RUTGERS
School of Environmental and Biological Sciences

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Post-doctoral positions are immediately available in the lab of Dr. Yana Bromberg, in the department of Biochemistry and Microbiology, Rutgers University, New Brunswick (possibly joint with the Institute of Advanced Studies, Technical University of Munich).

Position Description

We are looking for scholars with experience in data analysis, machine learning skills, and a broad understanding of genetics. In the scope of this project, we will uncover how the human genome and microbiome variation map to disease. Specifically, we will be looking at whole exome and shotgun sequencing-derived metagenome variation of healthy *vs.* sick individuals. The position will involve developing new computational algorithms to (1) evaluate molecular functions of the host gut microbiome, (2) map the human genome variants to their functional effects contributing to microbiome functionality, and (3) understand the functional changes in both leading to disease. The expected outcome of this effort is a number of novel computational tools for generating hypotheses of about the combined importance of genome and metagenome variation in disease. Although we expect our methods to generalize to a range of disorders, we are particularly interested in the study of Crohn's disease, vitamin A deficiency, and Tourette Syndrome.

The Bromberg lab develops and maintains computational tools for the analysis of the genomic and metagenomic variation. In the scope of this project, we collaborate closely with the Tischfield lab in the Department of Genetics, which provides excellent molecular biology and genetics expertise, as well as full access to the scientific resources of the Rutgers Cell and DNA Repository (RUCDR). We will also closely collaborate with the Quadro lab (Rutgers) for wet lab expertise in vitamin A deficiency and microbiome analysis, as well as with the Radivojac lab (Northeastern University) for machine learning expertise. As a fellow of the Institute of Advanced Studies in Technical Institute of Munich (TUM-IAS), Dr. Bromberg also works extensively with the members of the TUM department of Bioinformatics and Computational Biology.

Salary is competitive, in the range of $50K-$65K, and commensurate with experience.

Qualifications

Candidates should have a PhD in Computational Biology, Bioinformatics, Computer Science (w/biology background) or Genetics (w/computational background). We strongly encourage recent PhD graduates to apply. Programming skills are essential, as well as some familiarity with the major bioinformatics tools/databases. Experience with high performance computing, machine learning, and whole genome and metagenome analysis is desired, but not required. Computationally oriented candidates from labs studying the genetics of psychiatric or auto-immune disorders will be given preference. Applicants should be fluent in spoken and written English and should be able to communicate ideas and results to colleagues. The ability to integrate into a team is as essential as that to complete a project without constant supervision.

Application Procedure

Interested persons should e-mail a cover letter and C.V. to Dr. Yana Bromberg at *yana@bromberglab.org*. Please visit http://bromberglab.org for more information