

Department of Biotechnology, IIT Madras
PhD admissions Jan 2024
List of available Ph.D Projects

1) CB- Computational Biology Stream

Faculty Name	No of vacancies	Project title(s)
Meiyappan Lakhmanan	1	Development of computational modeling and multi-omics analysis framework for biomanufacturing and healthcare applications
Michael Gromiha	2	1. Functional annotation of plant genomes 2. Explainable AI based method for detecting cancer using omics data
M. Hamsa Priya	1	Computational Modeling of Protein Aggregation and Phase Separation
Karthik Raman	1	Cancer genomics: ML approaches to identifying key mutations in cancer genomes responsible for radio-sensitivity Microbiome systems biology: ML and network science approaches to identify keystone species and network structure of environmental microbiomes Microbiome systems biology: Modelling the evolution of microbial communities (with applications to understand microbial succession and therapeutic strategies)
Richa Karmakar	1	Computational analysis of cell-cell interaction during chemotaxis
Himanshu Sinha	1	Gestational age and preterm risk prediction models for the Indian population
Vani Janakiraman	1	Virus infections and autoimmune responses

2) BS- Biological Sciences Stream

Faculty Name	No of Vacancies	Project title(s)
K. Subramaniam	1	Maintenance of germline stem cells in <i>C. elegans</i>
Meiyappan (Guide) Greeshma (Co-Guide)	1	Harnessing the potential of stem cells for smart proteins
Vani Janakiraman	2	<ul style="list-style-type: none"> • Understanding communication in bacteria and its relevance to antibiotic resistance. • Understanding novel bacterial small molecules and their influence on immune response

3) BE- Biological Engineering Stream

Faculty Name	No of Vacancies	Project title(s)
Athi Narayanan N	1	Understanding the Role of Protein Mutations in Disease Outcomes and Pathogenicity
K CHANDRARAJ	1	Integrated process development for bioethanol production from lignocellulosic feedstocks
Smita Srivastava	1	Rational Metabolic engineering of <i>Santalum album</i> for enhanced Santanols production
Vignesh Muthuvijayan	1	Multifunctional bioactive dressings to treat diabetic wounds