Research Assistant Professor in Optics & Neurophotonics

Vaziri Laboratory of Neurotechnology and Biophysics
The Rockefeller University, New York, NY
https://vaziri.rockefeller.edu/

The Vaziri Laboratory of Neurotechnology and Biophysics (LNB) at the Rockefeller University is focused on the **development and application of advanced optical imaging** technologies to advance neuroscience. Over the last years, we have developed a portfolio of optical technologies that allow for **large-scale and whole-brain optical recording and manipulation of neuroactivity** at high spatiotemporal resolution across model systems with an emphasis on development of imaging tools for highly scattering brain tissues. In our most recent imaging technology, we have shown that **up to 1 million neurons** distributed across different depths of both hemispheres of the mouse cortex can be recorded at single cell resolution.

To further push the development of advanced neurotechnologies and microscopy tools, we are seeking to fill one or more academic/faculty positions with the specific title and responsibilities commensurate with the candidate's experience and qualifications. Candidates hired at the Research Associate or Senior Research Associate level will be eligible for promotion to the rank of Research Assistant Professor subject to successful review by a university committee. More experienced candidates hired at the level of Research Assistant or Research Associate Professor will assume a leadership role in the LNB and will have the opportunity to develop an independent and synergistic research program aligned with the ongoing efforts at our department. They would lead a team supported by independently or jointly acquired external funding while embedded in the LNB, benefiting from the existing laboratory infrastructure and scientific environment.

Possible areas of candidates' research at LBN include

- Development, optimization, and application of new optical or non-optical methods for large-scale neuroimaging and optogenetics
- Deep tissue imaging and imaging through scattering media
- Computational imaging technologies, machine learning, and advanced statistics
- Development of early-stage technologies for bioimaging and biology based on conceptually new approaches from quantum optics/quantum sensing, ultrafast optics, nano-photonics, or other areas
- Development of new molecular sensors and use of biochemical or synthetic biological approaches to enable neurotechnology development

Key Responsibilities:

- Lead and support one or multiple research projects at the senior level while training and mentoring junior scientists
- Develop, together with the Head of Laboratory, research projects and a jointly or independently acquire research funding
- Support Head of Laboratory with execution of the laboratory research program
- Author, publish, and present research findings
- As needed, lead internal and external collaborative projects, serve as a liaison to industry, and support the dissemination of developed technologies

Qualifications

- Ph.D. in physics, optics, optical / electrical engineering, or related fields
- Ambitious, creative, and motivated by enabling engineering innovations with lasting impact in biology
- Demonstrated track record of innovation and scientific excellence
- Excellent organizational and communication skills, ability to manage multiple tasks and projects and work as a key part of an interdisciplinary team
- Prior experimental work experience in academia or industry on one or more of these areas is highly desired: designing and constructing complex optical systems/instruments, ultra-fast optics, non-linear optics, quantum optics, computational modeling, systems neuroscience

Interested candidates should send their application material including **CV/resume, list of publications, a statement of research interests** as well as the contact information of at least **three references** to vaziriadmin@rockefeller.edu. For more information, please visit our website at https://vaziri.rockefeller.edu/