JOB DESCRIPTION

Job Title:	**Bioinformatics Specialist I**
Job Posting #:	3117949
Salary Plan:	Full-Time, Exempt
Lab:	Gaiha/Walker
Direct Supervisor:	Gaurav D. Gaiha, M.D. D.Phil

Employing Hospital and Department:
Ragon Institute of MGH, MIT, and Harvard

Minimum degree and field of knowledge: Bachelor's
Years experience required: 2+ years

Summary:
A position is open for a full-time bioinformatician at the Ragon Institute of MGH, Harvard and MIT. The candidate will perform computational analysis of data generated from HIV patient specimens. Knowledge gained from these studies will inform the design of more effective vaccines and treatments against HIV.

Job Duties:
Under the direction of the principal investigator and collaborating bench scientists, and with guidance from other computational biologists at the Ragon Institute, the candidate will develop and implement analytical pipelines for the analysis of atomic-resolution protein structure data, biological network data, high-throughput assay data including single-cell RNA-seq, population RNA-seq and genetic variation data. In addition to communicating methods and results to lab members and collaborators, the candidate will be expected to contribute to manuscript preparation. The candidate will primarily contribute to a new Gates funded project with the goal of improving our development of a T cell vaccine for HIV and other pathogens. Specific responsibilities include the following:
Analysis:

- Become familiar with how to represent atomic-resolution protein structure data as a network
- Carry out network analyses including calculation of centrality parameters and tailored derivatives thereof, specifically using an established pipeline from a recent publication in Science magazine. Preference will be given to a candidate who has comfortability writing code to add new analyses to the pipeline rather than simply relying on off-the-shelf packages.
- Have familiarity with genetic variation data including publicly available SNP datasets (e.g. publically available exome data, 1000genomes, HGMD, dbSNP, etc)Develop reproducible pipeline for quality control and data analysis of bulk and single cell RNA-Seq data

Data management and high performance computing:

- Be facile with the command line and with utilization of clusters and work queues
- Be willing to learn how to use new cluster environments (mainly that of Harvard University and of The Broad Institute)
- Be willing to find solutions for how to handle large memory jobs (e.g., parallelization)

Qualifications:

Minimum Qualifications

- Bachelor's required; Master's degree preferred
- Two years or more years of demonstrated bioinformatics or computational biology experience
- Proficiency in R and a scripting language (Python especially preferred)
- Familiarity with high performance computing and computing clusters

Preferred Qualifications

- Prior experience with atomic-resolution structure analysis (Pymol) strongly preferred
- Prior experience with bulk and single-cell RNA-seq analysis
- Familiarity with network analysis
- Familiarity with bioinformatic databases, such as GEO, UCSC Genome Browser, and MSigDB; and workflows such as those within Galaxy and GenePattern
- Experience with version control tools (preferably Git)

Expectations

- Demonstrate integrity, excellence, accountability, and teamwork in all interactions
- Good oral and written communication skills
- Ability to maintain organized, detailed, and up-to-date documentation
- Strong interest in human immunology and infectious disease research

Application Information:

The position is open immediately, although the start date is flexible. Please submit a cover letter, CV, and references. ***All applicants must be able to come to Cambridge, MA USA for an interview.***

The above job description details the major duties and qualifications of the listed position. The employee hired to this position confirms that he/she is able to perform all duties outlined. Although the specific duties and responsibilities of this position may vary slightly, the supervisor of this position will ensure that the employee hired to this position is trained and qualified to complete each task assigned. If the duties or responsibilities of this position need to change significantly, then the supervisor must submit an updated job description to the Office Manager for review.