University of Rochester
Department of Electrical and Computer Engineering
Colloquia Series

An Adaptable Framework to Extract Abnormal Brain Networks

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Abstract: There is increasing evidence that complex neurological disorders reflect distributed impairments across multiple brain systems. These findings underscore the importance of network-based approaches for functional data. However, network analyses in clinical neuroimaging is largely limited to aggregate measures, which do not pinpoint a concrete etiological mechanism. In contrast, I will present a novel Bayesian framework that captures the underlying topology of the altered functional pathways. In the first part of this talk, I will introduce our core framework to extract abnormal network foci from functional MRI data. This model relies on