**Tara L. Cooper**
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## Education

**University of Florida** August 2024
*Doctor of Philosophy, Medical Sciences - Neuroscience* Gainesville, FL, United States
Honors: Bryan Robinson Endowment, Grinter Fellowship
Awarded Funding: T32AG020499-16A1 Research Training in Non-Pharmacological Interventions for Cognition in Aging, Mild Cognitive Impairment, and Alzheimer's Disease (August 2020-2023)

**Washington and Lee University** May 2019
*Bachelor's Degree, Neuroscience* Lexington, VA, United States
*East Asian Languages & Literature (Japanese)*
Honors: Critical Language Scholar 2017 (Japan), Andrew M. Hemm Senior Award for Excellence in Japanese 2019

**University of Shiga Prefecture** Summer 2017
*US Department of State, Critical Language Scholarship Program* Hikone, Shiga, Japan
*Studied Japanese language and culture under a language-pledge for eight weeks, living with a host-family for four weeks. Participated in a language-partner program with local Japanese students and US-Japan relations seminars with members of the American consulate in Osaka.*

## Teaching Experience

**Visiting Assistant Professor** July 2025-July 2026
Department of Biology, Washington and Lee University Lexington, VA, United States
*Developed a blended seminar and discussion-based course, Biology of Aging (BIOL195) in Fall 2026. Taught a lecture and lab mixed course, Anatomy and Physiology, in Winter 2026. Developed a four-week course titled "You're Wrong About Biology" for Spring 2026, examining well-known stories in biology where the popular narrative significantly differs from the scientific evidence.*

**Graduate Teaching Assistant** Fall 2022-2023, Summer 2024
Department of Neuroscience, University of Florida Gainesville, FL
*Teaching assistant for Functional and Comparative Neuroanatomy and Molecular Pathobiology of Neural Disease graduate-level courses. Lectured on various topics including "Language", "Cognitive Control of Motor Function", and "Emotion". Assisted in creating the course syllabus and study guides, writing and reviewing test questions, grading essay assignments, hosting review sessions, and coordinating lecturer schedules.*

**Brain Awareness Week Lecturer** Spring 2020-2024
North Central Florida Chapter of the Society for Neuroscience Alachua County, FL, United States
*Facilitated neuroanatomy lectures and activities for K-12 school groups across Alachua County. Personally lectured for 1st, 6th, 11th, and 12th grade classes and led a sheep brain dissection demonstration for high school groups.*

**Guest Lecturer** July 2021
Research Immersion in Science & Engineering, University of Florida Virtual
*Gave a talk titled "Navigating Neuroscience", facilitating a discussion with high school students interested in future undergraduate research opportunities and scientific career paths in neuroscience.*

**Guest Lecturer** June 2021
Robert Wood Johnson Foundation Summer Health Professional Education Program Virtual
*Lectured for an undergraduate student summer program for those interested in pursuing medical professions. The talk discussed "Psychological Disorders", providing an introduction to categories of psychiatric diagnoses and treatments.*

**Brain Bee Tutor** October 2019
3rd Annual Brain Bee, University of Florida Gainesville, FL, United States
*Met weekly for the month of October with a group of local high school students to teach and review foundational neurobiology concepts and neuroanatomy to prepare for the annual Brain Bee competition.*

## Research Experience

**Graduate Research Assistant** August 2019 – August 2024
Department of Neuroscience, University of Florida Gainesville, FL, United States
*Research assistant in the lab of Dr. Sara N. Burke, examining the effects of age-related cognitive decline on learning and memory in a rodent model, focusing on both normal aging and Alzheimer's Disease. Primary dissertation work focused on the efficacy of a weekly cyclic ketogenic diet as a therapeutic for age-related cognitive dysfunction. Experience with training rodents on various interactive touchscreen tasks, Morris Water Maze task, micro-infusions of pharmacological agents into the brain, blood collection for assessing metabolites, and statistical analysis and interpretation of results.*

**Summer Neuroscience Intern** May 2018 – August 2018
Department of Neuroscience, University of Florida Gainesville, FL, United States
*Research assistant in an animal behavior lab examining effects of aging on memory using a rodent model. Gained experience training subjects on object discrimination tasks using a physical maze and interactive touchscreen, handling rodents, feeding procedures, Keyence microscope fluorescent imaging, and Cryostat slicing of brain tissue.*

**Undergraduate Research Assistant** January 2016 – May 2018
Department of Neuroscience, Washington & Lee University Lexington, VA, United States
*Research assistant in an animal behavior lab, examining mechanisms of olfactory learning and memory in ants. Gained experience with general lab protocols (pipetting, specimen handling, data collection), associative learning paradigms, brain dissection, and behavioral analysis.*

