensorFlow

node JS

tableau

R

SQL

JS

TECHNICAL

- Super-resolution microscopy
- Single-molecule imaging
- Flow Cytometry
- Cryo-Electron Microscopy
- X-ray Crystallography
- Biosensor design
- High throughput screening
- Polymerase Chain Reaction
- AAV gene therapy
- Electrophysiology

Curriculum

Core

Tech

Past Recruiters

Industrial

BlackRock
gsk
accenture
AMERICAN EXPRESS
Trellix
Rakuten Mobile
AXIS BANK
SUN PHARMA
BAIN & COMPANY
pwc
publicis sapient
Daiichi-Sankyo
Jio
Standard Chartered
citibank
INTAS
fm
Abbott

Academics

NUS National University of Singapore
Aalto University
Karolinska Institutet
HARVARD MEDICAL SCHOOL
Caltech
Georgia Tech
Heidelberg UNIVERSITY
UNIVERSITY OF OXFORD
JOHNS HOPKINS UNIVERSITY
UNIVERSITY OF CAMBRIDGE
WISCONSIN
LUDWIG-MAXIMILIANS-UNIVERSITÄT MÜNCHEN LMU

Collaborators

SERB INDIA

Department of BioTechnology, Government of India

LAURUS Labs
Knowledge . Innovation . Excellence

Sponsors

BAYER

Department of Sciences & Technology Government of India

icmr
INDIAN COUNCIL OF MEDICAL RESEARCH

PPMD

wellcome trust DBT
INDIA ALLIANCE

Distinguished Alumni

Dr. Neel Prabh
Application Expert
Evotech, Germany

Meenal Srivastava
Research scientist
Veeda clinic, Bengaluru

Anuj Kumar
Application Manager,
Genetix Biotech, Bengaluru

Shammodip Roy
Principal Engineer
Stryker, United States

Noman Ullah Khan
Senior Research Scientist
Mankind Pharma, Haryana

Vivek Kumar
Associate scientist,
Kashiv Biosciences, Ahemdabad

Dr. Paritosh Prashar
CSO.
Boltzmann Labs, Bengaluru

Dr. Anubhava Das
Senior Post doc, APC
Microbiome, Ireland

Dr. Syandan Chakraborty
Principal Scientist
NAVERIS, United States

Dr. Anushree Seth,
Principal Scientist
Auragent Bioscience, US

Aniket Bangroo
Reserach Scientist
Biofusion Therapeutics,
Telangana

Deepak Kumar
Head Of Operations
Signicent LLP

Dr. Gargi Mishra
Postdoctoral Researcher
University of Washington

Dr. Viren Sardana,
Principal Scientist
IGIB, Delhi

Sandeep Kumar
Research Scientist
Phool.co, Kanpur

Research Focus

Regenerative Medicine

Drug discovery

Diagnostics

Musculoskeletal disorders

Metabolic disorders

Neurological & psychiatric disorders

Cancers

Infectious diseases

Gene therapy

Medical Devices

Drug delivery

Research Facilities

Cryo EM Facility

Experimental Animal Facility

GLP Facility

3D Bioprinting Facility

Confocal Microscopy Facility

Research Areas and Faculty Expertise

Dr Amitabha Bandyopadhyay, Skeletal Biology Lab
We study the patterning and differentiation of developing limb skeleton

Dr Jonaki Sen, Developmental Neurobiology
Gene regulatory networks involved in patterning and neuronal differentiation of the forebrain

Dr Pradip Sinha, Fly Lab
We study Drosophila to uncover the cellular and molecular basis of human diseases like cancer, innate immunity, and diabetes

Dr Arun Kumar Shukla, GPCR Biology Lab
Investigating the structural basis of activation and signaling of selected non-canonical GPCRs

Dr Bushra Ateeq, Molecular Oncology Lab
Exploring the genetic and epigenetic changes that drive cancer and it's progression.

Dr Appu Kumar Singh, Singh Lab
Decipher the structure and function of therapeutically important membrane proteins using cryo - EM

Dr Sai Prasad Pydi, Signaling Lab
Exploring the physiological role of GPCR signalling pathways in obesity and type 2 diabetes

Dr Nitin Gupta, Neural System Lab
Using flies and mosquitoes to understand the neural circuits that govern behavioural preferences to smells.

