1135-60-1592 **Ryan DeMuse*** (ryan.demuse@du.edu), **Danielle Larcomb** and **Mei Yin**. *Phase Transitions in Edge-Weighted Exponential Random Graphs: Near-Degeneracy and Universality.*

Conventionally used exponential random graphs cannot directly model weighted networks as the underlying probability space consists of simple graphs only. Since many substantively important networks are weighted, such as social networks where one wants to consider the closeness or strength of a relationship, this limitation is especially problematic. We extend the existing exponential framework by proposing a generic common distribution for the edge weights. Minimal assumptions are placed on the distribution, that is, it is non-degenerate and supported on the unit interval. By doing so, we recognize the essential properties associated with near-degeneracy and universality in edge-weighted exponential random graphs. (Received September 23, 2017)