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Seminaires du LPTM , Universite de Cergy Pontoise

Mardi 5 Octobre 2021, 14 :00
LPTM, Distanciel TEAMS
Domaines : physics.bio-ph

Titre : *The human brain as a dynamic system : things I learned about the brain through the lens of statistical physics.*

Orateur : **Alex Leow (Depts of Psychiatry and Biomedical Engineering, CME, UIC, Chicago)**

Résumé : *In this talk I would like to share some self-reflections, as a computational person at heart while also practicing medicine as part of my job description, attempting to understand the human mind using hard sciences. To illustrate my point we will discuss the idea of the human connectome (a complete diagram of human brain connectivity on a mesoscale) as informed using modern magnetic resonance (MR) techniques of diffusion-weighted MR imaging and resting-state functional MRI. I will discuss in detail our team's ongoing research efforts that leverage fundamental principles of modern physics first discovered in statistical and thermal physics (e.g., the maximum entropy principle, Boltzmann distribution, etc.), in the hope of stimulating interest among researchers from different disciplines to work together towards a better understanding of the human brain, arguably the very core of human experience.*