

McKnight Brain Institute (MBI)

The McKnight Brain Institute of the University of Florida is one of the nation's most comprehensive and technologically advanced centers devoted to discovering how the normal brain operates, and how we can repair the brain following injury, disease, or aging. The MBI has medical and research imaging suites and facilities with some of the world's most powerful magnetic resonance imaging (MRI) systems housed in "AMRIS" (Advanced Magnetic Resonance Imaging and Spectroscopy Facility), which is a satellite imaging operation with the National High Magnetic Field Magnetic Laboratory in Tallahassee, Florida. The Cell & Tissue Analysis Core (CTAC) and CTAC Histology Resource Center (CTAC HRL) have been established to provide a centralized resource for the UF/MBI research community for in vitro and in vivo imaging, and the histological investigation of research models. The Core maintains high-end instrumentation as well as standard microscopy systems for both in vitro and in vivo analysis, and maintains histological services and instruments for researcher use. CTAC is available to assist investigators throughout the University of Florida campus, as well as off-campus, NIH-funded entities. There are two "clean room" laboratories for experiments in gene and cell replacement therapy. The Radiosurgery/Biology Research Lab that explores powerful new radiosurgery treatments for brain cancer and other neurological diseases. The Movement Disorders Center brings together some of the world's most skilled and dedicated physicians and researchers with expertise in Parkinson's Disease, Dystonia, and other movement disorders. The Regeneration Project, which is an international think-tank founded to create new human therapies based upon our learning from regeneration-friendly organisms to enhance the body's natural regeneration and repair processes.

Age-related Memory Loss (ARML) Program: within the MBI, several methods are being developed to distinguish biological markers of brain aging, which range from an examination of genes to brain imaging.

Brain & Spinal Cord Injury / Stroke Program: An important component of research at the McKnight Brain Institute is to provide an enhanced understanding of these secondary biochemical events to facilitate development of therapies to treat Traumatic Brain Injuries.

Addiction Program: With the fantastic facilities of the MBI and dedicated working groups studying all facets of brain development, standard brain operation, human behavior, plasticity of the brain following injury and disease, and the ability to screen large numbers of already FDA-approved drugs and compounds that enhance brain function and plasticity using cells and bioassay screens developed in the McKnight Brain Institute, the future of the behavioral sciences look extremely promising with the hope of enhancing outcomes in all of the affective disorders.