

Paul Yushkevich, PhD.

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I am a researcher in the field of computational biomedical image analysis. After receiving a Ph.D. in Computer Science from UNC in 2003, I joined the Department of Radiology at the University of Pennsylvania, first as a postdoc and later as faculty. My research combines theoretical work on image segmentation, registration, and statistical morphometry with applied and translational research, primarily in the area of brain MRI analysis. Over the last decade, my lab has been largely focused on detailed imaging and image analysis of the medial temporal lobe (MTL), the region of earliest cortical neurodegeneration in Alzheimer's disease, but also a site of early emergence of multiple non-AD neurodegenerative proteinopathies. Our work in the MTL combines in vivo and ex vivo image analysis, including development of detailed 3D computational atlases that combine ex vivo MRI and histology; development of advanced software for hippocampal subfield and MTL subregion segmentation for in vivo MRI (ASHS); and the demonstration of the efficacy of MTL subregional measures in detecting granular changes associated with early AD. My lab is also heavily invested into open source software development, including our popular segmentation tool ITK-SNAP.

Dr. Yushkevich will give a talk on “*Detailed morphometry of the human medial temporal lobe in neurodegenerative disease*”.