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The dynamic nature of functional brain networks of emotional regulation

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Presenter Information

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Abstract for BAMM

Title: The dynamic nature of functional brain networks of emotional regulation

Numerous psychiatric disorders, including Major Depressive Disorder (MDD) and others are all thought to have underlying abnormalities in emotion regulation. Mostly, fMRI (functional MRI) scans of the patients either in resting state or while they are performing tasks are used to deduce network connectivity. The norm in the inference of neuroimaging network connectivity is to characterize a static representation of connectivity structure. However, such representations mask dynamic variation in the neural response as complex brain system interactions evolve over time. This talk will propose a pipeline for describing some of the dynamic aspects of emotion regulation network connectivity. The pipeline will use probabilistic boolean networks to generate dynamic effective connectivity signatures. The signatures along with clinical data will then be used to group the patients and extract key features that capture variation.