Universität Bremen

socium
Research Center on
Inequality and Social Policy

Method Lectures of the Bridge Professorship

Lectures in the winter semester of 2015/16.

Bridge-Lecture | 14.10.2015

Communities, Embeddedness, and the Visualization of Small-World Networks

Prof. Ulrik Brandes (University of Konstanz)

Place:

SOCIUM Research Center on Inequality and Social Policy
Room: 5.4680
Mary-Somerville-Straße 5
28359 Bremen

Time:

6:15 p.m.

Contact Person:

Prof. Dr. Betina Hollstein

Lecture Series:

Method Lectures of the Bridge Professorship

Semester:

WiSe 2015/16

Ulrik Brandes holds a Chair of Information Science at the University of Konstanz. Ulrik is a leading scholar in Social Network Analysis. His research interests are centered on graph drawing

and information visualization, efficient graph algorithms and experimental algorithms. He is one of the editors of “Network Science” (Cambridge University Press) and serves as board member of the International Network for Social Network Analysis (INSNA). Currently he is conducting a Reinhart Koselleck project on the algorithmic foundations of network theory, a project in cooperation with the social sciences.

Abstract:
The visualization social networks is a matter of choosing an effective design for the substance of interest. This is a difficult task by itself, but it is further complicated when the data render the design unsuitable. Following a general introduction to social network visualization, we will focus on the special case of networks which exhibit the small-world property. They are notoriously difficult to visualize because the relatively short distances cause most layout algorithms to create hairball-like diagrams. We will discuss an approach to untangle such hairballs by separating cohesive subgroups using the structural embeddedness of ties.

Methods-Workshop | 15.10.2015

Introduction to VISONE

Prof. Ulrik Brandes (University of Konstanz)

Place:

Guesthouse, University of Bremen
Auf dem Teerhof 58
28199 Bremen

Time:

8:15 a.m. - 12:30 p.m.

Contact Person:

Prof. Dr. Betina Hollstein

Lecture Series:

Method Lectures of the Bridge Professorship

Semester:

WiSe 2015/16

Ulrik Brandes holds a Chair of Information Science at the University of Konstanz. Ulrik is a leading scholar in Social Network Analysis. His research interests are centered on graph drawing and information visualization, efficient graph algorithms and experimental algorithms. He is one of the editors of "Network Science" (Cambridge University Press) and serves as board member of the International Network for Social Network Analysis (INSNA). Currently he is conducting a Reinhart Koselleck project on the algorithmic foundations of network theory, a project in cooperation with the social sciences.

Abstract:
Visone (ital. mink) is a free software tool that combines comprehensive means for analysis with unique visualization capabilities. It can also be used as a graphical frontend to R, RSiena, and KNIME.

This is a hands-on introduction to visone. After a brief overview of its design and features, we will explore some of its core functionality. Using exemplary network analyses, we will produce presentations of findings step-by-step, starting from data input to arrive at publication quality information visualizations, including time-coherent animations of longitudinal networks.

It is advisable to bring a laptop running Windows, MacOS, or Linux. The software is written in Java and can be installed from www.visone.info. It features many standard and non-standard methods for analysis and visualization of networks, and a powerful graphical user interface. It's native file format is GraphML, allowing for arbitrarily many attributes of nodes, links, and networks, but other formats such as CSV tables, UCINet DL, Pajek .net, etc., can be imported. Visualizations can be exported as pdf, png, tiff, animated svg, or Windows metafiles.

Methods-Workshop | 15.10.2015 - 16.10.2015

Position based Analysis of Social Networks

Prof. Ulrik Brandes (University of Konstanz)

Place:

Guesthouse, University of Bremen
Auf dem Teerhof 58
28199 Bremen

Time:

15.10.: 1:30 - 6 p.m. and 16.10.: 9 a.m. - 12:30 p.m.

