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Adam T Wilander* (wilandat@jmu.edu) and **Scott G McCalla**
(scott.mccalla@montana.edu). *The Metastable Dynamics of an Aggregation Model.*

Aggregation is a natural phenomenon that occurs in a variety of contexts: schooling of fish, flocking of birds, and the formation of bacterial colonies. This behavior can often result from simple rules of interaction across each pair of agents. In this talk, we examine a particular aggregation model with a random network (featuring the property of community structure) underlying its individual-based interactions. We explore a specific aspect of the system's metastable dynamics as the system's parameters vary. Finally, we leverage this system's behavior to establish and assess an associated dynamics-based algorithm for recovering community structure, given a known graph. (Received September 25, 2018)