A position at the Pamela Sklar Division of Psychiatric Genomics (DPG) in Icahn School of Medicine at Mount Sinai is available for a Bioinformatics Scientist for joint projects of the Voloudakis and Roussos labs. The post will suit an ambitious and talented individual who is interested in applying his/her skills at the interface of human disease and genetics.

The appointed bioinformatician will be collaborating with an interdisciplinary team of clinicians, wet lab scientists, bioinformaticians, statistical geneticists and computational biologists. His/her projects will be involved in studies that aim to elucidate the genetic architecture and the genetic mechanisms through which risk genetic variants increase vulnerability for neuropsychiatric traits, including schizophrenia, bipolar disorder and Alzheimer’s disease and affect treatment response. The distinguishing features of our research are the utilization of large-scale omics data in human brain tissue to (a) increase our understanding of disease process and (b) explore translational applications in the largest genotyped cohort with Electronic Health Records (Million Veteran Program). Successful candidate develops, implements, maintains and executes pipelines for genetic, genomic and phenotypic feature analyses. In addition, a successful candidate discovers efficient ways to improve usability, performance and robustness of said pipelines and organizes, stores, exports and analyzes data with attention to security and confidentiality. The ideal candidate will have a strong understanding of databases and data analysis procedures and will possess excellent troubleshooting skills. Strong communications skills will be favored as candidate will have to effectively communicate with other teams for projects that are part of domestic and international consortia.

Responsibilities:
- Implements, maintains and executes pipelines for genetic, genomic and phenotypic feature analyses
- Discovers efficient ways to improve usability, performance and robustness of said pipelines
- Organizes, stores, exports and analyzes data with attention to security and confidentiality
- Develops well-documented and maintainable code
- Teaches other lab members how to use the developed pipelines when there is a joint project
- Oversees data sharing with internal and external collaborators.
- Assists with reports and data extraction when needed.

Job requirements:
- PhD in Bioinformatics or related field, or a master’s degree and 2 years’ experience in Bioinformatics
- BSc/BA in computer science or relevant field.
- Proven experience as data analyst.
- Outstanding programming skills in at least two of these languages on a Linux environment: Python, R, bash, Perl, Java, and C++.
- Proficiency with SQL
- An analytical mindset with problem-solving skills
- Excellent organizational skills
- Excellent communication and collaboration skills

The Million Veteran Program (MVP) infrastructure
Genisis (Genomics Hub Computing Environment; MVP biological data): The Genomic Information System for Integrative Science (Genisis) is a secure, high-performance information technology environment designed to facilitate the recruitment & enrollment and analysis of subjects in studies that combine both phenotypic and biological data (genomics, proteomics, metabolomics, etc). Genisis is an integrated environment featuring a number of applications and databases, hooks to third party data sources such as knowledge bases and electronic medical records, as well as a high-performance computing and storage environment. Compute and storage resources exceed 1,300 cores and 800TB storage and provide 2.2 teraflops peak speed. Currently, there are more than 450,000 genotyped individuals and 250,000 in the queue to be added soon.

VINCI (EMR-based phenotype server; MVP phenotypic data): VA Informatics and Computing Infrastructure (VINCI) servers (16-thread @ 2.3 GHz, 70.8 GB RAM) are used to process phenotypic data from the MVP Core that are stored in an SQL server accessible by the VINCI server.

High Performance Computing (HPC) at ISMMS
Our HPC group is dedicated to advancing research at the ISMMS by administering a sustainable state-of-the-art computational infrastructure and providing technology services. Current compute and storage resources exceed 12,000 cores and 10 petabytes of disk. Our HPC provides 140 teraflops peak speed and over 85 million CPU hours per year. Genomic data and computationally intensive secondary analyses will be run here.

About the Pamela Sklar Division of Psychiatric Genomics
The Division of Psychiatric Genomics (now called Pamela Sklar Division of Psychiatric Genomics) was established in 2011 by Dr. Pamela Sklar. The mission of the Division is to apply genetic insights to the clinical practice of psychiatry. The Division applies a multidisciplinary approach with a molecular, genomic, and translational focus.

About the Icahn Institute for Genomics and Multiscale Biology at ISMMS
The Icahn Institute was founded in 2011 to help advance precision medicine with cutting-edge technologies, novel partnerships between the public and private sector, and world-class computational and analytical resources.

About the Department of Psychiatry at ISMMS
The Department of Psychiatry at Mount Sinai, a vibrant community of clinicians, researchers, educators, and trainees committed to discovering the causes of and treatments for mental and emotional disorders. We are ranked among the nation’s top psychiatry departments for funding from the National Institutes of Health.

About the Friedman Brain Institute at ISMMS
The Friedman Brain Institute at the Icahn School of Medicine at Mount Sinai is one of the world’s premier institutions dedicated to advancing our understanding of brain and spinal cord disorders and driving innovative approaches to new treatments and diagnostic tests through translational research. We are committed to the best in education, research, and clinical care.

About the Icahn School of Medicine at Mount Sinai
The ISMMS is an international leader in medical and scientific training, biomedical research, and patient care. It is the medical school for the Mount Sinai Health System, which includes seven hospital campuses, and has more than 5,000 faculty and nearly 2,000 students, residents and fellows. Our unwavering pursuit of intellectual exchange, breakthrough research, and multidisciplinary teamwork propels us ever forward in biomedical discoveries and advances. We pursue ideas that often challenge conventional wisdom to revolutionize the practice of medicine and produce dramatically better outcomes for patients.

Apply
To be considered for this position, please submit a cover letter, CV and at least two letters of recommendation to panagiotis.roussos {at} mssm.edu and georgios.voloudakis {at} mssm.edu.