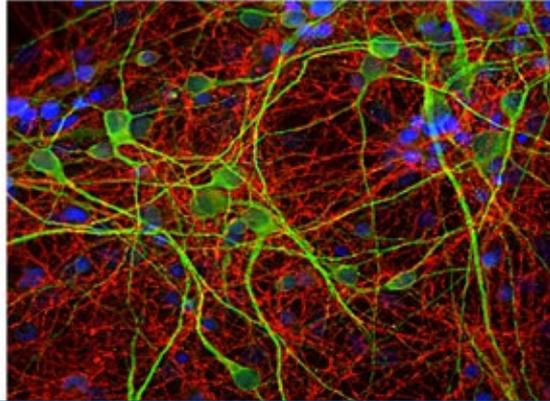


EMORY  
LANEY  
GRADUATE  
SCHOOL



## NATURAL AND SOCIAL SCIENCES NEUROSCIENCE AND ANIMAL BEHAVIOR

The program in Neuroscience and Animal Behavior (NAB) emphasizes behavior as a biological phenomenon, addressing topics within the areas of neuroscience, behavioral endocrinology, learning and memory, social behavior, cognition, and ethology.

Faculty members and students in NAB study:

- brain-behavior relationships, particularly regarding memory, cognition and social behavior;
- neuroendocrine influences on brain, behavior and cognition;
- how animals function in their natural environment; and
- the evolution of neural and cognitive mechanisms supporting behavior.

The blend of these topics demonstrates our conviction that a comprehensive understanding of behavior requires knowledge of how cognitive, neural, and physiological processes enable organisms to adapt to their natural environments. Our research is conducted primarily with non-human animals, although studies of humans are also performed by some of our faculty. We seek to apply findings to understanding human as well as animal behavior and cognition.

Students with strong interests in the neural and evolutionary bases of behavior, learning and memory, animal cognition, behavioral endocrinology, sensory processes, social behavior, communication, and the interrelations among these areas are especially encouraged to apply for admission.

### RESEARCH ENVIRONMENT

Our students conduct their research in laboratories, in semi-natural settings, and in the field. Students are engaged in their first year and throughout their entire period of residence. We employ a mentor model of student recruitment and training in which students join a specific laboratory. Before you apply, please contact faculty whose work interests you.

### PROFESSIONAL DEVELOPMENT

The Laney Graduate School offers a range of programs that encourages students to develop their professional skills, engage with broader professional communities, and prepare for their careers.

VISIT [GS.EMORY.EDU](https://gs.emory.edu) TO LEARN MORE.

## EMORY'S THRIVING RESEARCH COMMUNITY

Faculty and students in our program collaborate with researchers at a host of centers and institutions at Emory and beyond. Among them are:

- **THE YERKES NATIONAL PRIMATE RESEARCH CENTER** is one of seven National Institutes of Health-designated national primate research centers. Yerkes maintains a 115 acre field station that is home to large social groups of primates housed in semi-natural social groups.
- **THE CENTER FOR BEHAVIORAL NEUROSCIENCE (CBN)**, a National Science Foundation Science and Technology Center, is an award-winning, interdisciplinary research consortium composed of more than 100 neuroscientists spanning seven institutions in the metro Atlanta area.
- **THE DEPARTMENT OF PSYCHIATRY AND BEHAVIORAL SCIENCES** at the Emory School of Medicine is home to a number of research programs that intersect with the work of NAB faculty. These programs focus on the neural mechanisms underlying behavioral phenomena such as fear and affiliation.
- **EMORY'S GDBBS GRADUATE NEUROSCIENCE PROGRAM** has about 40 faculty members who conduct research in areas of behavioral neuroscience. Most NAB faculty hold joint appointments in the Neuroscience Graduate Program as well as NAB. Students may apply to both programs, and matriculation into one program does not preclude taking courses offered by the other. However, students should consider carefully which programs suit their training needs before applying.
- **NEUROIMAGING** Emory has state-of-the-art facilities for neuroimaging in humans, non-human primates, dogs, and small animals. Each facility is located in close proximity to NAB laboratories.
- **ZOO ATLANTA** provides access to animal collections for behavioral research projects, and has an ongoing collaboration with NAB.

