Postdoctoral Opening

Postdoctoral Opening: Control-theoretic analysis of brain network dynamics

Postdoctoral positions are available in the area of control-theoretic analysis of brain network dynamics at the Brain Dynamics and Control Group within the Department of Electrical and Systems Engineering at Washington University in St. Louis (St. Louis, MO, USA).

A specific focus is on investigating the link between systems-theoretic properties, such as reachability and controllability, to overt information processing and other functional objectives in neural circuits. That is, we seek to understand how the dynamics of brain networks may enable us to see, hear and think. In the pursuit of this goal, this project will involve the development of new control-theoretic analyses tailored to brain networks are multiple spatial and temporal scales. Thus, the project will have natural synergy with elements of network control theory, optimization and stability analysis. There will be opportunities to apply and validate the developed frameworks against multimodal human neural data, and the position will involve substantial interactions with experimental and clinical neuroscientists at the Washington University School of Medicine.

Candidates should have a background in the general areas of systems theory, control engineering, and/or dynamical systems modeling/analysis. Prior experience in neuroscience is not needed, but a general interest/curiosity about brain dynamics is a must!

Interested applicants should send a CV and brief description of interests and goals to Prof. ShinNung Ching (shinung@wustl.edu). Applications will be evaluated as soon as they are received, until the positions are filled. The starting date is flexible, but can be as early as the Summer of 2016.