## Publications

**A Cyclic Ketogenic Diet Improves Spatial Learning and Memory in Aged, but not Young Rats and does not Affect Arc Expression in the Dentate Gyrus** (**Tara L. Cooper**, Sophia Uhlyar, Sihini Atalugama, Daniela Zambrano Rios, Cory M. Watson, Katelyn N. Lubke, Sara N. Burke)
*In preparation* Expected Summer 2026

**Visual cortical LFP in relation to the hippocampal theta rhythm in track running rats** (Jack P. Kennedy, Yuchen Zhou, Yu Qin, Sarah D. Lovett, **Tara Cooper**, Alex Sheremet, Sara N. Burke, Andrew P. Maurer)
*Frontiers in Cellular Neuroscience*, doi.org/10.3389/fncel.2023.1144260 June 2023

**Nonlinear Theta-Gamma Coupling between the Anterior Thalamus and Hippocampus Increases as a Function of Running Speed** (Yu Qin, Alex Sheremet, **Tara L. Cooper**, Sara N. Burke, Andrew P. Maurer)
*eNeuro*, doi.org/10.1523/ENEURO.0470-21.2023 March 2023

**Unilateral Perforant Path Transection Does Not Alter Lateral Entorhinal Cortical or Hippocampal CA3 Arc Expression** (**Tara L. Cooper**, John J. Thompson, Sean M. Turner, Cory Watson, Katelyn N. Lubke, Carly N. Logan, Andrew P. Maurer, Sara N. Burke), *Frontiers in Systems Neuroscience*, doi.org/10.3389/fnsys.2022.920713
June 2022

**Experience-dependent effects of muscimol-induced hyperexcitation on mnemonic discrimination** (Sarah A. Johnson, Sean M. Turner, Katelyn N. Lubke, **Tara L. Cooper**, Kaeli E. Fertal, Jennifer L. Bizon, Andrew P. Maurer, Sara N. Burke), *Frontiers in Molecular Neuroscience, Special topic: Learning and Memory*, doi.org/10.3389/fnsys.2018.00072 January 2019

## Research Presentations & Panel Discussions

- "**Graduate Research**" [Panel for Undergraduates], University of Florida, Gainesville, FL, USA *July 2023*
- "**A Weekly Cyclic Ketogenic Diet in Females as a Preliminary Therapeutic for Age-Related Cognitive Dysfunction**" [Poster], Florida Consortium on the Neurobiology of Cognition, Jupiter, FL, USA *May 2023*
- "**Elucidating the role of hippocampal and perirhinal connectivity in a paired associates learning task**" [Poster], North Central Florida Chapter, Society for Neuroscience, Gainesville, FL, USA *February 2023*
- "**Elucidating the role of hippocampal and perirhinal connectivity in a paired associates learning task**" [Poster]**,** Society for Neuroscience, San Diego, CA, USA *November 2022*
- "**The Effects of a Weekly Cyclic Ketogenic Diet on Paired Associates Learning in a Rodent Model**" [Poster], Cognitive Aging Conference, Georgia Institute of Technology *April 2022*
- "**Cortical and Hippocampal Activity Altered with Loss of Perforant Path Fibers**" [Virtual Poster], Global Connectome, Society for Neuroscience *January 2021*
- "**Undergraduate Program Admissions and Research Opportunities**" [Panel], 3rd Annual Brain Bee, University of Florida, Gainesville, FL, USA *November 2019*

## Certifications & Training

**Inclusive Mentor Academy for Graduate Education** May 2023
*The Inclusive Mentor Academy for Graduate Education (IMAGE) is an 8-week training program at the University of Florida following curriculum developed by the Center for the Improvement of Mentored Experiences in Research (CIMER).*

## Mentorship

**Sophia Uhlyar** (2023-2024) current 4th-year student at the University of Florida
Honors & Awards: University Scholars Program, 3rd place poster at NCF SfN regional conference
**Sihini Atalugama** (2023-2024) began medical school in the 2025 cycle
**Jerrica Francisco** (SNIP, Summer 2023) applying to post-baccalaureate programs for 2026

## Professional Memberships and Service

**Scholarship Evaluator** for CLS Program and CLS Spark 2025, 2026
**Member:** Society for Neuroscience (*January 2021-Present*); Japanese Tea Society *(August 2025-Present)*; Society for Neuroscience, North Central Florida Chapter (*August 2019-2024*); Japan Neuroscience Society (*February 2022-Present*); Psi Chi **(***May 2019*); Japanese Honors Society (*May 2019*)

## Additional Skills

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| **Data Analysis & Statistics:** | R/R-Studio, SPSS, GraphPad Prism, ImageJ, Adobe Photoshop, Jamovi |
| **Animal Models:** | Rodent, Xenopus, Ant |
| **Rodent Handling & Behavior:** | Injections (intraperitoneal and subcutaneous), Oral Gavage, Survival Surgery (cannula implantation, viral injection), Blood Collection (tail vein), Perfusion, Morris Watermaze, Paired Associates Learning, Object-Place Paired Association |