Contact Person:

Prof. Dr. Betina Hollstein

Lecture Series:

Method Lectures of the Bridge Professorship

Semester:

WiSe 2015/16

Ulrik Brandes holds a Chair of Information Science at the University of Konstanz. Ulrik is a leading scholar in Social Network Analysis. His research interests are centered on graph drawing and information visualization, efficient graph algorithms and experimental algorithms. He is one of the editors of "Network Science" (Cambridge University Press) and serves as board member of the International Network for Social Network Analysis (INSNA). Currently he is conducting a Reinhart Koselleck project on the algorithmic foundations of network theory, a project in cooperation with the social sciences.

Abstract:
The positional approach is a recent methodological innovation intended to narrow the gap between substantive theory and mathematical analysis of social networks. Breaking down current methods into meaningful and manageable decision steps it explicates hitherto tacit assumptions, suggests means to overcome them, and smoothly generalizes approaches to valued, multiplex, multilevel, and temporal data. It also facilitates the incorporation of more qualitative observations and produces more nuanced results.

All of this is achieved by defining the network position of an actor as the aggregate of direct and indirect relationships and attributes. Starting from the key concept of position, state-of-the-art methods of analysis turn out to be special cases of positional comparisons and evaluation. The characterization of actors by their positions can be thought of as a form of conjoint measurement, and exploits a richer array of non-quantitative mathematical tools.

Methodologically, this allows to separate the substantive argumentation of what defines a position

from the formal analysis of the network it is embedded in. An important benefit of the genericity of the positional approach is that it unifies existing methods and at the same time suggests many new methods obtained from alternative instantiations. Moreover, it facilitates basic research by identifying relevant problems without requiring domain-specific background knowledge.

The workshop is an introduction to the positional approach starting from first principles. It is centered around use cases that cover a broad range of social network application domains. We will discuss the relative utility of positional and current state-of-the-art approaches and identify how method selection can be better informed by substantive theory. In a special closing session, we will discuss positional approaches to participant-contributed research problems.

Bridge-Lecture | 18.11.2015

Governance Resilience

Dr. Dimitris Christopoulos (Modul University Vienna)

Place:

SOCIUM Research Center on Inequality and Social Policy
Room: 5.4680
Mary-Somerville-Straße 5
28359 Bremen

Time:

6:15 p.m.

Contact Person:

Prof. Dr. Betina Hollstein

Lecture Series:

Method Lectures of the Bridge Professorship

Semester:

WiSe 2015/16

Dimitris' current research interests are on networks of political and business actors, political and policy entrepreneurship and social entrepreneur motivation. The unifying theme in his work is a focus on exceptional agency and relations as expressed in the networks of leaders and entrepreneurs.

Abstract:
Relations between agents (i.e. networks) act as conduits to their political power. And power is channeled to the attainment of governance outcomes. Traditional social science makes the simplifying assumption that actor preferences (their perceived utility) can be employed to predict their behaviour. By comparison an analysis of networks makes actor interdependence the point of departure to an understanding of their constraints and opportunities. In that respect actors can impact outcomes not only through their own discrete interventions, but also mediated by the pattern of interaction among others.

Governance as the product of political exchange is therefore affected by the quality of the interaction between political agents, what Jones and Robins et al. have termed governance embeddedness. For instance, the degree to which political agents reciprocate relations equitably, whether there is transitivity, and whether relations are predominantly hierarchical. Governance as a process is affected by the pattern of exchange between political actors. For instance, the degree to which there is a strong core-periphery, the multiplicity of clusters, prevalence of brokers or the skewness in the distribution of ties can affect the way politics is exercised and policies are created.

I employ a range of case studies of policy making, policy implementation and cross-border policy in Europe, to demonstrate how governance process and governance outcomes are affected by the networks of political agents. This often happens in ways that can only be comprehended by analyzing the pattern of actor relations. I also use examples that draw from cases of environmental policy and the recent debates on sustainability to hypothesize on the nature of governance resilience. This analysis is coached within the literature of leadership, political entrepreneurship and brokerage or what some have termed exceptional agency.