Emory University's Department of Radiology & Imaging Sciences received an S10 High-End Instrumentation grant from the NIH (PI: Hui Mao, PhD) for a state-of-the-art PET-MRI scanner. Emory Healthcare provided additional funding to help purchase a General Electric Signa PET-MRI with QuantWorks. This PET-MRI is the first of its kind in Georgia and represents a significant resource not only for improved patient care but also for advances in cutting-edge research.

The Signa PET-MRI with QuantWorks is a 3.0T whole-body MRI scanner and time-of-flight whole body PET scanner located at the Emory University Hospital Clifton Campus. Advantages of this technology include reduced procedure time essential for compromised patients such as Alzheimer's disease or elderly subjects/patients; better co-registration of anatomic MR images with metabolic and molecular PET images; improved motion correction; much more efficient workflow with same-set and simultaneous acquisitions of PET and MR data; and reduced radiation dose using non-ionizing MRI instead of X-ray CT for anatomical information. More importantly, the *simultaneous acquisition* of neurochemical changes from MR spectroscopy or physiological/functional data from functional MRI (fMRI) data and molecular or metabolic images from PET enables multi-model investigation of closely coupled biological events and new dimensional data at the same time point under the same physiological and pharmacokinetic conditions.

Use of the PET-MRI is divided 60-40% use between and research and clinical activities, with the research time primarily supporting NIH-funded projects in neurology, oncology, psychiatry, cardiology and basic neuroscience. Research activities are managed by the Emory University Center for Systems Imaging Core. For more information about research opportunities and scheduling please contact Orman Simpson (osimpso@emory.edu) or John Oshinski, PhD (jnoshin@emory.edu).

Example of a brain PET-MRI image.