

**YOU CAN MAKE
NEW DISCOVERIES IN
NEUROSCIENCE**

POSSIBLE THROUGH:

GRADUATE FELLOWSHIPS

Bring the brightest graduate students to CMU and help build a student body that reflects the world where these future neuroscience trailblazers will lead by removing financial barriers to their education.

**TRAVEL AND
CONFERENCE FUNDS**

Accelerate faculty and student research by facilitating connections with peers and exposing them to cutting-edge research from around the world.

**ENDOWED
PROFESSORSHIPS**

Provide faculty with funding that fuels their teaching and advances their research and will help us recruit and retain great educators and researchers.

INNOVATION FUNDS

Invest in current programs, new initiatives and promising areas of inquiry, helping to keep the Neuroscience Institute at the forefront of neuroscience education and research.

CENTER DIRECTORSHIP

Support the Neuroscience Institute's mission and help the director address emerging priorities with endowed funding.

**FOCUS AREA-SPECIFIC
FUNDS**

Empower promising ideas in our four focus areas with critical funding that encourages researchers to push boundaries and take risks.

**Carnegie
Mellon
University**

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makepossible.cmu.edu

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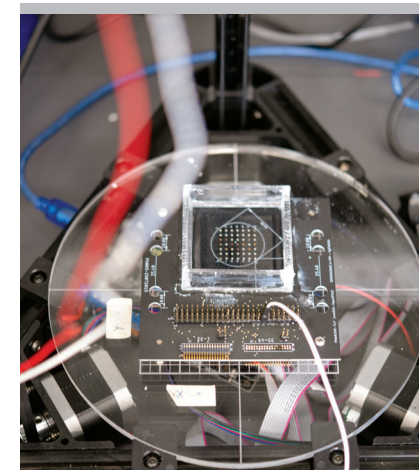
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**MAKE
POSSIBLE**

THE CAMPAIGN FOR
CARNEGIE MELLON UNIVERSITY

THE NEUROSCIENCE INSTITUTE
SUPPORT TRANSFORMATIVE ADVANCES IN NEURAL SCIENCES



**THE NEUROSCIENCE
INSTITUTE IS
A LEADER IN
COLLABORATIVE,
INTERDISCIPLINARY
RESEARCH** that is

advancing the current state of brain science and developing neural technologies and tools, leading to effective treatments for neurological disorders.

One in four people will be affected by a mental or neurological disorder at some point in their lives. In fact, mental disorders are the leading cause of illness and disability worldwide. Understanding the enormous complexity of the human brain is the first step toward treating crippling diseases and disorders such as Parkinson's disease, Alzheimer's disease, stroke and addiction.

Harnessing Carnegie Mellon University's core strengths in biological sciences, cognitive science, computation, data science and engineering, the Neuroscience Institute is uniquely positioned to advance a new kind of neuroscience. We are leading the way in developing interdisciplinary research to understand and improve brain function in both healthy and diseased brains, to invent and apply the next generation of neural technologies and tools, and to educate tomorrow's neural science leaders.

Your commitment will advance the Neuroscience Institute's work by supporting student and faculty researchers as they discover new insights into the function of the human brain and make substantial progress toward therapies and treatments for neurological disorders.



As part of the Neuroscience Institute, **THE CENTER FOR THE NEURAL BASIS OF COGNITION** (CNBC) is CMU's training partnership with the University of Pittsburgh.

It leverages the strengths of CMU in cognitive and computational neuroscience with Pitt's strengths in clinical neuroscience, supporting a coordinated cross-university research and educational program of international stature.

“The Neuroscience Institute engages faculty and trainees from all across the university, creating a truly interdisciplinary community. I am constantly inspired by our researchers and the life-changing work they are doing. We're asking some of the biggest questions of our time, with some of the most creative minds in the world.”

