



Indian Institute of Technology Madras

Department of Biotechnology

Bhupat and Jyoti Mehta School of Biosciences

IIT Madras, Chennai – 600 036, India

PhD admissions July 2024

List of available PhD Project titles

1) CB- Computational Biology Stream

Faculty Name	No of vacancies	Project titles
Michael Gromiha	1	Development of interpretable AI based methods for detecting cancer using omics data
Karthik Raman	1	Drug discovery: Identifying drug repurposing strategies using knowledge graphs 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)
M. Hamsa Priya	1	Molecular Modeling of Peptide Aggregation & Self-assembly
Meiyappan Lakshmanan	1	Large-scale computational analysis of multi-omics data for alternative promoters and enhancers usage in disease and biomanufacturing
Himanshu Sinha	1	Genome graph analysis of 10K GenomeIndia data
V Srinivasa Chakravarthy	2	1) Stroke rehabilitation by combining gaming and computational modeling; 2) modeling the memory functions of hippocampus in normal Alzheimer's disease



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2) BS- Biological Sciences Stream

Faculty Name	No of vacancies	Project titles
R. Baskar	2	Pattern formation in Dictyostelium
Nitish Mahapatra	1	Molecular genetics of cardiometabolic disease
Kesavan Venkitasamy	2	Targeted Protein Degradation

3) BE- Biological Engineering Stream

Faculty Name	No of vacancies	Project titles
Athi Narayanan N	1	Identifying and Characterizing Novel Protein Targets to Address Multi-Drug Resistance
Richa Karmakar	2	Lab-on-chip technology for biomedical applications (1 student) Computational analysis of cell-cell interaction during chemotaxis (1 student)
G. K. Suraishkumar	2	Cultivations under microgravity for production in space
Shantanu Pradhan	1	Granular hydrogels for 3D cancer cell culture applications
Greeshma Thrivikraman	1	Stimuli-responsive anisotropic microgels for tissue engineering applications



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Meiyappan Lakshmanan	1	Development of systematic cell culture process and cell line for cultivated beef/mutton manufacturing
Krithika Ravi	1	Microbial upgradation of waste plastics to platform chemicals
Smita Srivastava	1	Stem cell cultivation of <i>Azadirachta indica</i> in bioreactors for sustainable production of the biopesticide Azadirachtin
M. Hamsa Priya	1	Understanding protein-carbohydrate interactions in solution and in a crowded environment