

Department of Biotechnology

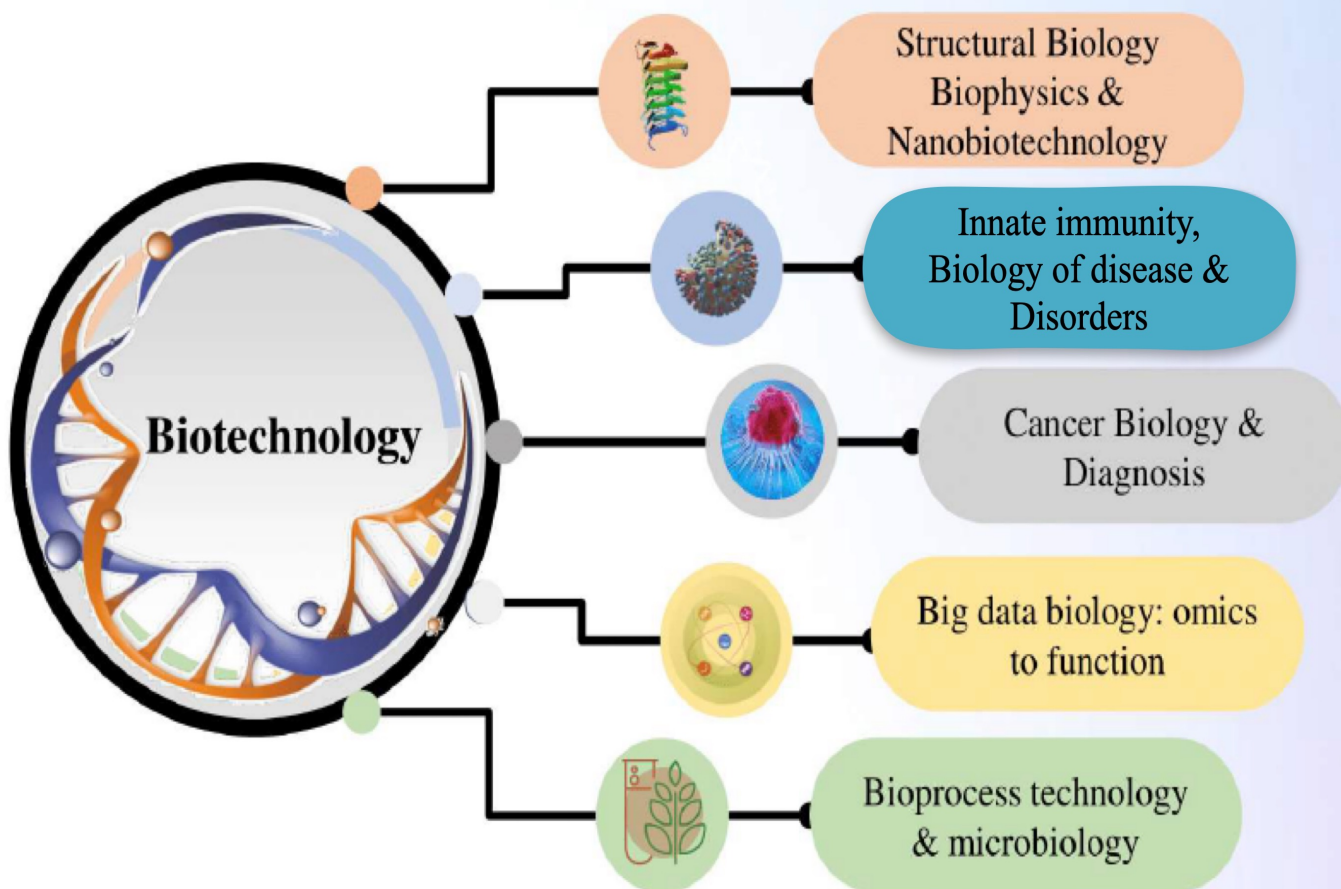
Indian Institute of Technology Hyderabad



Ph.D. Admissions Brochure [July 2025]

भारतीय प्रौद्योगिकी संस्थान हैदराबाद
Indian Institute of Technology Hyderabad

Website: <https://biotech.iith.ac.in/>



Department of Biotechnology

(Overview)

The Department of Biotechnology, established in 2010, offers outstanding research programs in the frontier areas of Biotechnology encompassing both applied and basic research spanning various experimental and computational frontiers. Research activities in the department are funded by national agencies such as DBT, DST, ICMR, CSIR, etc.

The mission of the Ph.D. program is to develop a new generation of scientific leaders with scientific vigor, critical thinking, ethics, and multitasking managerial skills to thrive in the fast-paced technology-driven industry and academia. We foster innovations through cutting-edge technologies and interdisciplinary research.

For more details visit: <https://biotech.iith.ac.in/>

Research Areas open for the July 2025 round

Applications are invited from suitably qualified & motivated candidates for admission to the Ph.D. program in the Department of Biotechnology, IITH, in the following research areas:

