LEHIGH UNIVERSITY

Department of Biological Sciences
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Postdoctoral Associate – Electrophysiological investigation of mammalian olfactory circuits

Description: The Olfactory Circuits Lab in the Department of Biological Sciences at Lehigh University, led by Nathan Urban and Shawn Burton, is recruiting a postdoctoral associate. Our work seeks to advance understanding of neural coding within the mouse olfactory bulb and broader olfactory system to provide insight into both mammalian olfaction and fundamental principles of brain function. The new position is funded by NIH grants R01DC021296 and R01DC016560 and will specifically investigate synaptic interactions and experience-dependent circuit plasticity in the olfactory bulb using acute brain slice electrophysiology.

Trainees can gain expertise in:

- Neurophysiology, with specific focus on the mammalian olfactory system
- Acute brain slice electrophysiology techniques, including: voltage and current clamp recordings, simultaneous recordings, pharmacology, optogenetics, chemogenetics
- Advanced tools for neuroscience, including: genetically-modified mice, adeno-associated virus delivery, intersectional strategies for neuron targeting
- Microscopy, including: brightfield, fluorescence, widefield and confocal, immunohistochemistry, morphometric analysis
- Relevant software packages, including: MATLAB, IgorPro, FIJI, Micro-Manager, Neurolucida
- Additional professional resources additionally available at: https://postdoc.lehigh.edu/

Responsibilities of this position include:

- Independently planning and executing experiments
- Thoroughly reading all relevant literature
- Contributing to maintenance of the experimental animal colony
- Analyzing experimental data, preparing figures, and taking a lead role in writing manuscripts
- Presenting results at conferences, such as annual meetings for the Society for Neuroscience (SfN) and Association for Chemoreception Sciences (AChemS)
- Applying for relevant funding opportunities, such as NRSA F32 fellowship
- Training undergraduate mentees

Minimum qualifications:

- Ph.D. in neuroscience or related field
- Background in cellular and systems neuroscience and neurophysiology
- First-author publication(s) in which you took a lead role in writing

Preferred qualifications:

- Coding experience (MATLAB preferred)

To apply, please submit a letter of interest and CV with contact information for three references to Shawn Burton, shawn.burton@lehigh.edu.