

# CONNOR G. GALLIMORE

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## Contacts

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## Location

Georgia State University  
Neuroscience Institute (PSC)  
100 Piedmont Ave SE  
Atlanta, GA 30303

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## Education

GEORGIA STATE UNIVERSITY <b>Doctoral Program in Neuroscience</b>	Atlanta, GA 8/19 – present
UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL <b>B.S., Psychology, Chemistry &amp; Neuroscience minors</b>	Chapel Hill, NC 8/13 – 5/17
NEUROMATCH ACADEMY <b>Three-week intensive online computational neuroscience program</b>	Online 7/20 – 8/20

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## Research Experience

GEORGIA STATE UNIVERSITY <b>Graduate Student</b> <i>Advisor: Dr. Jordan P. Hamm</i> Doctoral research on the role of local cortical microcircuitry in context processing in mouse primary visual cortex using <i>in vivo</i> 2-photon microscopy in conjunction with a visual oddball paradigm.	Atlanta, GA 8/19 – present
EMORY UNIVERSITY <b>Research Specialist</b> <i>Supervisor: Dr. Samuel J. Sober</i> Led a project to establish fiber photometry, an <i>in vivo</i> calcium imaging method, for real-time measurement of neural population activity in behaving songbirds. <ul style="list-style-type: none"><li>• Conducted experiments assessing viral expression of genetically encoded calcium indicators, and probing anatomical connectivity of midbrain dopaminergic circuitry with song production brain areas</li><li>• Designed, built, and de-noised a stereotactic surgery rig capable of acute electrophysiology, data acquisition, and signal generation</li><li>• Optimized electrophysiological processes and automated stereotactic injections using a Drummond Nanoject II (3-000-204) and custom-built electronic circuitry controlled by MATLAB</li><li>• Assembled 15 ventilated, light-cycle regulated soundboxes to establish an in-house breeding colony</li></ul>	Atlanta, GA 7/17 – 8/19
UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL <b>Undergraduate Research Assistant</b> <i>Supervisors: Drs. Regina M. Carelli and Seth W. Hurley</i> Investigated the neural mechanisms mediating encoding of aversive/hedonic experiences in a preclinical model using a novel cocaine-induced natural reward devaluation paradigm. <ul style="list-style-type: none"><li>• Conducted operant box experiments measuring oral/forelimb behaviors, collectively known as taste reactivity, exhibited by c-fos-lacZ transgenic rats in response to oral infusions of sucrose and quinine</li></ul>	Chapel Hill, NC 6/16 – 6/17

- Developed a thresholding protocol in ImageJ to quantify Fos protein expression, a marker of neuronal activity, in both core and shell regions of the nucleus accumbens
- Learned stereotactic procedure, microscopy, and histology

UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL

Chapel Hill, NC

**Undergraduate Research Assistant**

2/15 – 5/16

*Supervisor: Dr. Sylvia A. Frazier-Bowers*

Investigated how mutational variants of the parathyroid hormone 1 receptor (PTH1R) gene relate to phenotypic expression of a disorder called primary failure of eruption (PFE), observed in human teeth.

- Maintained patient database, and implemented molecular techniques such as DNA precipitation and purification, PCR, gel electrophoresis, and submission for sequencing core analysis

**Abstracts & Poster Presentations**

Wood A. N., Saravanan V., Jacob A. L., **Gallimore C. G.**, Hercules D., Sober S. J. Dopaminergic contributions of vocal learning. *Basal Ganglia Gordon Research Conference* (Poster); March 11-15; Ventura, CA, USA

**Outreach & Mentorship**

ATLANTA BRAIN AWARENESS CAMPAIGN

Greater Atlanta Area

**Volunteer Visiting Speaker**

9/17 – present

- Developed presentations for elementary school classes tailored to answer student-inspired questions about neuroscience and brain function, leveraging local ACSfN lending library teaching brains (maintained by Emory and Georgia State) as educational resources
- Schools visited: Level Creek Elementary (9/17-9/18), C.A. Roberts and Boyd Elementary (2/20-3/20)

