Bradford Dickerson, M.D.
Massachusetts General Hospital
Charlestown, Massachusetts

Quantitative Neuroanatomic Biomarkers for Dementia Differential Diagnosis
2009 Investigator-Initiated Research Grant

One of the major roadblocks to the development and use of better treatments for Alzheimer’s disease and related disorders is our inability to diagnose Alzheimer’s disease in its early stages, and the difficulty in distinguishing it from other neurodegenerative disorders. Researchers also experience serious limitations with the current methods for monitoring disease progression and effectiveness of treatments. Brain imaging techniques hold the promise of improving the diagnosis of neurodegenerative diseases, but reliable and accurate imaging techniques are not yet available.

Bradford Dickerson, M.D. and colleagues have been using new methods to analyze brain images obtained using magnetic resonance imaging. These advanced, computerized methods can quantify brain activity and measure the size of different parts of the brain. Dr. Dickerson and colleagues have proposed to perform a study of a large number of patients to determine if these new methods can reliably and accurately diagnose Alzheimer’s disease and distinguish it from other neurodegenerative disorders. They will also determine if the new methods can be used to monitor disease progression and treatment effectiveness. These methods may also prove to be useful for determining the effectiveness of new drugs being studied in clinical trials.