

## **Applications invited for admissions to**

### **M.Sc. (Computational and Systems Biology and Bioinformatics)**

**Eligibility:** Minimum 55% marks in Bachelor's Degree Program in Computational Biology, Bioinformatics, or any branch of Basic/Applied Sciences or Technology, including **Life Sciences, Medicine, Pharmacy, Agriculture, Engineering, Computer Science & Engineering, and allied disciplines.**

**Admission:** Please apply through the University ONLINE ADMISSION PORTAL AT <http://jamiahamdard.edu/UserPanel/DisplayPage.aspx?page=oa> or <https://jamiahamdard.nopaperforms.com/>

*For query and further information, please contact:*

Bioinformatics (BIF) Centre, Jamia Hamdard  
[makhtar@jamiahamdard.ac.in](mailto:makhtar@jamiahamdard.ac.in)

**Phone nos.** 9891369482 or 9891556709

### **About the program - Computational and Systems Biology**

The MSc (CSB) is a multidisciplinary program that combines the application of Computer technology to the management and analysis of biological data, develop new algorithms and software, and use the software for the interpretation and analysis of the data into meaningful biological and biomedical information.

In addition, research programs involve development and application of computational tools and approaches for expanding the use of biological, agricultural, medical, behavioral or health data, including those to acquire, store, organize, archive, analyze, or visualize such data, the development and application of data analytical and theoretical methods, mathematical modelling and computational simulation techniques to the study of biological, behavioral, and social systems.

The focus area of research at Jamia Hamdard includes Systems and Network Biology and Medicine, Comparative Genomics, Disease gene mapping, Structural Biology, In silico drug design and vaccine design, Molecular medicine, Metabolic pathway studies, Biological evolution, Modelling biological systems, Data mining and analysis of large scale data, Biophysics, Complex systems, Big data analysis, Machine Learning applications for biological and medical and analysis, Pattern recognition, Data Science, Artificial intelligence, Engineering biological pathways, Study of dynamical patterns, Dynamical network theory, Electronic representation of biological modules, Modelling disease dynamics and epidemic - Modelling and analysis of disease spreading models, namely, SI, SIR, SEIR, etc.

*A unique opportunity* for the students opting for this course at Jamia Hamdard is the infrastructure for wet lab validation of the results and hypothesis arising out of the computational analysis.

This program at JH will be a joint venture of the Schools of Computer Science and Engineering, Life sciences and the Pharmacy, supported by the expertise and infrastructures at these schools.

**Career opportunities:**

CSB is an emerging scientific discipline & highly remunerative career option. With a degree in CSB and right training, a person can work in the commercial (software companies, pharmaceutical, biotechnology, medicine, life sciences and other), academic and government domains. Job prospects are strong and growing, buoyed by pharmaceutical and biotech industries looking to take advantage of reams of genomics data and usher in a new era of drug discovery. Job profiles include, but not limited to, Bioinformatics Software Developer, Research scientist / Associate, Network Administrator / Analyst, Computational Biologist, Database Programmer, Science Technician, Pharmacogenomics. There are lots of opportunities to work abroad as well, in the USA, Canada, European and Scandinavian countries, the Middle East and almost everywhere.