



The SDSU Center for Clinical and Cognitive Neuroscience
presents its Student Seminar Series, featuring:



Lisa Mash, M.S.

Brain Development Imaging Laboratories
SDSU/UC San Diego Joint Doctoral Program
in Clinical Psychology

Dynamic Functional Connectivity in Autism Spectrum Disorders

Monday, January 22nd

2:00 – 3:00 pm

6363 Alvarado Ct.

Suite 250, Conference Room

There is ample evidence of atypical static functional connectivity (FC) in autism spectrum disorders (ASDs). However, transient relationships between neural networks are not easily captured by conventional functional connectivity magnetic resonance imaging (fcMRI) methods. Dynamic FC approaches have been used to identify repeated, transient connectivity patterns (“brain states”), revealing spatiotemporal network properties that are not observable in static FC. We used a data-driven, sliding-window analysis to examine static and dynamic FC in typical development (TD) and ASDs. Across all brain regions, both static overconnectivity and underconnectivity were observed. Higher static FC was associated with reduced variability over time, but this relationship was weaker in ASD participants. Finally, group connectivity differences emerged in dynamic FC states that were not evident in the static FC analysis. These results may explain discrepant findings in the static FC literature, and highlight the importance of dynamic approaches. Future directions will be discussed, with an emphasis on multimodal data integration techniques.

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