Computational Labs

Research Areas	Faculty
Computational microbial 'omics; Biomolecular interaction prediction using machine learning	Dr. Thenmalarchelvi Rathinavelan https://people.iith.ac.in/tr/Home.html
Computational genomics and transcriptomics, AI for precision medicine, RadioGenomics, Image processing, predictive biomarkers in cancer, neurodegenerative disorders, epigenomics, genome wide drugs and CRISPR/sh-RNA screens.	Dr. Rahul Kumar https://people.iith.ac.in/rahulk/index.html
Biomolecular modeling and simulations, DNA Nanotechnology, Nanoparticles interaction with biological matter, Lipid-DNA interaction, Computational biophysics, Computational Virology.	Dr. Himanshu Joshi https://sites.google.com/view/molecular-simulation-lab
Computational biology, bioinformatics, Transcriptomics / proteomics / metabolomics data-driven & machine-learning models, Biological networks, Metabolism, Parasitology & Immunology	Dr. Abhishek Subramanian https://sites.google.com/bt.iith.ac.in/comp-bio-abhishek/home
Artificial Intelligence and Machine Learning, Software Development for Drug Discovery, Protein-Protein, Protein-Ligand Interactions, Chemoinformatics, Bioinformatics and Health Informatics, Computational Quantum Chemistry, Non-covalent interactions.	Dr. G. Narahari Sastry https://gnsastry.com/
Microbial genomics, Evolutionary biology, Microbial diversity, Plant Genomics, Plant metagenomics, Microbiome, Plant-microbe interactions, Computational biology, prediction webservers.	Dr. Gaurav Sharma https://sites.google.com/view/sharmaglab/

Research Areas open for the July 2025 round

Applications are invited from suitably qualified & motivated candidates for admission to the Ph.D. program in the Department of Biotechnology, IITH, in the following research areas:

Wet labs/Experimental Labs

Research Areas	Faculty
Biofuels, Biochemicals, Biomaterials, Nanobiotechnology, Bioprocess technology, Downstream processing, Hydrothermal Liquefaction, Waste valorization and Circular economy.	Dr. Althuri Avanthi https://sites.google.com/bt.iith.ac.in/integratedbioprocessstechnology/home
Investigating disease/toxicity mechanisms using in-vivo zebrafish models. Structure-function relationship of membrane protein using patch-clamp electrophysiology.	Dr. Anamika Bhargava https://csl.biotech.iith.ac.in/
Characterization of cancer drug targets, Epigenetics, and DNA repair, Drug/inhibitor design, Vaccine design, X-ray crystallography, Biophysics and biochemistry, Computational biology, phase separation and hydrogel design.	Prof. Rajakumara Eerappa https://www.rajlab-bt-iith.com/
Molecular Mechanisms of innate immunity and inflammation regulation in health and diseases, Human Inflammasomes, Nucleic acid sensors, Innate immune sensors and Cancer	Dr. Savita Devi
Chromosome dynamics and genetic disorders, single-molecule imaging, chromatin remodeling, cancer therapy target aurora kinase B, cell division, gene regulation, advanced fluorescence microscopy.	Dr. Gunjan Mehta https://www.mehtalab-iith.com/
Cancer genomics and biomarker discovery, 3D cancer model development, Drug resistance and repurposing, Long noncoding RNAs, Alternative splicing and RNA metabolism in cancer, Protein Engineering.	Dr. Ashish Misra https://cgrblab.bt.iith.ac.in/
<u>Protein Interaction Analysis lab</u> : Human-Virus protein-protein interaction.	Dr. N.K. Raghavendra https://sites.google.com/iith.ac.in/pial/home

Research Areas open for the July 2025 round

Wet labs/Experimental Labs (continued)

Research Areas	Faculty
Circadian rhythm, cancer, mechanism of drug action, clinical proteomics, mass spectrometry.	Dr. Sandipan Ray https://www.circadianlab-iith.com/
Molecular characterization of DNA alkylation damage repair enzymes, Role of DNA alkylation in cancer, autoimmune and inflammatory diseases.	Prof. Anindya Roy https://sites.google.com/iith.ac.in/arlab
Regulation of mRNA translation and role of RNA binding proteins in development and disease	Dr. Indranil Malik https://sites.google.com/bt.iith.ac.in/malik-lab/home

Minimum Eligibility Criteria

Minimum Eligibility

- MTech in any area of Life Sciences/Biotechnology/Physical Sciences
- MSc degree in any allied area of Life Sciences/Biotechnology, Physical or Chemical Sciences and possessing a valid National level JRF qualification (or) qualified GATE.
- BTech/BE in any allied area of Life Sciences/Biotechnology/Physical Sciences/MBBS and qualified GATE or with a valid National level JRF qualification.

Please note: The department reserves the right to set a different criterion, which can be equal to or above the eligible criteria for shortlisting the candidates for the selection process.

Category of admission

- I. Full-time Institute Fellowship (funded by MoE): Any candidates with MTech can apply. Any candidates with MSc/BTech/MBBS (With GATE) degree can apply.
- II. Fellowship from external funding agency: Candidates with valid CSIR-NET-JRF/UGC-NET-JRF/ICMR-JRF/DBT-JRF/ (Category-I) award or any other equivalent national level qualification for research fellowship (e.g., DST-INSPIRE fellowship) can apply under this category.

Note: Prospective applicant has to ensure he/she meets all eligibility criteria before applying. Shortlisting criteria are usually higher than minimum eligibility criteria. *The department reserves the right to set any cut-off criteria for shortlisting the candidates.*

Selection Procedure

- Candidates will be shortlisted according to the criteria set by a shortlisting committee and called for an interview subsequently.
- Selection to the Ph.D. program will be based on the performance in the interview.
- Request to change the interview date/time will not be entertained.

Interested candidates can apply online through IIT Hyderabad's website: <http://www.iith.ac.in/phdadmissions/>

For any further information, please contact by email:

phd_biotech@iith.ac.in

Note: The department has the right not to select any candidate if appropriate candidates are not found.

Career Prospects

Biotechnology/Bioinformatics Research & Teaching (Academics)



**Pharmaceuticals and
Healthcare Industries**

**Science Writers
Science Communicators**



Top Companies and Institutes



National Institutes
of Health



भारतीय विज्ञान संस्थान



HARVARD
UNIVERSITY

ThermoFisher
SCIENTIFIC

BIO-RAD

NOVARTIS



UNIVERSITY OF
CAMBRIDGE



Stanford
University



UNIVERSITY OF
OXFORD



Massachusetts
Institute of
Technology