

# Too interconnected to fail: contagion and risk in financial networks

*Date* Tuesday, March 31

*Time* 5:30 pm

*Location* 303 Mudd

*Abstract:* The ongoing financial crisis has focused attention on the phenomenon of "default contagion", defined as the impact of the failure of a financial institution on other institutions linked to it via financial transactions. Based on a recent empirical study of interbank networks, we propose a model of default contagion in which a financial market is modeled as a weighted random graph whose nodes are financial institutions and whose links reflect bilateral risk exposures. We propose an indicator of "systemic risk" for a set of nodes in such a network and show that this indicator enjoys some nice properties such as monotonicity and submodularity which, in turn, enables us to use efficient algorithms to compute various quantities of interest. Our study leads to implications for measuring and controlling systemic risk in banking networks.