Dr Arjun Ramakrishnan, Decision Lab
Investigate decision-making to understand the effects of stress and mental health conditions

Dr Debanjan Dasgupta, Systems Neuroscience
Investigate complex brain circuits to uncover the mechanisms behind normal and diseased behaviours, focusing on sensory perception

Dr Saravanan Matheshwaran, Microbial Adaptation and Chromatin Dynamics Lab
Microbial Adaptation, Chromatin Dynamics , Stress Response and Antimicrobial Resistance (AMR)

Dr Suresh Kumar, Autophagy Lab
Mechanisms of autophagy in cancer and SARS-CoV-2 infection, focusing on membrane dynamics

Dr Subramaniam Ganesh, Human Molecular Genetics Lab
Deciphering cytogenic changes in neurodegenerative disorders, stress responses, and ageing

Dr Shanu Jain , Liver Metabolism Lab
Investigating GPCR signalling mediated regulation of liver metabolism in health and disease, emphasizing fatty liver, steatohepatitis, and fibrosis

Research Areas and Faculty Expertise

Dr Santosh Misra, BioMedHS Lab
Developing biosensors for oral microbiota and muscle weakness, detecting severity of the disease and using stem cell therapy to assist hair follicle and muscle regeneration

Dr Dhirendra Katti, Tissue engineering
We develop biomaterial-based technologies for drug delivery and regenerative medicine

Dr Ashok Kumar, AK Biolabs
Development of new generation of cryogel biomaterials, smart polymeric and nano materials towards biomedical engineering applications

Dr Ashwani Thakur, Amyloid Lab
We study protein aggregation, including polyglutamine, cataracts, and plant seed amyloids

Dr Anusmita Sahoo, Vaccine Development Lab
We create viral vaccines with computational biology emphasizing immunological interactions

Dr Jayandharan Rao, Molecular Genetics and Therapeutics Lab
We use engineered AAV viruses for gene therapy in treating monogenic disorders

Dr Rakesh Majhi, Tissue Restoration Lab
We study ion channels, immunology, reproduction, organelle dynamics, and cancer immunotherapy

Dr Dibyendu K. Das, Single Molecule Biophysics and Virology
Our focus is single molecule imaging to study virus life cycles and immune system evasion during infection

Dr Nitin Mohan, BioResolution Lab
We use advanced microscopy to study microtubule control of lysosomal transport and its role in disorders

Dr Sai Chaitanya Chiliveri, BioNMR Lab
We study host-pathogen interactions and therapeutics using a multidisciplinary approach, including NMR spectroscopy

Dr Robert Sonowal, MiMeTics Lab
Understanding the role of commensal microbiota and their metabolites and developing them as therapeutics

Dr Hamim Zafar, Cosmic Lab
We use machine learning and models to study cellular interactions in cancer and development with single-cell sequencing.

Dr R. Sankararamakrishnan, Bioinformatics
We use bioinformatics for membrane protein function and identify novel biomolecule interactions with quantum chemistry

Research Areas and Faculty Expertise

Dr Debdeep Dutta,Development & Disease Biology Lab
We study genetic, cellular and molecular mechanisms that drive developmental processes.

Dr Sivaprakash K Ramalingam, SPR Lab
We study advanced genome engineering techniques to manipulate genome sequence and develop innovative therapeutic strategies.

Dr Nikunj A Bhagat, Neural Engineering & Motor Rehabilitation Lab

Neuro-technologies that integrate with the nervous system focused on brain-computer/machine interfaces, electrical stimulation, neurorehabilitation, sensors and instrumentation.

CONTACT US

AMITABHA BANDYOPADHYAY

HOD - BSBE Department

ASHWANI KUMAR THAKUR

Faculty Coordinator - BSBE Department

TANUJA KALELI

Overall Coordinator
BioSoc
tanujakk21@iitk.ac.in

TANEYA GUPTA

Department Placement Coordinator
taneyag24@iitk.ac.in

GARVIT DIGARWAL

Overall Coordinator
BioSoc
eeshwarijs22@iitk.ac.in

ADVAITH KANNAN

Overall Coordinator
BioSoc
advaith21@iitk.ac.in

VINYAS D SAGAR

Department Placement Coordinator
vinyasds24@iitk.ac.in