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Research Statement

Social networks among individuals and organizations can impact many economic decisions, including consumption, career choices and how to share information. My research develops empirical evidence on how people form and use social connections, as well as how they affect beliefs, behaviors and economic efficiency. The ultimate goal of my research is to provide practical guidance regarding how to effectively build social networks that promote knowledge creation, information sharing, and mutually beneficial trade.

My dissertation develops both substantive and methodological themes on the topic of social networks. Substantively, I conduct experimental studies based on the game theoretical models that describe network formation in various settings (Galeotti and Goyal, 2010; Galeotti, Ghiglino and Squintani, 2011). These experiments investigate the emergence and stability of equilibrium networks under conditions specified by theory. When equilibrium networks fail to emerge reliably, I proceed to investigate which additional institutional features may facilitate equilibrium outcomes. Methodologically, I develop a new procedure of cluster analysis that allows me to discover the nature and the number of behavioral rules used by individuals in network environments.

My job market paper, "**Growing Stars: A Laboratory Analysis of Network Formation,**" builds on Goeree, Riedl and Ule (2009). Their study argued that ex ante individual heterogeneity is the key for star network formation. While this condition surely helps to explain network formation in many environments (e.g., co-authorship networks) there may be other settings where ex ante heterogeneity plays a more limited role (e.g., the environments discussed by Feick and Price, 1987; Conley and Udry, 2010). The purpose of my study is to shed light on the importance of institutions in facilitating star network emergence, and in particular on three naturally-occurring institutions that plausibly stabilize decision makings. Using laboratory experiments, I find that equilibrium networks form especially well in environments with institutions that limit network investments and incorporate the right-of-first-refusal. Further, using a novel cluster analysis approach, I provide evidence that institutions are successful because they catalyze the use of better behavioral rules.

The cluster analysis approach mentioned above is detailed in a companion paper, "**Exploring Network Behavior using Cluster Analysis.**" There, I provide guidance regarding the use of this classification method. In addition, I review popular procedures and algorithms related to cluster analysis and discuss how to choose among them. Finally, I propose and develop a new cluster analysis procedure, and demonstrate that it performs well using a Monte-Carlo analysis.

Players in social networks often have social identities, and these identities may interact with monetary incentives to determine their network decisions. Another chapter of my dissertation, "**Money or Friends: Social Identity and Truth Telling in Networks,**" studies the impact of social identity on the formation of truth-telling networks. My study adds social identity to the environment in Galeotti, Ghiglino and Squintani (2011), who develop a theory of lying among network agents. I find that absent social identity, truth-telling decisions are consistent with theory and determined by monetary incentives. I also find evidence of ingroup favoritism and

outgroup discrimination in the sense that lying is deterred among players who share a common identity, but occurs more often between players with different identities. The results of my study suggest that the flow of truthful information in a network is influenced by both economic and social incentives, and that truth-telling can perhaps be increased by bridging the social distance between groups.

One of my works-in-progress, "**Risk Attitudes and Job Contact Networks: Theory and Simulation,**" investigates the impact of risk attitudes on investment in job contact networks. I extend existing theory (Galeotti and Merlino, 2009) to show that more risk-averse individuals develop networks with a greater number of connections, and that this can have significant impact on employment and wage outcomes. I then provide a Monte Carlo analysis that highlights econometric challenges associated with drawing inferences with respect to the model's parameters.

My chief goal over the next 2-5 years is to further my understanding of how social networks form, how they promote economic efficiency, and how they function in relation to innovation and development in the modern economy. My medium-term research interests are described in my recent NSF grant application, and include: How do behavioral anomalies, such as risk aversion and ambiguity aversion, affect networking choices? How do real time decision environments affect the emergence of stable equilibrium networks? Does competition play a role in network formation? Can institutions promote the discovery of individual differences relevant for efficient network formation? The answers to these questions have broad implications for marketing, technology dispersion, agricultural development, and the labor market.

I plan actively to seek external support for my research activities. I have been involved in developing successfully funded grant proposals with various faculty members. Additionally, with my NSF dissertation grant currently under review, I am also preparing applications for other funding sources, including the National Science Foundation, the John Templeton Foundation and the Russell Sage Foundation. I have demonstrated my ability and determination to attract external funding for my research, and am confident in my ability to continue to do so in the very near future.