1145-55-1522 **Chad Giusti*** (cgiusti@udel.edu), Department of Mathematical Sciences, 501 Ewing Hall, University of Delaware, Newark, DE 19716. *Topological measures of network dynamics.* Preliminary report.

Understanding dynamic processes supported on complex networks is a fundamental challenge for many modern scientific fields. Noise in both the systems and observations, along with the increasing size of the networks of interest, conspire to make exact solutions to these dynamics intractable. Often, however, such precise information is unnecessary to answer questions of interest, and modern topological methods provide a range of qualitative characterizations that are both human-understandable and computable. We will survey some of these methods, as well as provide preliminary reports on their applications in theoretical and clinical neuroscience. (Received September 22, 2018)