

1145-00-1912

**David Damiano, Sarah McGuire\*** (slmcgu19@g.holycross.edu) and **Richard Schmidt.**

*Behavioral Synchrony and Functional EEG Networks.* Preliminary report.

People engaged in social interactions exhibit natural, unintentional coordination of their body movements. Although intense efforts have been made to localize behaviors in human brain activity, little is known about the functional networks that underlie human social interaction. We are interested in how social behavioral synchronization corresponds to functional networks in the brain. To this end, we analyzed electroencephalograph (EEG) activity from an experiment involving participant pairs swinging pendulums in different interpersonal coordination conditions. Using methods of computational topology and network theory, we are able to identify functional networks based on pair-wise coordination between electrodes. Initial results indicate the existence of dynamic network features across different coordination conditions and frequency bands. In future work, we will apply these novel network analysis techniques to evaluate the social brain networks in adolescents with Autism Spectrum Disorder (ASD), as one of the suggested tendencies of people with ASD is social disconnection. (Received September 24, 2018)