ABOUT THE PROGRAM

The undergraduate major in neuroscience is an interdisciplinary program focused on the neural mechanisms involved in the control of human or animal behavior. It combines a strong foundation in basic science with more specialized courses in biology and psychology. Brandeis University is an exciting place for neuroscience research and study because we have an outstanding and highly interactive research community of students, postdocs and faculty. Our neuroscience department is widely recognized as one of the best in the United States.

FAST FACTS

Current number of majors: 92

Number of faculty: 24

Can you minor in this program? No

Emphasis within the major: behavioral and cognitive neuroscience, cellular systems, genetics

Popular second majors: biology, psychology

Website: www.bio.brandeis.edu/undergrad/neuro

What makes the program distinctive?

One of the most valuable aspects of a Brandeis education in the life sciences is the opportunity to carry out cutting-edge research. There are many research opportunities in science faculty laboratories. Many students begin working in labs as early as their first semester, developing skills that lead up to a substantial senior honors thesis. Undergraduate research is aimed at significant unanswered problems in science. Since 2003, Brandeis undergraduates have been co-authors on more than 130 peer-reviewed research publications.

ACADEMICS AND RESEARCH

Course offerings
There is a wide selection of classes in neuroscience, ranging from motor control and perception to neurogenetics and computational neuroscience. Some popular classes include "Introduction to Behavioral Neuroscience" and "Autism and Human Developmental Disorders." The breadth of the program allows students, once they have taken the popular core course "Principals of Neuroscience," to focus primarily on human-level courses taught by psychology faculty or cellular-level courses taught by biology faculty. Similarly, students can participate in research projects on topics ranging from human memory or motor control to uncovering the proteins involved in modifying the connections between neurons.

BEYOND THE CLASSROOM

Independent research
Neuroscience and psychology double major Roee G. '09 completed an honors thesis research project investigating which regions of the brain are engaged with the formation of first impressions. Using functional magnetic resonance imaging, he studied how the prefrontal cortex transfers initial impressions to areas of the brain involved in the formation of memories.

Study abroad
One popular study site for neuroscience majors is King's College London, which is known for its premed and health sciences departments and has one of the largest groups of basic and clinical scientists studying brain development, disease and repair at any university in the world. Also, we are formalizing an exchange program with University College London, a leading international center in systems neuroscience.

Summer internships
Nicholas H. '11, a neuroscience and biology double major, interned one summer at Cedars-Sinai Medical Center in Los Angeles, which aims to advance medical knowledge and to provide the highest quality of care for its patients. Nicholas observed surgeries and studied how tumor cells evade the immune system by mutating post-chemotherapy.

AWARDS AND RECOGNITION

Distinguished students and faculty
Recent neuroscience majors at Brandeis have received Fulbright and Goldwater scholarships. Four Brandeis neuroscience researchers have been elected members of the National Academy of Sciences (Michael Rosbash, David de Rosier, Chris Miller, Eve Marder); two are Howard Hughes Medical Investigators (Michael Rosbash, Chris Miller). Eve Marder served as president of the Society for Neuroscience, and Gina Turrigiano was awarded a MacArthur Fellowship.

AFTER BRANDEIS

Recent graduates
The majority of those graduating from Brandeis with a BS in neuroscience either proceed to medical school to pursue an MD or go on to graduate school for a PhD. One neuroscience major, Ilya S. '08, commented to a faculty member as he crossed the stage during graduation, "Your reference helped me get into medical school!" Aryn G. '01 has published nine scientific papers since completing the major at Brandeis while pursuing a PhD at the Salk Institute, then doing postdoctoral research at the University of California, San Francisco. Aryn G. is currently a professor at a major research university. Lynne G. '04 got a PhD in medical psychology and has just started an academic career as an assistant professor at Ohio State.

Graduate programs
The graduate program in neuroscience at Brandeis is designed to equip students with the advanced knowledge and training necessary to conduct research in this interdisciplinary field. After gaining the doctorate, most continue neuroscience research in either an academic or an industrial setting; others have made use of skills they obtained while working at Brandeis to springboard into careers ranging from systems management to graphic design.

"The professor is passionate about the subject and holds great command over the content. I also really enjoyed the inclusion of papers and current research in the course — it helps to put everything in perspective."

Comments from a recent neuroscience course evaluation

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