

**Department of Biotechnology, IIT Madras**  
**MS (by Research) admissions Jan 2023**

**Tentative list of MS (by Research) Project titles**

**1) CB- Computational Biology Stream**

Si. No.	Faculty Name	Project title(s), Number of vacancies
1	N Manoj	Molecular evolution of G protein coupled receptors (1 student)
2	M. Hamsa Priya	Computational investigation of glycan conformational dynamics (1 student)
3	Karthik Raman	Automatic curation of high-quality metabolic networks from sequence and omic data (1 student)
4	Richa Karmakar	Image analysis of cell migration during chemotaxis (1 student)
5	Nirav Bhatt	NLP for Context-specific modelling from text data (1 student)
6	Srinivasa Chakravarthy	Modeling neural oscillations (1 student)

**2) BS- Biological Sciences Stream**

Si.No	Faculty Name	Project title(s), Number of vacancies
1	Gopala Krishna	Structure-function relationship of Calcium-binding proteins (1 student)
2	S. Mahalingam	Cancer genomics (1 student)
3	Nitish Mahapatra	Regulation of candidate genes for cardiovascular disease (1 student)
4	M. S. Narayanan	Molecular Detection of Mycobacterium sp. in Cervids (Spotted Deer) of IIT Madras Campus (Guindy) and Arignar Anna Zoological Park (Vandalur) by Nucleic Acid Amplification Test (1 student)
5	Suresh Rayala	Evolving strategies to identify novel targets in triple negative breast cancer (1 student)

**3) BE- Biological Engineering Stream**

Si.No	Faculty Name	Project title(s), Number of vacancies
1	M. Hamsa Priya	Molecular simulation of carbohydrate based polymers for drug delivery application (1 student)
2	Richa Karmakar	Lab-on-chip technology for biomedical applications A lab-on-a-chip is a device, mostly in the size of millimeters to a few square centimeters that integrates one or several laboratory functions on a single integrated chip. We plan to build microfluidic devices that we can use for biomedical applications. One example is diagnosing resistant bacteria or performing an antibiotic susceptibility test. (1 student)
3	Guhan Jayaraman	Metabolic and Bioprocess Engineering for conversion of lignocellulosic biomass to value-added chemicals (1 student)
4	Nirav Bhatt	Process Analytical Technology for Bioprocesses (1 student)