1125-54-1333 **David B Damiano** and **Emily T Winn*** (etwinn17@g.holycross.edu). *Topological Modeling of Force Networks in Granular Media.* Preliminary report.

Granular materials, or collections of solid macroscopic particles in contact with each other, play an important role in chemistry, pharmaceutical sciences, and agriculture. Despite their importance, little is understood about the force networks formed from inter-particle contacts in these materials because of the difficulty of modeling large networks. The challenge lies in finding a model that is specific enough to characterize the local topology of a cell while still being robust enough to capture information of the entire network. A recently developed method that may answer this dilemma is the swatch and cloth, which uses adjacency graphs and statistics to model random cell networks. In this talk, we discuss how the swatch and cloth model can be applied to these force networks to facilitate comparisons of materials and their bulk properties. We also address applying swatch and cloth to communities, or partitioned sub regions, of a force network to examine different parts of one network. (Received September 16, 2016)