Co-jump Networks, Mixed Membership And Beyond

Yingying Li
School of Business and Management, HKUST
(with Yi Ding, Guoli Liu, Changlei Lyu and Xinghua Zheng)

This talk will be based on two recent works about stock co-jump networks. We propose a Degree-Corrected Block Model with Dependent Multivariate Poisson edges (DCBM-DMP) to study stock co-jump dependency. Both pure memberships and mixed memberships are studied. We provide algorithms and statistical properties to support the estimation of the community structure. Such communities exhibit different features than GICS. We further demonstrate the economic significance of these networks.