— Barbara Shinn-Cunningham,
Director of the Neuroscience Institute

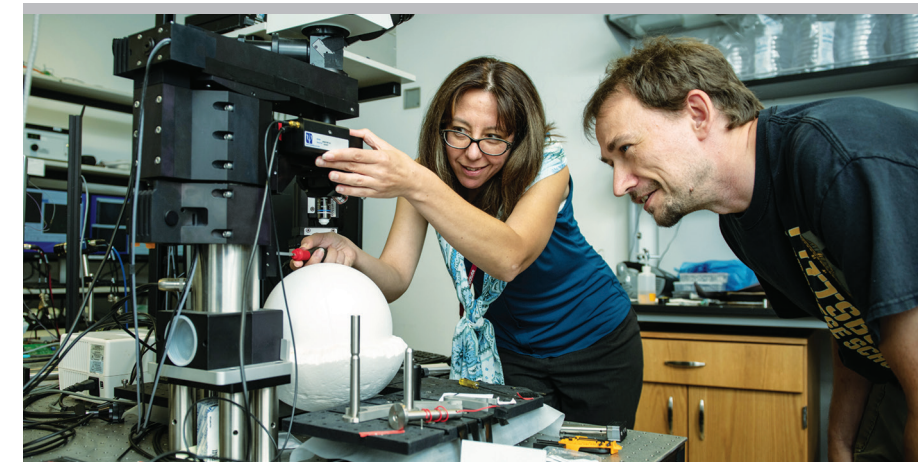


Graduate students work in the Mellon Institute MRI Lab.

OUR RESEARCH FOCUS

The Neuroscience Institute focuses on four key research areas with the potential for revolutionary breakthroughs:

- **Cognitive neuroscience** explores the psychological and neural mechanisms that support human perception, learning, memory, language, problem-solving and social behaviors.
- **Neuro-technology and engineering** designs and implements the next generation of neural interfaces to better understand brain function and dysfunction and addresses clinical needs by designing new tools.
- **Computational neuroscience** uses tools like statistics and machine learning for deeper understanding of neuronal activity.
- **Systems neuroscience** seeks to understand how the diversity of discrete neural cell types enable perception and behavior.

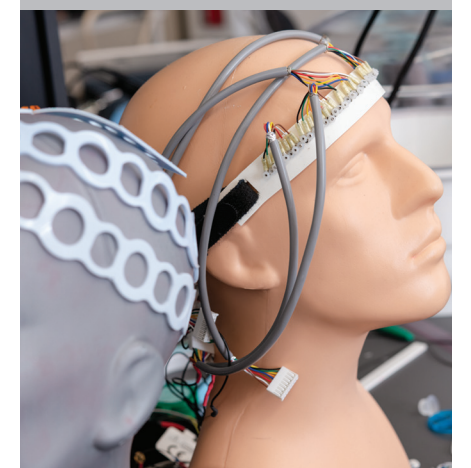


WHAT WE'RE *making* POSSIBLE

Neuroscience researchers at CMU are asking some of the most fundamental questions about the brain: How does it control behavior, how does it develop and change, and how can we deliberately change its behavior?

By investigating these questions, we are accelerating research leading to the following:

- Brain-machine interface technology used in robotic prosthetics for people recovering from stroke
- Implantable devices that can stimulate brain activity and lead to better treatments for Parkinson's disease
- Next-generation hearing aid devices that filter out unwanted sounds, amplifying only the sounds on which the listener is focused
- A deeper understanding of the earliest signs of Alzheimer's disease
- Better methods to identify those who may be at risk for addiction by exploring the social, emotional and genetic aspects of these behaviors



EDUCATING THE NEXT GENERATION OF NEUROSCIENTISTS

Along with advancing neuroscience research today, the Neuroscience Institute is committed to enhancing the educational experience for the graduate and undergraduate students who will become the brain science leaders of tomorrow.

The Neuroscience Institute's training programs include doctoral programs in neural computation and psychology and an undergraduate major in neuroscience as well as minors in neuroscience and neural computation.

The CMU culture encourages sharing ideas and knowledge across disciplinary lines, fosters innovation, and empowers risk taking and challenging conventions. The Neuroscience Institute builds on that solid foundation by promoting diversity in our field and maintaining an inclusive, respectful environment that values and supports all faculty, staff and students. In this atmosphere, new ideas flourish and science advances.