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

N⚕BMG

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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 sequencers 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 Positions	Consolidated Retainer Fee [INR] per month	Essential Qualifications	Desirable Qualifications	Nature of Duty
NSM	Senior Software Engineer	1	48000/-	(1) M.Tech/ M.C.A/ M.Sc. in Computer Science (2) Minimum 3 years of experience of working in large engineering/statistical / bigdata / genomics projects, (3) Experience in management of computational laboratory (4) Demonstrated knowledge of computer programming in C, C++ language. (5) Strong Unix skills.	(1) Experience in parallel programming. (2) Experience in software development. (3) Some domain knowledge in genetics and genomics (3) Published scientific papers/whitepaper in reputed journals.	(1) Development of fast analysis tools for genomics applications (2) Report writing
	Software Engineer Tier - I	2	35000/-	(1) M.Tech /M.C.A/MSc in Computer Science / Statistics/ Bioinformatics/Biophysics/Bio-engineering; (2) Minimum 2 years of experience in analyzing terabyte-scale datasets. (3) Experience in next generation sequence (NGS) data analysis, (4) Strong UNIX scripting knowledge	(1) Experience in whole genome/targeted sequencing, RNA-Seq, and genotyping array (2) Experience in python programming (3) Some domain knowledge of genetics and genomics (4) Published scientific papers in reputed journals.	(1) Development of fast and flexible analysis pipelines for NGS datasets.
	Bioinformatics Engineer Tier - I	3	25000/-	(1) MSc/M.Tech/B.Tech in Bioinformatics/Bio-engineering/Biophysics; (2) Experience in web-development skills (html, CSS, PHP, JS); (3) Knowledge in UNIX	(1) Experience in R (2) Experience in database development	(1) Data analysis. (2) Report writing

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

The date of walk-in interview is **28ᵗʰ November 2019 (Thursday)** starting from **10:00AM. Candidates failing to show up at NIBMG reception BY 12:00 PM will NOT BE interviewed.** The age limit is maximum **40 (forty) years** on the day of the interview. No TA/DA will be paid for attending the interview**.**

Following documents are required at the time of interview:

1. Curriculum Vitae along with reprints of publications, if any

2. One Passport- size coloured Photograph

2. Self-Attested Copies of Mark Sheets/Certificates of Educational Qualifications

3. Self-Attested Copies of Experience Certificates

4. Original and Self-Attested Copy of any Govt. issued Photo ID proof (only Aadhar Card/voter card/Driving License)

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 candidates. In exceptionally meritorious cases, the eligibility requirements may be relaxed by the competent authority.

How to reach NIBMG:

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# 3 using the over-bridge and take a Rickshaw/ e-Rickshaw from Sangam Cinema Hall to "NIBMG Campus or Project Site". Please check http://www.nibmg.ac.in/?q=content/reachnibmg for further information.