

# BRANDON A. FRICKER

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## EDUCATION

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### **In progress: Ph.D. Neuroscience and Animal Behavior**

8/2019–Pres.

Advisor: Dr. Aubrey M. Kelly

Emory University, Atlanta, GA 30307

### **M.S. Neuroscience and Animal Behavior**

8/2019– 4/2021

Advisor: Dr. Aubrey M. Kelly

Emory University, Atlanta, GA 30307

### **B.S. Behavioral Neuroscience & B.S. Social Psychology**

8/2015–5/2019

Advisor: Dr. Julie S. Haas

Lehigh University, Bethlehem, PA 18015

GPA: 3.97

## RESEARCH EXPERIENCE

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### **Research Interests**

To understand how circuits and microcircuits in the brain result in the extraordinary amount of diversity in social behaviors observed across taxa.

Gregariousness, Inter-group interactions, social motivation, cooperation, aggression, and prosocial behavior are of particular interest.

### **Comparative Social Neuroscience Lab**

8/2019–Pres.

Emory University, Atlanta, GA

Graduate Student | Dr. Aubrey M. Kelly

- Examining plasticity in nonapeptide system connectivity using prairie voles
- Characterizing social behaviors of the African spiny mouse
- Utilizing chemogenetics to map prosocial neural circuits
- Designing a novel behavioral assay for measuring coordinated cooperation

### **Electrical Synapse Neurophysiology Lab**

8/2016–8/2019

Lehigh University, Bethlehem, PA

Honors Student & Research Assistant | Dr. Julie S. Haas

- Examined activity dependent plasticity of electrical synapses in rat brain slices via electrophysiology and optogenetics (manuscript under revision)

### **St. Luke's Hospital**

5/2017–8/2017

Bethlehem, PA

Research Intern

- Assisted in conducting a clinical study examining the benefits of new app on weight loss.
- Gained experience with statistical analysis of research data using SPSS

## ADDITIONAL SKILLS AND TRAINING

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**Technical Skills:** Animal Handling | Husbandry | Behavioral Scoring | Neurosurgeries | Perfusion | Euthanasia | Brain Dissection | Brain Slicing via Cryostat & Vibratome | Fluorescent Immunohistochemistry | iDISCO+ | fiber Photometry | Imaging via Fluorescent & Lightsheet Microscopes | Cell Counting | Electrophysiology | Dual Whole Cell Patch Clamping

**Software:** Matlab | GIMP | SPSS | BORIS

**Languages:** R | Matlab

Fricker, BA

## PUBLICATIONS (reverse chronological order)

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### A. In Preparation or Submitted:

1. **Fricker B.A.**, Seifert A.W., Kelly A.M. (2022) Characterization of social behavior in the spiny mouse, *Acomys cahirinus*. *Ethology*, 00, 1-15.
2. **Fricker B.A.**, Heckman E., Cunningham P.C., Wang H., Haas J.S. (2021) Activity-dependent long-term potentiation of electrical synapses in the mammalian thalamus. *The Journal of Neurophysiology*, 125(2), 476-488.

## PRESENTATIONS (reverse chronological order)

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5. **Fricker B.A.**, **Kelly A.M.** (2021) Neural Circuitry of Gregariousness in Spiny Mice (*Acomys cahirinus*). Learning about Laney Showcase. Emory University, Atlanta, GA. (poster)
4. **Fricker B.A.**, **Kelly A.M.** (2021) Neural Circuitry of Gregariousness in Spiny Mice (*Acomys cahirinus*). Annual Meeting for the Society of Behavioral Neuroendocrinology. Online. (poster and Data Blitz)
3. **Fricker B.A.**, **Kelly A.M.** (2020) Characterization of Social Behavior in the African Spiny Mouse (*Acomys dimidiatus*). Annual Meeting for the Animal Behavior Society. Online. (lightening talk)
2. **Fricker B.A.** (2019) Long Term Potentiation of Electrical Synapses. 12<sup>th</sup> Department of Psychology Annual Research Festival. Emory University, Atlanta, GA. (poster)
1. **Fricker B.A.** (2018) Long Term Potentiation of Electrical Synapses. Annual Meeting for the Society for Neuroscience. San Diego, CA. (poster)

## GRANTS, HONORS, AND AWARDS

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National Defense Science and Engineering Graduate Fellowship (NDSEG)	2021- Pres.
Laney Graduate School Fellowship	2019 – 2024
Dean's List at Lehigh University	2015 – 2019
Undergraduate Research Grant	2017 – 2018
Lehigh University Student Opportunity Fund Grant	2018
Epstein Family Undergraduate Research Grant	2018 – 2019

## TEACHING EXPERIENCE

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<b>Peer Tutor</b>	2017 – Pres.
Lehigh University, Bethlehem, PA	
• Tutor students in Organic Chemistry 1 & 2 and Introductory Biology	

## OUTREACH AND LEADERSHIP

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<b>Pipeline</b>	2020 – Pres.
Graduate Mentor   Emory University, Atlanta, GA	
• Assist underprivileged high school students in the Atlanta metro area with preparing for applying for college	
• Teach students weekly about important topics in neurology and public health	
<b>St. Luke's IRB</b>	2017 – 2019.
Board Member   Bethlehem, PA	
• Review and vote on upcoming clinical studies to be conducted at St. Luke's Hospital	

## PROFESSIONAL MEMBERSHIPS

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Society for Behavioral Neuroendocrinology  
Society for Neuroscience  
Animal Behavior Society

2019 – Pres.  
2018 – Pres.  
2020 – Pres.