

School of Behavioral and Brain Sciences

Doctor of Philosophy in Cognition and Neuroscience



The Systems Neuroscience track focuses on fundamental neuroscience research, usually using animals models. A primary theme of research in this track is neuronal plasticity, either at the cellular or circuit level. Specific areas of emphasis are emotional learning, neuroimmune interactions, vagus nerve-mediated targeted plasticity, affective disorders and addiction and neurobiology of chronic pain. Many PhD students have obtained F31 funding from NIH and students typically graduate within 5 years with at least 2 first author publications.



The PhD program in cognition and neuroscience offers exceptional research facilities, including state-of-the art laboratories for investigating neuroanatomical, neurophysiological, neurochemical, and neuropsychological processes, as well as for conducting advanced mathematical analyses and modeling. In addition, the school's centers, such as the Center for BrainHealth and the Center for Vital Longevity, house outstanding research facilities for the study of cognitive neuroscience, including cutting-edge brain imaging technologies for identifying the neural signatures of learning, aging, and disease. Collaborative arrangements with the UT Southwestern Medical Center expand student research opportunities through additional access to clinical populations and neuroimaging facilities.

PhD students selected for the program are fully funded through either a teaching assistantship (TA) or a research assistantship (RA). The minimum funding amount is \$2,000 per month, guaranteed for nine months. Additionally, all PhD students receive a tuition waiver from the university.

Program Description

The PhD program in cognition and neuroscience is divided into two tracks: cognitive neuroscience and systems neuroscience. Coursework and some degree requirements differ between the two tracks, but all students are required to complete a minimum of 75 semester credit hours beyond the baccalaureate degree. For complete admission and degree requirements, view the Graduate Catalog at catalog.utdallas.edu.

Career Opportunities

Graduates of the program seek positions such as: neuroscientist in academic, private practice, industry or medical settings; researcher or professor.

Marketable Skills

Upon successful completion of the PhD in Cognition and Neuroscience, UT Dallas doctoral graduates will have contributed new knowledge to our understanding of the nervous system.

- Students will have advanced scientific writing and presentation skills.
- Students will understand how to plan and implement scientific projects.
- Students will have advanced data analysis skills that are applicable to many scientific disciplines.

Contact Information

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bbs.utdallas.edu
bbs.utdallas.edu/degrees/cns/

School of Behavioral and Brain Sciences

About the School



The School of Behavioral and Brain Sciences is focused on the intersection of mind, brain and behavior. Through the school’s research-intensive culture, our professors and students work together to unravel mysteries that will improve human lives. They accomplish this by engaging in novel scientific discovery, translating the latest research into treatments, and sharing this knowledge through professional and community outreach. The School provides innovative training and research, offering an array of programs to develop creative thinkers. Graduate training in BBS prepares students to become scientists, educators, clinicians, social service professionals, innovators, and corporate leaders.

Graduate Research

The School of Behavioral and Brain Sciences is committed to translating the latest research into interventions that add depth to education and provide valuable contributions to the health and well-being of humans. BBS researchers in neuroscience, psychology, and speech, language, and hearing sciences have many research grants from the most prestigious national funding agencies, including the National Institutes of Health and the National Science Foundation.

Departments

- Neuroscience.** Research in the Department of Neuroscience focuses primarily on cell and circuit plasticity in the nervous system and how this influences behavior. Major research strengths are in learning and memory; targeted plasticity for therapeutic intervention; and the neurobiology of pain.
- Speech, Language, and Hearing Sciences.** Research in the Department of Speech, Language, and Hearing Sciences, based at the Callier Center for Communication Disorders, this program emphasizes clinical and translational research in basic scientific understanding of brain and behavioral mechanisms of speech, language, and hearing, as well as on disorders that affect the ability of children and adults to communicate. Research strengths broadly encompass basic science, applied (translational) applications, prevention, and remediation.
- Psychology.** Research in the Department of Psychology focuses on all aspects of cognitive, developmental, and social psychology, and cognitive neuroscience. Areas of expertise include learning and memory; reasoning; perception; modeling; lifespan development (from early childhood through the oldest old); and brain disease (e.g., autism, schizophrenia, traumatic injury, neurodegeneration, addiction).

BBS Graduate Programs		
Applied Cognition and Neuroscience	MS	
Audiology		AUD
Cognition and Neuroscience		PHD
Speech-Language Pathology	MS	
Speech, Language, and Hearing Sciences		PHD
Human Development and Early Childhood Disorders	MS	
Psychology	MS	PHD

Contact Information

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About the School



Research Centers

Many of the school's activities are shaped significantly by faculty and student involvement in five centers listed below.

Callier Center for Communication Disorders: The Center is a national leader in providing care for children and adults with speech, language, and hearing disorders. Supporting this clinical mission, faculty members research the causes, treatments and prevention of communication disorders.

Center for Advanced Pain Studies: This Center's mission is to elucidate fundamental mechanisms underlying chronic pain, and to discover novel therapeutics for the treatment of chronic pain through academic, public and private partnerships.

Center for BrainHealth: This Center focuses its research on understanding the brain's ability to restore or protect healthy function, to protect the brain from unnecessary mental decline and to heal the brain through treatments that regenerate function.

Center for Children and Families: Center research emphasizes parenting and healthy families, strengthening interpersonal relationships, and enhancing thinking and learning.

Center for Vital Longevity: This Center focuses on understanding and expanding the capacity of the aging mind, aiming to understand how the brain changes over the lifespan, the consequences of neural aging on everyday function, and interventions that show promise for slowing cognitive aging.

Texas Biomedical Device Center: The Center consists of scientists, engineers, medical doctors, regulatory specialists, and clinicians committed to the development of affordable and innovative therapies and technologies to improve the quality of life for individuals suffering from neurological disorders.

Additional Facts about BBS

- Our Audiology and Speech-Language Pathology programs are ranked #2 and #10 in the nation respectively, according to *U.S. News and World Report*.
- The School is home to leading experts in Psychology, Neuroscience and Speech, Language, and Hearing Sciences.
- In fiscal year 2019, BBS faculty members were responsible for nearly \$13 million in total research funding, including roughly \$12 million from National Institutes of Health, National Science Foundation, and Department of Defense.
- BBS has more than 2,300 undergraduate students and nearly 600 graduate students, including two of the top 10 undergraduate majors at UTD (Neuroscience, Psychology).

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