

## **Structure and modeling of large-scale social networks**

**Abstract:** Electronic databases, from phone to e-mails logs, provide detailed records of human communication patterns, offering novel avenues to map and explore the structure of social and communication networks. We have studied the local and global structure of a society-wide network derived from the calls of over seven million mobile phone users. I will highlight some of our key findings, including our result on information diffusion. I will also talk about a simple network model motivated by the empirical study. In addition to reproducing many of the key features of large social networks, the model enables us to explore the role of interaction strengths in the emergence of communities in social systems.