Postdoctoral Fellow Positions in Systems Biology and Network Medicine

The laboratory of Dr. Camila Lopes-Ramos at Baylor College of Medicine, Department of Medicine, Section of Epidemiology & Population Science invites applications for postdoctoral fellows to join an interdisciplinary research program focused on multi-omics, systems biology, and network medicine in lung cancer.

Our laboratory investigates how genetic and epigenetic variation, biological sex, and environmental exposures impact gene regulatory networks and contribute to disease. We integrate epigenomics, transcriptomics, single-cell data, and network-based approaches to define molecular and cellular transitions from healthy lung to chronic lung disease and ultimately to cancer. Our goal is to identify disease mechanisms and translate molecular discoveries into biomarkers, risk-prediction tools, and precision prevention and therapeutic strategies.

Potential research projects include:

- Sex-specific genetic and epigenetic determinants of lung cancer
- X-chromosome inactivation and sex-specific gene regulatory mechanisms
- Molecular and cellular transitions from health to chronic lung disease to cancer using single-cell data
- Integration of genetic and epigenetic information into gene regulatory networks
- Network-informed risk prediction and biomarker development
- Network-based therapeutic target discovery and drug repurposing

The fellow will work in a highly collaborative and interdisciplinary environment, with opportunities to interact with investigators in cancer biology, genomics, epidemiology, biostatistics, computational biology, and network medicine. The position will provide opportunities to develop expertise in advanced computational methods, analyze large-scale human datasets, publish impactful research, present at scientific conferences, mentor junior trainees, and contribute to grant development.

Qualifications

Applicants should have:

- PhD or equivalent doctoral degree in computational biology, bioinformatics, genetics, biostatistics, cancer biology, or a related field
- Strong quantitative and analytical skills
- Experience with programming in R, Python, or a comparable language
- Experience analyzing genomic or other high-dimensional biological data
- Ability to work independently and collaboratively in an interdisciplinary environment

How to apply

Please send a CV and a brief statement describing your research interests and relevant experience to Camila.LopesRamos@bcm.edu.