

## **Class Proposal: Social Network Analysis for International Relations and Development Studies**

Instructor: Franziska Keller

This course introduces graduate students with some basic background in statistics to social network analysis. During the first third of the semester, the students will learn the theory and mathematics of networks, and familiarize themselves with important concepts such as strong and weak ties, network centrality, clustering, cascades, or homophily. In the accompanying lab sessions, they will learn how to use the open-source program gephi (and, depending on background knowledge and interest, the network packages in R, or netlogo) to apply those concepts in exercises using the network data covered in the readings.

The remainder of the class covers applications relevant to International Relations and Development Studies: the first five articles examine cascades, i.e. the spread of information and behavior along network ties leading individuals to adopt new development projects, join opposition movements, or engage in other forms of political behavior, like voting. The next three papers examine coordination and influence (homophily, clustering, and network centrality) in policy networks, among political elites, and terrorists. The literature on International Relations, finally, explores networks between countries and discusses how alliance or trade networks influence each other, how they can cause or mitigate wars, or how they represent and reinforce hierarchies between countries.

The introductory lecture in the first week will provide an overview over the class and discuss the basic logistics, but will also introduce at least one network from each substantive topic. Students will “adopt” one of those networks, and use it for some of the exercises in the lab sessions and the home work during the first third of the semester. They will also be expected to make a short (depending on the size of the class: group) presentation on an interesting finding or discovery they made during those exercises in the week when the article related to “their” network is discussed in the latter part of the semester.

They will also use their network for a final project. In a large class, the project's research question will be given by the instructor, and the students will write a short, two-page memo describing their analysis and the results following a template. In a seminar-sized class, the students will choose, present, and discuss their research question in class and with the instructor 2-3 weeks before the end of the semester, and will have the remainder of the semester to write the term paper.

### **Social Network Analysis – Theory and Methods:**

Jackson, Matthew O. (2008): *Social and Economic Networks*. Princeton UP. In particular: Chapters 2.1 – 2.2.3.

Easley, David and Jon Kleinberg (2010): *Networks, Crowds, and Markets: Reasoning about a Highly Connected World*. Cambridge University Press. In particular: Chapter 2 (Graphs), Chapter 3 (Strong and Weak Ties), and Chapter 16 (Information Cascades).

Granovetter, Mark S. (1973): “The strength of weak ties”. *American Journal of Sociology* 78/6: 1360–1380.

Brass Daniel J., and David M. Krackhardt (2012): “Power, Politics, and Social Networks in Organizations”, in: Gerald R. Ferris and Darren C. Treadway (eds): *Politics in Organizations. Theory and Research Considerations*. Taylor & Francis: 355-375.

Scott, James C. (1972): "Patron-client politics and political change in Southeast Asia," *The American Political Science Review* 66/1: 91–113.

#### Economic Development:

Conley, Timothy G. and Christopher R. Udry (2010): "Learning about a new technology: Pineapple in Ghana," *The American Economic Review*, 100(1): 35-69.

Banerjee, Abhijit, Arun G. Chandrasekhar, Esther Duflo, and Matthew O. Jackson (2013): "The Diffusion of Microfinance," *Science* 341, no. 6144.

#### Democratization and Voting:

Opp, Karl-Dieter, and Christiane Gern (1993): "Dissident groups, personal networks, and spontaneous cooperation: The East German revolution of 1989," *American Sociological Review* 58/5: 659–680.

Bond, Robert M., Christopher J. Fariss, Jason J. Jones, Adam D. I. Kramer, Cameron Marlow, Jaime E. Settle, and James H. Fowler (2012): "A 61-Million-Person Experiment in Social Influence and Political Mobilization," *Nature* 489: 295-298.

Nickerson, David (2008): "Is Voting Contagious? Evidence from Two Field Experiments," *American Political Science Review* 102: 49-57.

#### Elite and policy networks:

Berardo, Ramiro, and John T. Scholz (2010): "Self-organizing policy networks: Risk, partner selection, and cooperation in estuaries," *American Journal of Political Science*, 54/3: 632-649.

Cho, Wendy K. Tam, and James H. Fowler (2010): "Legislative Success in a Small World: Social Network Analysis and the Dynamics of Congressional Legislation," *The Journal of Politics*, 72/1: 124–135.

#### Security:

Krebs, Valdis E. (2002): "Mapping Networks of Terrorist Cells," *Connections* 24/3: 43-52.

#### International Relations:

Hafner-Burton, Emilie M. and Alexander H. Montgomery (2012): "War, Trade, and Distrust: Why Trade Agreements Don't Always Keep the Peace," *Conflict Management and Peace Science* 29/3: 257–278.

Maoz, Zeev (2011): *Networks of Nations: The Evolution, Structure, and Impact of International Networks, 1816-2001*. New York: Cambridge University Press