



#MindingWhatMattersMost



The Barrow Neuroimaging Innovation Center encompasses 5,000 square feet of space dedicated to imaging research. It was built to bring together clinical, academic, and industry expertise to produce robust clinical imaging technology and bring it to market.

Our Mission

The mission of the Barrow Neuroimaging Innovation Center is three-fold:

- Advance imaging technology to improve the diagnosis and care of patients with neurological disorders
- Serve as an imaging resource for Barrow Neurological Institute, St. Joseph's Hospital and Medical Center, and the greater research community
- Provide education in medical imaging

Technology

The Barrow Neuroimaging Innovation Center staff operate a whole-body 3-Tesla Philips Ingenia magnetic resonance imaging (MRI) scanner dedicated entirely to research. The scanner is available to researchers from Barrow or any other institution wishing to utilize it for biomedical studies.

Scanner

The scanner is equipped with a host of imaging capabilities to meet a variety of scanning needs, including:

- Anatomical Imaging
- Functional MRI (fMRI)
- Quantitative Flow and Diffusion Imaging
- Diffusion Tensor Imaging
- Perfusion Imaging
- Angiography
- Susceptibility Weighted Imaging (SWI)
- Myelin Imaging

Dortch Laboratory

Richard Dortch, PhD, and his team leverage advances in imaging technology to develop targeted MRI methods for applications in the spinal cord and nerves. These methods are then translated into clinical populations to guide surgery, improve diagnostics, and serve as biomarkers of therapeutic response. In addition, his team has an active program that focuses on validating these methods in relevant preclinical models. Ongoing projects focus on nerve and spinal cord trauma, peripheral neuropathies, ALS, and multiple sclerosis.

Stokes Laboratory

Ashley Stokes, PhD, and her team focus on developing, validating, and translating advanced MRI image acquisition and analysis methods to noninvasively assess neurological diseases and disorders. These advanced

imaging technologies include methods of interrogating vascular structure and function, cellular microstructure, protein content, and hypoxia. Ongoing research projects focus on the development of imaging biomarkers for Alzheimer's disease, multiple sclerosis, and brain tumors.

Barrow-ASU Center for Preclinical Imaging

The Barrow-ASU Center for Preclinical Imaging is a joint effort between Barrow Neurological Institute and Arizona State University to provide essential core technologies to researchers in the Phoenix metropolitan area and, as a result, advance biosciences across the state of Arizona. The Center is one of the few in the country that provides MRI, CT and PET imaging capabilities for preclinical studies.

Investigators

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Director, Associate Professor

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