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SEARCH

## People / Faculty



Suzanne Corkin, Ph.D.  
Professor of Neuroscience, Emerita

Department of Brain and Cognitive Sciences

Building: 46-5121

Lab: [Corkin Lab](#)

Email: [corkin@mit.edu](mailto:corkin@mit.edu)

### Neural Basis of Memory and Related Cognitive Processes

The Corkin Lab has a long-standing commitment to investigating the biological bases of human memory systems, cognitive and neural characteristics of healthy aging, and natural history and pathophysiology of degenerative disorders, such as Alzheimer's disease and Parkinson's disease. Building on decades of interdisciplinary research experience, our current experiments integrate cognitive testing, structural MRI, functional MRI, MEG, and genotyping. MEG studies in healthy older adults describe age-related changes in oscillatory dynamics associated with visual attention, and relate these functional changes to structural brain changes. To advance understanding of Parkinson's disease, the Corkin Lab is developing MRI and genetic biomarkers to define the neural and genetic basis of subgroups, suggested by the marked heterogeneity in disease progression and cognitive impairments. We also take advantage of genetic markers to identify Parkinson's disease patients who are at risk for medication induced side effects. Medication side effects (hallucinations, impulse control behaviors, and dyskinesias) become a dominant part of patient care as Parkinson's disease progresses, and exert a tremendous financial and psychosocial burden on patients and their caregivers. Genetic assays will reveal whether variation in genes that code for enzymes and receptors that mediate the action of dopaminergic medications predict which patients are at risk for side effects.

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### Additional Publications



MASSACHUSETTS INSTITUTE OF TECHNOLOGY  
77 Massachusetts Ave Cambridge, MA 02139  
(tel) 617.258.9344