



**Department of Biotechnology**  
**INDIAN INSTITUTE OF TECHNOLOGY MADRAS**  
Sardar Patel Road, Adyar, Chennai – 600 036.

**List of PhD project vacancies for January 2026 session**

| <b>Biological Engineering</b> |                   |  |
|-------------------------------|-------------------|--|
| 1                             | Athi N Naganathan | Molecular Mechanisms Underlying Biofilm Formation in Bacteria                |
| 2                             | M Hamsa Priya     | Exploring the mechanism of peptide self-made assembly through MD simulations |
| 3                             | Richa Karmakar    | Lab-on-chip technology for biomaterial applications                          |

| <b>Biological Sciences</b> |                     |  |
|----------------------------|---------------------|--|
| 1                          | Rayala Suresh Kumar | Exploring tumor micro environment (TME) for therapeutic targeting in cancer                  |
| 2                          | Nathiya Mythalagu   | Neuroendocrine plasticity in cancer progression and metastasis                               |
| 3                          | Michael Gromiha     | Investigating functionally important residues and disease hotspots in protein                |
| 4                          | Nitish Mahapatra    | Molecular mechanisms of cardiometabolic diseases   |
| 5                          | Mamta Bangera       | Implications of microtubule curling in neurons   |
| 6                          | Vani J              | Understanding novel receptors at neuro-immuno interface in context of respiratory infections |

| <b>Computational Biology</b> |                          |   |
|------------------------------|--------------------------|---|
| 1                            | V Srinivasa Chakravarthy | Modeling the whole brain as a system of Reinforcement Learning agents   |
| 2                            | Michael Gromiha          | Development of AI based methods for drug-target interactions            |
| 3                            | M. Hamsa Priya           | Exploring the mechanism of peptide self-assembly through MD simulations |
| 4                            | Richa Karmakar           | Computational Modeling of Collective Chemotaxis Dynamics                |
| 5                            | Vani J                   | Virus infections and autoimmune responses                               |



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**List of MS project vacancies for January 2026 session**

**Biological Engineering**

**Biological Sciences**

|   |                         |  |
|---|-------------------------|--|
| 1 | Santhosh Sethiramanujam | Investigating the neuronal mechanisms driving the optokinetic reflex in mice |
| 2 | Vani J                  | Understanding immunology of respiratory infections                           |

**Computational Biology**

|   |                |   |
|---|----------------|---|
| 1 | M. Hamsa Priya | ML aided MD simulations for glycan conformational sampling        |
| 2 | Richa Karmakar | Computational analysis of cell-cell interaction during chemotaxis |
| 3 | Mamata Bangera | Role of tubulin isoforms in determining microtubule architecture  |
| 4 | Vani J         | Virus infections and autoimmunity                                 |