1145-62-926   **Majid Noroozi*** (`mnoroozi@knights.ucf.edu`), Department of Mathematics at UCF, 4393 Andromeda Loop N, Orlando, FL 32816, and **Marianna Pensky** (`marianna.pensky@ucf.edu`), Department of Mathematics at UCF, 4393 Andromeda Loop N, Orlando, FL 32816. *Clustering in Popularity Adjusted Stochastic Block Model.*

In the present talk, we consider the Popularity Adjusted Stochastic Block Model (PABM) which has been recently introduced by Sengupta and Chen (2018). . In the PABM, the probability of a connection between nodes is a product of popularity parameters that depend on the communities to which the nodes belong as well as on the pair of nodes themselves. The authors showed that PABM generalizes both the Stochastic Block Model (SBM) and the Degree-Corrected Block Model (DCBM) and suggested the quasi-maximum likelihood type procedure for estimation and clustering. However, the authors considered only the case of a small finite number of communities, and the spectral clustering, that they used for implementation of the modularity optimization, does not recover communities reliably when the probability of connection of nodes in the network is very diverse. The purpose of the present talk is to address the deficiency of spectral clustering in the latter case. In particular, we propose to use a different type of clustering for the PABM data. Experiments on a synthetic data set demonstrate the effectiveness of our approach. (Received September 17, 2018)