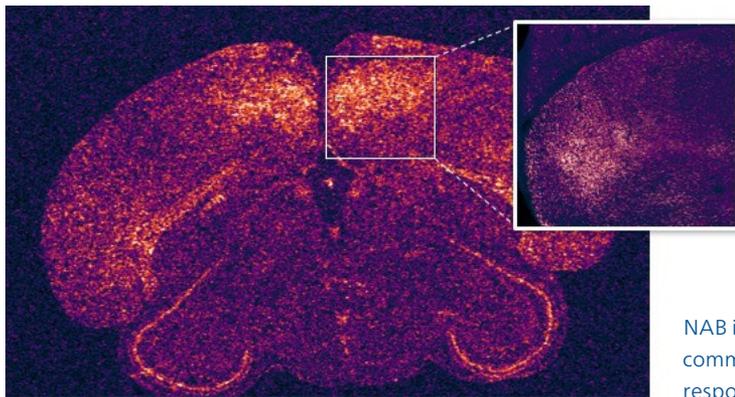
## FACILITIES

The Department of Psychology occupies a 100,000 sq ft building that facilitates teaching as well as interaction among faculty and students. The five-story building is part of a Science Commons, located adjacent to Atwood Hall (chemistry) and across the street from the Mathematics and Science Center.

Our primary research facilities are the laboratories of the NAB faculty, located in the recently built Psychology building, in the O. Wayne Rollins Research Center and at the Yerkes National Primate Research Center. Research on social groups of primates is conducted at the Yerkes Field Station, about 30 miles from the Emory campus.

## COLLOQUIA AND SEMINARS

The Psychology Department's Colloquium Series brings in scientists who are leaders in their fields to present their work to our department and to interact with our graduate students during two-day visits. Comparable series are hosted by Yerkes and the Neuroscience Program.



NAB investigators study how the brain responds to communication signals. This photo shows neuronal responses in a female songbird listening to male song.

## CURRICULUM

### COURSEWORK

NAB students develop a course of study in consultation with their research advisers to tailor their curriculum to their individual interests and gain a basic foundation in psychological and neural science. NAB students take courses that survey the fields of neuroscience and animal behavior. Quantitative courses, including a department-wide statistics course, prepare students to perform sophisticated analyses of data. Topical seminars are also offered by faculty across the department on focal research areas. Students may take advanced courses in psychology, neuroscience, genetics, biology, anthropology, or philosophy offered across the university. This curriculum encourages students to acquire breadth of understanding as well as to develop expertise and in-depth training in their chosen area of specialty.

NAB students are eligible to apply to federally-funded T32 training programs in Mechanisms of Learning or Computational Neuroscience, which include curricula tailored to those research areas.

### RESEARCH

Research is the centerpiece of graduate training in the NAB program. Our students and faculty engage in diverse research, and our shared interest in the mechanisms of behavior sets us apart from other graduate programs. Formal research requirements include a review paper, a qualifying exam, and proposing, writing and defending both a master's thesis and a dissertation.

As researchers we must also communicate our results to others in the field and beyond. An important component of our training is the weekly NAB Research Seminar in which all students and faculty participate. In the Research Seminar, faculty, students, and outside investigators present research, discuss central issues and controversies in their fields, and explore practical topics related to careers in science. A Research Seminar provides students a structured opportunity to formally present their work and ideas in a supportive atmosphere. Students present their research at national and international meetings, and financial support is available to defray expenses.

### TRAINING IN TEACHING

Training in teaching is based on the Teaching Assistant Training and Teaching Opportunity (TATTO) Program, administered by the Laney Graduate School. The program provides a mentored introduction to teaching, where students assume progressively greater responsibilities. Training includes a two day teacher training course, with faculty drawn from across the University, and a Psychology teaching practicum, which supports students as they begin their first teaching experiences. Students typically complete two teaching assistantships for undergraduate courses such as introductory psychology or statistics, and a teaching associateship, with greater responsibilities, in our experimental methods course for majors. After completing the teaching associateship, students may apply for an appointment as a Dean's Teaching Fellow, or pursue other opportunities to serve as a teaching assistant or to teach independently. Thus, students graduate with a portfolio of teaching experience that makes them attractive on the job market.

### DEGREE

The NAB program culminates in the Doctor of Philosophy (PhD) degree. We do not offer a terminal masters degree. All students in good standing are expected to continue to the PhD after receiving the masters.

## FACULTY

We have a core faculty of twelve. All have appointments in the Psychology department. Many of us also have joint appointments in related departments, programs, and centers.

