

NATIONAL INSTITUTE OF BIOMEDICAL GENOMICS
(An Autonomous Institution of the Government of India)



P.O.: N.S.S., Kalyani 741251, West Bengal, INDIA
www.nibmg.ac.in

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National Supercomputing Mission (NSM) Platform for Genomics and Drug Discovery:

Development of a fast, flexible, high performance computing framework to accelerate NGS omics-data analysis

Massively Parallel Sequencing or Next Generation Sequencing (NGS) has taken the scientific community by storm. After commercial availability of the technology from last decade onwards, even modest sized laboratories and institutions all over the world can effectively produce petabytes of data in weeks. Earlier the most robust Sanger sequencing technology can only generate 0.003 Gb of sequence data in a month whereas the present day an average next generation sequencer can generate 50000 Gb per month. This revolution in data generation technology warrants an array of statistical and computational advancement to translate information into knowledge. The stumbling blocks in translating the large volume of data (information) to biologically relevant inferences (knowledge) range from (a) information storage, retrieval of the raw data as-is generated from the sequencing machine - (b) large-scale fast computation and processing that is essential for the data to be useable by the general scientific community (c) sophisticated analysis that is required in transforming the enormous information to knowledge. Of the above, currently, (a) and (b) almost entirely falls in the domain of computational experts and basic scientists without appropriate competence in computational skills, fail to engage. Moreover, a full appreciation of (a), (b) and (c), particularly (b) and (c), require access to highly powerful computer architecture, which is even beyond the capability of a modest institute, let alone an individual. The objective of this project is to make available an easy and extremely flexible supercomputing analysis framework, preferably web-based, to the basic scientist. This would enable them to exercise their choice of programs sequentially in a seamless fashion to process the raw sequence data in accordance to their need and choice (i.e. (b)). It will also provide the research a wide array of tools for sophisticated data-analysis (i.e. (c)). The project also would keep in record the usage of the programs and would analyze the data to optimize and synchronize among different programs and modules.

We are looking for motivated and bright individuals interested to explore career opportunities in this innovative multi-organization initiative in National Supercomputing Mission (NSM) at NIBMG in the positions mentioned as below:

Name of Project	Name of the position	No. of Position	Consolidated Remuneration [INR] per month	Essential Qualifications	Desirable Qualifications	Nature of Duty
NSM	Bioinformatics Engineer Tier - I	1	25000/-	(1) M.Sc. in Statistics/ Computer Science /Mathematics or related discipline OR B.Sc. With experience in same field	(1) Expert in machine learning and web - development skills (Python and Django etc.) (2) Knowledge in UNIX (3) Experience in analysis of molecular data (4) Experience in API & database development (5) Experience in R or Python	(1) Building of machine learning based bioinformatics pipeline. (2) Data analysis (3) Report writing
	Post-Doctoral Scientist	1	50000/-	Doctoral Degree in Science / Engineering / Technology / Pharma / MD / MS from a recognized University or equivalent; and (ii) Four years of experience in Research and Development.	1. Expertise in genotype and sequence data analysis. 2. Expert in machine learning and AI. 3. Knowledge in Unix and R.	(1) Building of machine learning based bioinformatics pipeline. (2) Data analysis (3) Report writing

These positions are purely contractual, and appointments will be initially given upto **one year**, which are extendable depending upon performance and requirements of the project.

Walk-In-Interview/Test is being organized at NIBMG on July 12, 2022 (Tuesday) from 10:30 AM.

Applicants are requested to report with the following documents:

1. Curriculum Vitae along with reprints of publications, if any
2. One Passport- size coloured Photograph
2. Original and Self-Attested Copies of Certificates of Educational Qualifications
3. Original and Self-Attested Copies of Experience Certificates
4. Original and Self-Attested Copy of Govt. issued Photo ID proof (preferably Aadhar Card/Voter Card) (PAN card is not acceptable)

Please visit www.nibmg.ac.in for further information. The decision of NIBMG in all matters relating to eligibility, acceptance or rejection of application, mode of selection, and conduct of interviews will be final and binding on the applicants. In exceptionally meritorious cases, the eligibility requirements may be relaxed by the competent authority.

The Institute is located close to the Kalyani Main Station. If you are coming by train, please get off at Kalyani Main Station, cross the railway tracks towards Platform no. 3 using the over bridge and take a Rickshaw/e-Rickshaw from Sangam Cinema Hall to "NIBMG Campus or Project Site". Please check <https://www.nibmg.ac.in/p/reach-us> for further information