*FIRST*<sup>®</sup> LEGO LEAGUE

Decatur, GA

**Project Mentor**

8/18 – 1/19

- Conducted weekly practices to educate fourth and fifth grade primary school students about the process of solving complicated problems in science
- Taught students how to program a small robot to perform tasks interacting with Lego models and calibrate it experimentally to produce the desired output
- Culminated in local and regional competitions where our students and other *FIRST*<sup>®</sup> Lego League teams competed for points based on their robot’s ability to complete pre-defined tasks consistently

CAMP KESEM UNC CHAPEL HILL

Chapel Hill, NC

**Camp Counselor**

2/15 – 8/17

- Served as a volunteer counselor at a week-long camp provided for children who have been affected by a parent’s cancer (4 sessions in total: back-to-back weeks in 2016)
- Nominated and elected Empowerment Program Leader for the August 2017 session – involved collaborating closely with the organization’s Director and Program Coordinators to design a ceremony facilitating a safe and empathic environment for a child to share personal experiences with cancer, if they chose to do so

Provided conceptual and technical research guidance to students:

- **Abi Grassler**, undergraduate student, Sober Lab, Emory University 1/18 – 5/18
- **Clara Wang**, undergraduate student, Sober Lab, Emory University 5/19 – 7/19

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## University Service & Interest Groups

EMORY UNIVERSITY Atlanta, GA  
**Data Science for Scientists ATL** 8/18 – 5/19

- Attended workshops, meetings, and seminars pertaining to data science research methods and applications of data science to biological research

EMORY UNIVERSITY Atlanta, GA  
**Dopamine Journal Club** 7/17 – 7/19

- Met weekly with faculty, grad students, and post-docs to present, discuss, and critically evaluate scientific literature on cortico-basal ganglia-thalamic and midbrain dopaminergic brain circuitry

INTER-FRATERNITY COUNCIL (IFC), UNC CHAPEL HILL Chapel Hill, NC  
**Judicial Board Jury Member** 2/16 – 2/17

- Represented Lambda Chi Alpha in conduct hearings regarding IFC violations alleged to have been committed by campus fraternities
- Participated in the decision-making process for issuing sanctions if an organization was determined to have acted in violation of IFC policy

LAMBDA CHI ALPHA FRATERNITY, UNC CHAPEL HILL Chapel Hill, NC  
**Scholastic Chairman** 11/14 – 11/15

- Organized and managed funds to create incentives rewarding brothers for outstanding academic performance
- Conducted individual meetings with brothers struggling to meet organizational standards to guide them toward helpful university resources and devise a plan with them for improvement

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## Honors & Awards

Brains & Behavior Fellowship (GSU)	2020
Second Century Initiative (2CI) University Doctoral Fellowship (\$22,000/year; declined)	2019
Sue and Richard Farrington Scholarship	2015
University of North Carolina at Chapel Hill Dean's List	2013
George Foster Hankins Scholarship, Wake Forest University (declined)	2013

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## Professional Skills

**Data acquisition/analysis:** experience with ImageJ, Python, MATLAB, SPSS statistical software, DataStudio, PASCO Capstone, and National Instruments hardware for analog/digital triggering and signal generation

**Surgical techniques:** rodent and songbird species – stereotactic adeno-associated virus and anatomical tracer injections, acute *in vivo* electrophysiology, fiber optic/drug infusion cannula implantation, and cranial windowing

**Histological techniques:** transcordial perfusion fixation and immunohistochemical labeling

**Microscopy techniques:** bright-field, epifluorescence, confocal, *in vivo* 2-photon, and associated image analysis

**Molecular techniques:** micropipetting, DNA precipitation, PCR, ExoSAP-it, gel electrophoresis, spectrophotometry, and solution preparation

**Animal handling:** intramuscular, intraperitoneal, and subcutaneous drug administration; weaning and genotyping; husbandry and operant box experiments; behavioral video scoring and analysis

**Web:** HTML, CSS, Javascript