MASSACHUSETTS GENERAL HOSPITAL

Job Title: Research Technician   Job Family: Research

Job Code: 000319 & 001593   Grade: 13 & 14

Department: Neurosurgery

GENERAL SUMMARY/ OVERVIEW STATEMENT:

The Petti lab in the Brain Tumor Research Center at Massachusetts General Hospital (MGH) (https://pettilab.mgh.harvard.edu/) is seeking a motivated Research Technician to assist in the organization, analysis, and interpretation of large-scale genomic data, with an emphasis on single-cell RNA-sequencing, spatial transcriptomic, and exome sequencing data. Current projects address topics such as the interplay of genetic, transcriptional, spatial, and immunological heterogeneity in brain tumors such as glioblastoma, meningioma, pituitary adenomas, and brain metastases. The technician will work in a highly collaborative environment, involving extensive interaction with faculty, molecular biologists, computational biologists, programmers, and clinicians. This position will assist in developing and conducting research projects, including experiment design, data management, data analysis, and documentation of results.

PRINCIPAL DUTIES AND RESPONSIBILITIES:

- Implement and evaluate bioinformatic and statistical software in R and/or Python to analyze, visualize, and interpret high-throughput genomic data, especially single-cell RNA-sequencing (scRNA-seq) and/or spatial transcriptomic data.
- Use pre-existing pipelines (including GATK) to analyze exome sequence data.
- Manage and organize large data sets to facilitate storage, analysis, and public dissemination.
- Assist with grant preparation and reporting of methods, data, and results.
- Solve practical problems relating to computational resources and data sets; suggest technical or procedural improvements in research methodology.
- Assist in laboratory management.
- Contribute to scientific literature, write research reports, and present research at scientific forums.
- Maintain a laboratory notebook

SKILLS/ABILITIES/COMPETENCIES REQUIRED:

- Ability to work independently and as a team member
- Strong oral and written communication skills.
- Ability to perform multiple tasks independently
- Ability to interpret acceptability of data results
- Strong analytical skills, with demonstrated ability to problem-solve.
- Working knowledge of bioinformatics, statistics, and cancer biology.

- Proficiency in the *nix shell, Python and/or R. Experience in workflow languages (e.g. WDL), and cloud computing desirable but not required.
- Experience applying R-based or Python-based statistical, bioinformatic, and machine learning tools to genomic or single-cell data sets.

EDUCATION:

Bachelor's degree required.

EXPERIENCE:

New graduates with some lab experience (via course work, internships, etc.) or those without any prior research experience will be considered for a Research Technician I position.

Those with a minimum of 1 year of **directly related** work experience will be considered for a Research Technician II position.

SUPERVISORY RESPONSIBILITY (if applicable):

A Research Technician II may serve as a team leader to lab assistants and Research Technician I's or undergraduates.