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.

### 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**  
  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

### Assistant Professors

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

- **Wonsuk Yoo, PhD**  
  Biostatistics, Clinical Trial Design

- **Ping Wang, PhD**  
  Neuroimaging Biomarkers

- **Saif Ahmad, PhD**  
  Stroke, VCID, TBI

- **Nadine Bakkar, PhD**  
  Neurodegeneration, ALS

- **Claudia Cantoni, PhD**  
  Multiple Sclerosis

- **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