1135-37-3065 **Daniel B Larremore*** (daniel.larremore@colorado.edu), **Vidit Agrawal**, **Andrew B Cowley**, **Woodrow L Shew** and **Juan G Restrepo**. *Estimating the entropy of activity in excitable networks.*

Networks of excitable nodes can be used to model the collective behavior of biological neuronal networks in the mammalian cortex. Such model networks have been used to investigate the role of network topology and synapse strength in characterizing phenomena observed in experiments with brain tissues, like stability of activity, and dynamic range. While all nodes in such models are excitable, some nodes emit excitatory signals to their network neighbors, while others emit inhibitory signals. Surprisingly, this approach of modeling inhibitory nodes explicitly (as opposed to modeling inhibition as a field) creates a secondary regime in the dynamics that guarantees ceaseless network activity. As a result, the ongoing dynamics fluctuates ceaselessly through a wide variety of states whose richness can be described using entropy measures. Here I will present progress in estimating the entropy of ceaseless activity in excitable networks as a function of model parameters, with an eye toward making biologically relevant predictions for future experiments. (Received September 26, 2017)