**MOLECULAR BIOPHYSICS UNIT (MBU)**

**INDIAN INSTITUTE OF SCIENCE**

**MBU admission July 2020**

**Preference Form for the candidates selected for second interview in MBU**

**THE AREAS OF RESEARCH IN MOLECULAR BIOPHYSICS UNIT**

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| * Spectroscopy and physico-chemical studies of biomolecules.
* Macromolecular structure determination by X-ray crystallography, Cryo-electron microscopy and NMR.
* Peptides-synthesis, design and conformational studies.
* Proteins-chemistry, conformational analysis, structure, design and folding.
* Neurophysiology – Patch-clamp electrophysiology, ion-channels, computational neuroscience.
* Peptide chemical biology
* Biophysical & structural studies on protein-RNA complexes.
* Computational structural biology and Genome analysis
* Membrane biophysics.
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Information about the research going on in each laboratory can be found at the departmental website: <http://mbu.iisc.ac.in/people.htm>

Vacancies exist in the following programmes of research for the academic year 2020-21. Names in brackets are those of faculty members with expertise in the respective areas of research. Please indicate your choice(s) by placing a tick **[]** mark or a star [\*] mark in the appropriate boxes. Please try and tick at least one box in each row. However, if you are unable to decide upon an appropriate choice (s), you may leave the boxes blank and seek clarification by sending a mail to admission.mbu@iisc,ac.in or by e-mailing any faculty member whose e-mail addresses are provided in the table below.

After filling out the preferences, please fill in the basic details at the end of the form. **Please convert the file into pdf format and rename the file with your application number and your full name (ApplicationNumber\_YourName.pdf)** and **email the file to admission.mbu@iisc.ac.in with subject of the mail same as the file name.** For example if your application number is 23456789 and if your name is Max Perutz then the name of the pdf file and the subject of your email should be 23456789\_MaxPerutz.pdf

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| **Sl.****No.** | **AREAS OF RESEARCH** | **I would like to work** | **I would not mind working** | **I would not like to** **work** |
|  1. | Bioinformatics & Computational structural biology**:**Structure,function, interactions & dynamics of proteins, protein-nucleic acid complexes & large assemblies; Infectious & other diseases; Cellular signalling; Protein design.**(N. Srinivasan – ns@iisc.ac.in)**[**http://pauling.mbu.iisc.ac.in**](http://pauling.mbu.iisc.ac.in) |  |  |  |
| 2. | Biomolecular Simulations, Molecular Modelling of  Protein and RNA Conformations, Lipid Bilayer Simulations, Membrane Biophysics (**Anand Srivastava – anand@iisc.ac.in)** **http://mbu.iisc.ac.in/AnandLab.htm/index.html**(**Anand Srivastava)** [**http://mbu.iisc.ac.in/SrivastavaLab.pdf**](http://mbu.iisc.ac.in/SrivastavaLab.pdf) |  |  |  |
| 3. | Protein stability, folding and immunogen design.**(Raghavan Varadarajan – varadar@iisc.ac.in)**[**http://mbu.iisc.ac.in/~rvgrp/**](http://mbu.iisc.ac.in/~rvgrp/) |  |  |  |
| 4. | Molecular basis of microbial pathogenesis**(B.Gopal – bgopal@iisc.ac.in)** [**http://mbu.iisc.ac.in/~bggrp/**](http://mbu.iisc.ac.in/~bggrp/) |  |  |  |
| 5. | Structural biology of integral membrane proteins(X-ray crystallography, CryoEM, antibody chaperones, biochemistry and biophysical analysis of ion-coupled transporters)**(P. Aravind – penmatsa@iisc.ac.in)**[**http://aplabmbu.weebly.com/**](http://aplabmbu.weebly.com/) |  |  |  |
| 6 | Biophysical & structural studies on protein-nucleic acid complexes.**(Mahavir Singh – singh@iisc.ac.in)**[**http://singhmlab.weebly.com**](http://singhmlab.weebly.com) |  |  |  |
| 7. |  Design and engineering of therapeutic peptides**(Jayanta Chatterjee – jayanta@iisc.ac.in)**[**http://jctum13.wixsite.com/pelab**](http://jctum13.wixsite.com/pelab) |  |  |  |
| 8. | Studies of protein structure, dynamics, interactions, function and malfunction primarily using Nuclear Magnetic Resonance, biophysics of circadian rhythms, metamorphic and intrinsically disordered proteins.**(Ashok Sekhar – ashoksekhar@iisc.ac.in)**[**https://mbubionmr.weebly.com/**](https://mbubionmr.weebly.com/) |  |  |  |
| 9. | Single neuron electrophysiology, information processing in neurons and their networks, activity-dependent plasticity of ion channels, computational neuroscience. **(Rishikesh Narayanan – rishi@iisc.ac.in)**[**http://mbu.iisc.ac.in/~rngrp/**](http://mbu.iisc.ac.in/~rngrp/) |  |  |  |
| 10. | Biochemical and structural characterization of biological macromolecules using Cryo-EM.**(Somnath Dutta – somnath@iisc.ac.in)**[**http://mbu.iisc.ac.in/dutta\_lab.pdf**](http://mbu.iisc.ac.in/dutta_lab.pdf) |  |  |  |

**NAME: ­­­­­­­­­­­­­­­­**

**APPLICATION No.:**

**Contact Telephone/Mobile No (as given in the application form):**

**E-mail address (as given in the application form):**