

**Postdoctoral (Scholar or Fellow) Position Open in the Arce-McShane Lab at the Department of Organismal Biology and Anatomy at the University of Chicago**

**[Neuroscience, Engineering, Biology]**

We are seeking two postdoctoral researchers to work on a newly funded NIH-National Institute on Aging research project that looks into changes in cortical and biomechanical processes in healthy aging vs. Alzheimer’s Disease.

**Research in the Arce-McShane Lab in the focuses on the principles of cortical and biomechanical control of oral sensorimotor behavior and how these are affected by learning, aging, and disease (**[**https://voices.uchicago.edu/fritziearcemcshanelab/research/**](https://voices.uchicago.edu/fritziearcemcshanelab/research/)**;** [**https://oba.bsd.uchicago.edu**](https://oba.bsd.uchicago.edu)**;** [**https://bsdpostdoc.uchicago.edu/pdo/**](https://bsdpostdoc.uchicago.edu/pdo/)**).** Our lab uses a multidisciplinary approach to understand the interplay between sensation and movement using converging evidence from psychophysics, biomechanics, neurophysiology, and computational modeling. Our methods include recording neural activity from chronically-implanted microelectrode arrays (*Utah Arrays and Floating Microelectrode Arrays*) in multiple regions of the cerebral cortex (*rostral and caudal primary motor cortex, primary somatosensory cortex (1, 2, 3a, 3b), cortical masticatory area, ventrolateral frontal cortex*) simultaneous with recording the kinematics of the tongue and the mandible using high-resolution biplanar radiography and applying computational models to understand the principles of sensorimotor control.

Neuroscience research at the University is a multi-disciplinary endeavor, spanning a wide range of research interests and methodologies. The postdoc will have the opportunity to work with faculty and research academics in basic science and clinical research. The postdoc has access to many shared core facilities, most importantly the Animal Resources Center (ARC), which is responsible for animal procurement, facilities (including surgery rooms and tools, CT scanner), husbandry, and specialized veterinary services, the XROMM Facility, which houses the high-speed high-resolution biplanar videoradiography unit, MRI facility, and the Research Computing Center, which manages computing and data storage needs. Access to these core facilities and the numerous collaborative laboratories all constitute a strong scientific environment.

**Qualifications:**

**Minimum Qualifications:**

* Ph.D. in Neuroscience or a related field conferred by the time of appointment
* Demonstrated ability to conduct independent research
* Demonstrated experience with computer programming and analyzing high-dimensional data using Matlab or Python

**Preferred Qualifications :**

* PhD in Systems Neuroscience or Computational Neuroscience
* Experience with behavioral neurophysiology
* Experience with biplanar videoradiography and XROMM (X-ray Reconstruction of Moving Morphology)
* Experience with non-human primate research
* Demonstrated proficiency with network-level computational modeling of neural systems
* Two or more peer-reviewed papers at the time of appointment

Motivated candidates should submit a curriculum vitae and a statement of research goals to Dr. Fritzie Arce-McShane at fritziea@uchicago.edu. Compensation in the Biological Sciences Division follows the NIH NRSA Stipend scale. Additional information on benefits and being a postdoc in the University of Chicago Biological Sciences Division can be found at bsdpostdoc.uchicago.edu.

In the Arce-McShane Lab, we endeavor to provide an atmosphere where one feels accepted, included, respected, valued, and empowered regardless of creed, race, sexual orientation, or background. We strongly encourage applicants who share these values and come from an under-represented background in neuroscience research.