Brain Mapping Center

# SEMINAR SERIES

Sponsored by the UCLA Brain Mapping Center Faculty

The focus of these talks is on advancing the use of brain mapping methods in neuroscience with an emphasis on contemporary issues of neuroplasticity, neurodevelopment, and biomarker development in neuropsychiatric disease.

Hosted By: Shantanu Joshi, PhD, Neurology, UCLA

## "Diffusion MRI data harmonization for large scale data analysis"


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Associate Professor, Harvard Medical School


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MRI data acquired from multiple scanners is affected by several site-specific effects such as the vendor specific reconstruction algorithm, the sensitivity of the receiver coils, as well as differences in acquisition parameters. This is especially true for diffusion MRI data. Consequently, direct pooling of data from different scanners can result in dramatically decreased statistical power in detecting subtle changes in the white/gray matter tissue microstructure. Our experimental work shows that these scanner effects are non-linear and vary across different parts of the brain. In this talk, I will present our algorithm on harmonizing dMRI data acquired from multiple scanners for retrospective as well as prospective multi-site studies. In particular, key advantages/disadvantages of this method compared to the standard methods of statistical covariates or meta-analysis will be discussed. I will also talk about our ongoing efforts on harmonizing 20,000 subjects from ABCD and HCP databases, which will enable very large-scale data analysis using any type of dMRI model.


## May 6, 2021 11:00am - 12:00pm PDT

**https://uclahs.zoom.us/meeting/register/tJArcOquqTgiGN2TJVpO-AA8N8qvnzr5Xxce**

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