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"Precise functional brain mapping with targeted Bayesian methods for fMRI data"

Abstract:

Imaging biomarkers play a critical role in the diagnosis and treatment for many neurological disorders. In particular, advanced magnetic resonance imaging (MRI) biomarkers may provide valuable insight into various pathophysiological characteristics, including hemodynamic, microstructural, and functional changes. In this talk, I will discuss our work in the development of advanced acquisition and analysis approaches based on perfusion, diffusion, and functional MRI, and I will show examples of the potential role of these biomarkers in Alzheimer's disease, Parkinson's disease, and multiple sclerosis. I will also highlight our work in developing multiparametric imaging methods that better characterize complex pathologies by probing complementary features of disease.