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Post-doctoral positions in vascular metabolomics

Position Description:

The Vascular Kinetics Laboratory in the Fischell Department of Bioengineering at the University of Maryland (UMD) has openings for postdoctoral fellows to work on externally funded, multi-year vascular metabolomics projects. The overall goal of our lab is to understand how altered hemodynamics and metabolism jointly contribute to cardiovascular disease disparities in diverse populations. The lab currently consists of 2 postdoctoral fellows, 4 graduate students, and 10 undergraduate students. As a lab, we believe that science and engineering benefit from diverse voices and an open, inclusive environment. For more information, visit vascularkinetics.com

The new postdoctoral fellows will lead an NIH R01-funded project. We are using an integrated experimental and computational bioengineering approach to study vascular metabolism and transport in altered metabolic states (e.g., high blood sugar, cholesterol, triglycerides) to enable comprehensive, personalized metabolic therapies that reduce cardiovascular disease morbidity and mortality for all people. The project will include a combination of *in vitro* 3D multi-cellular models (endothelial cells, vascular smooth muscle cells, red blood cells); *in silico* isotope-assisted metabolic flux analysis (iMFA) models; and *ex vivo* vasodilation models (pressure myography). Postdoctoral fellows will be encouraged to expand this project through collaborations (e.g., with exercise physiologists or health disparities investigators) and pursue independent research directions.

The Vascular Kinetics Laboratory is located in A. James Clark Hall, a state-of-the-art research and training facility in the heart of the beautiful College Park campus. Our lab has advanced instrumentation for hemodynamic and metabolic studies, and we are also adjacent to core department facilities. UMD is near government research facilities (e.g., NIH, DOD, NSF, FDA) and world-class pediatric and adult hospitals, which creates innumerable collaboration opportunities. The campus is also convenient to both Washington D.C. and Baltimore, MD, which provides a diverse array of neighborhoods in which to live and activities to pursue outside of the laboratory.

Compensation will be above NIH postdoctoral guidelines and will include a competitive benefits and retirement package offered by UMD. We offer a renewable, annual contract with the expectation of completing 2-4 years of postdoctoral training. Postdoctoral fellows are actively mentored to develop their skills in research and scientific communication; supported to present at national and international research conferences; and encouraged to apply for fellowships and grants.

Qualifications:

Preference will be given to candidates with previous experience with *in vitro* vascular cell culture, experimental or computational metabolomics (especially metabolic mass spectrometry), and *in vivo* murine vascular disease models or *ex vivo* pressure myography. For candidates with expertise in related areas, training opportunities are available. Applicants should be able to work independently and be self-motivated with strong interpersonal and communication skills.

Application Procedure:

Interested candidates should submit a cover letter, CV, list of three references, and two publications as a single PDF file to aclyne@umd.edu. The cover letter should describe the candidate's research experiences, career goals, and preferred start date as well as the skills and attributes that the candidate will contribute to the lab.

Key Dates:

Application review: September – October 2023
Interviews: October – November 2023
Target start date: January 2024