



Many of the cutting-edge treatments available to patients with neurological disorders today began with the work of scientists in laboratories.

The scientists in the Department of Translational Neuroscience at Barrow Neurological Institute perform basic and translational neuroscience research to better understand the mechanisms of various neurological diseases and translate those findings to the clinic, where they impact patient care.

The partnerships between our scientists and clinicians foster a collaborative culture to solve the most difficult challenges in neurologic diseases. It also means scientists work closely with patients affected by the diseases they study, facilitating rapid translation to patients. This environment makes Barrow a unique place for neuroscience research.

By combining the greatest minds in the field, we strive to advance our knowledge of the nervous system and neurological disorders, develop better treatments, improve tools for diagnostic and prognostic indicators of disease, and train the next generation of neuroscientists.

For More Information

BarrowNeuro.org/Research

Areas of Laboratory Research

- Neurodegeneration
- Brain Tumors
- Molecular and Cellular Neuroscience
- Neuroimaging
- Neurovascular and Stroke
- Neurotrauma and Spine
- Neuroinflammation
- Neurotrauma, Metabolism, and Systems Neuroscience
- Neurosurgery Device and Spine Biomechanics

Clinical Research

At any given time, Barrow is participating in over 400 clinical research studies and clinical trials for a variety of neurological diseases.

Barrow is one of only 25 sites in the nation to be part of the Network for Excellence in Neuroscience Clinical Trials (NeuroNEXT), which was created to improve access to clinical trials and facilitate faster answers to clinical questions.

Barrow is home to the Ivy Brain Tumor Center, the largest Phase 0 clinical trials program in the world and the first of its kind for neuro-oncology. The center is accelerating drug discovery and precision medicine in effort to find the most promising therapies for aggressive brain tumors like glioblastoma.

Additional centers of excellence include the Muhammad Ali Parkinson Center, the Gregory W. Fulton ALS Center, and the Barrow Innovation Center.

Opportunities and Resources

Barrow offers a large and growing portfolio of patents and intellectual property for licensing opportunities, and an extensive biobank of tissues and biofluid samples from patients across a number of neurologic diseases.



Professors

Robert Bowser, PhD
Deputy Chief Scientific Officer
ALS, Proteomics, Biomarkers

Tomoki Hashimoto, MD
Cerebrovascular and Stroke, Neuro-anesthesiology,
Neurobiology

Leon Iasemidis, PhD
Neural Engineering, Crisis Prediction,
Brain Dynamics, Epilepsy

Elliot Mufson, PhD
Alzheimer's Disease, Down Syndrome

S. Paul Oh, PhD
HHT, Cerebrovascular Malformations

Rita Sattler, MSc, PhD
Dementia, ALS, iPSC Models

Michael Waters, MD, PhD
Stroke

Associate Professors

Jinglu Ai, MD, PhD
Stroke, SAH, Aneurysms

Richard Dortch, PhD
MRI, Peripheral Neuropathies

Ruchira Jha, MD, MSc
Acute Brain Injury

Fredric Manfredsson, PhD
Gene Therapy, Parkinson's Disease

Shwetal Mehta, PhD
Brain Tumors, Drug Development

Sylvia Perez, PhD
Neurodegeneration, Tau, Splicing, Dementia

Ivette Sandoval, PhD
Neurodegeneration, Gene Therapy

Artak Tovmasyan, PharmD, PhD
Brain Tumors, Drug Development,
Pharmacokinetics

Wonsuk Yoo, PhD
Biostatistics, Clinical Trial Design

Ping Wang, PhD
Neuroimaging Biomarkers

Assistant Professors

Saif Ahmad, PhD
Stroke, VCID, TBI

Nadine Bakkar, PhD
Neurodegeneration, ALS

Brian Kelly, PhD
Spine Biomechanics

Yong Hwan Kim, PhD
HHT, AVM

David Medina, PhD
ALS, Nanoparticle Drug Delivery

Ashley Stokes, PhD
MRI, Neurodegeneration, Biomarkers

An-Chi Tien, PhD
Brain Tumors, Pharmacodynamics