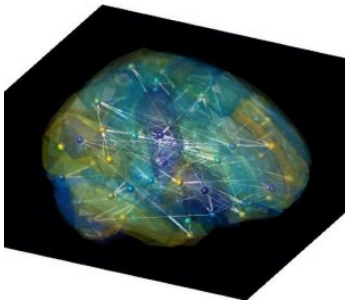
institute for pure & applied mathematics

Reconstructing Network Dynamics from Data: Applications to Neuroscience and Beyond



AUGUST 29 - SEPTEMBER 2, 2022

Scientific Overview

This workshop will explore a unique combination of data- and model-driven approach by inviting mathematicians and scientists focusing on neurosciences and beyond. We will have an in-depth discussion of data-driven modeling techniques, dynamics reconstruction and characterization over multiple scales treating the underlying systems as structures in space as well as structures in time. Problems to be discussed include: predicting critical transitions from multivariate time series; extracting interactions between brain areas and the effects of anaesthetics; understanding the effects pathologies in the network connectivity and modeling ways to alleviate them; introducing and studying models that depart from functional connectivity. This workshop will include a poster session; a request for posters will be sent to registered participants in advance of the workshop.

Participation

Additional information about this workshop including links to register and to apply for funding, can be found on the webpage listed below. Encouraging the careers of women and minority mathematicians and scientists is an important component of IPAM's mission, and we welcome their applications.

Organizers

Erik Bollt (Clarkson University), **Tiago Pereira** (University of São Paulo), **Aneta Stefanovska** (Lancaster University), and **Sebastian van Strien** (Imperial College)

Speakers

A complete list of speakers will be announced at a later date.

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For more information, visit the program webpage:

www.ipam.ucla.edu/MB2022