- **JOCELYNE BACHEVALIER\***: development of memory and emotion in primates
- **GREGORY BERNIS**: human and canine cognitive neuroscience, fMRI
- **FRANS DE WAAL\***: primate social behavior and social cognition
- **DAVID EDWARDS\***: endocrine correlates of human competition and performance
- **HAROLD GOUZOULES**: animal behavior, primate communication
- **ROBERT HAMPTON**: memory, cognition and social behavior in primates
- **AUBREY KELLY**: evolution and development of social behavior
- **DONNA MANEY**: genetic and neuroendocrine mechanisms of social behavior
- **JOSEPH MANNS**: neurophysiology of memory
- **DARRYL NEILL\***: drugs and behavior, neurotransmitters and behavior
- **HILLARY RODMAN**: visual and comparative neuroscience
- **KIM WALLEN\***: neuroendocrinology of social and sexual behavior

Visit <http://psychology.emory.edu/home/graduate/nab/faculty.html>

\* FACULTY WHO ARE NOT RECRUITING FOR FALL 2019.

## STUDENTS

We are committed to strong individualized mentoring relationships with graduate students. Students are typically admitted into the program as a member of a specific professor's research group. All faculty are readily available for consultation and discussion. Beginning in the first year, each student receives formal advising and feedback on his or her work from a Faculty Advisory Committee including a least one member from another program in Psychology. Collaborations between laboratories, both within and outside Psychology, are encouraged.

Successful applicants generally have extensive college-level coursework in neuroscience and/or animal behavior, and a strong background in other basic science.

We typically have about 20 students in residence. Our website has information about all of them, <http://psychology.emory.edu/home/graduate/nab/students.html>

For more information on the NAB program, please explore our website, <http://psychology.emory.edu/home/graduate/nab/index.html>

### REPRESENTATIVE DOCTORAL DISSERTATIONS

**BENJAMIN BASILE**, *Recollection and familiarity in rhesus monkeys (Macaca mulatta)*

**KATHLEEN CASTO**, *The role of status motivation and social context in predicting competitive will and hormonal response to competition*

**CLAIRE GALLOWAY**, *Investigating the Effects of Specific Acetylcholine Receptor Activation on Hippocampal Function for the Treatment of Alzheimer's Disease*

**REGINA GAZES**, *Evolution of social cognition and the cognitive bases of transitive inference in monkeys*

**JESSICA RAPER**, *Neonatal Amygdala Lesions in Rhesus Monkeys Living in a Semi-Naturalistic Environment: Effects on Emotional Behavior and Neuroendocrine Stress Response*

**JOHN TRIMPER**, *Intrahippocampal Synchrony and Memory for Items in Spatiotemporal context*

### CONTACT INFORMATION

Questions about the program may be directed to:

Dr. Robert Hampton

Program Director

[robert.hampton@emory.edu](mailto:robert.hampton@emory.edu)

Questions about the mechanics of the application process may be directed to:

Ms. Paula Mitchell

Psychology Graduate Programs Academic Degree Coordinator

[paula.mitchell@emory.edu](mailto:paula.mitchell@emory.edu)



Requests for Additional Information:

Recruitment and Admissions

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209 Administration Building

201 Dowman Drive

Atlanta, GA 30322

(404) 727-6028

Fax: (404) 727-4990

[graduateschool.emory.edu](http://graduateschool.emory.edu)

[arthistory.emory.edu](http://arthistory.emory.edu)



### LANEY GRADUATE SCHOOL DEGREE PROGRAMS

Anthropology	Biostatistics	Computer Science and Informatics	French	Immunology and Molecular Pathogenesis*	Molecular and Systems Pharmacology*	Philosophy
Art History	Business (PhD)	Development Practice	Genetics and Molecular Biology*	Islamic Civilizations Studies	Neuroscience*	Physics
Behavioral Sciences and Health Education	Cancer Biology*	Economics	Health Services Research and Health Policy	Mathematics	Neuroscience and Animal Behavior (Psychology)	Political Science
Biochemistry, Cell and Developmental Biology*	Chemistry	English	Hispanic Studies	MD/PhD	Nursing	Population Biology, Ecology, and Evolution*
Bioethics	Clinical Psychology	Environmental Health Sciences	History	Microbiology and Molecular Genetics*	Nutrition and Health Sciences	Religion
Biomedical Engineering	Cognition and Development (Psychology)	Environmental Sciences				Sociology
	Comparative Literature	Epidemiology				Women's, Gender, and Sexuality Studies

\*The Graduate Division of Biological and Biomedical Sciences is home to eight interdisciplinary graduate programs.