Centre for Transformative Innovation

Social Network Analysis 5-Day Course
Theory, Method and Application

12-16 February 2018, Swinburne Hawthorn Campus

In this 5-day intensive course you will learn how to conduct social network research, moving from the fundamentals of networks to how to use cutting-edge statistical network models. Some general statistical knowledge is assumed. You will require your own PC laptop (or Mac with Windows installed – **we do NOT support Mac OS**). The course will cover the following key points.

Course Key Themes:
- Statistical Inference with network data
- Software for visualisation and analysis
- Representing network data: from basic to advanced
- Networks in action: Case studies
- One on one problem solving

> **To register visit:**
> **http://bit.ly/SNA2018**

Day 1: Network Fundamentals

- What is distinctive about social network research?
- Network data: Representations and formats
- Qualitative versus quantitative data collection
- Primary versus secondary data sources
- Ethics for network research
- Organisational network methods
- Data entry, data processing and management
- Group allocation and briefing

Day 2: Key Concepts & Descriptive SNA

- The building blocks of networks: Density and degree; connectivity and centrality; reciprocity and clustering; preferential attachment (popularity)
- Social Selection vs Social Influence
- Multiplex and bipartite networks
- Basic approaches to statistical inference

Day 3: Introduction to ERGM

- What are exponential random graph models?
- Formation of network structure
- MPNet software for network models
- Working with graph distributions
- Network dependence & emergence
- Estimating ERGMs (modelling network data)

Day 4: ERGM extensions

- Simulation and Goodness of Fit with ERGM
- Estimating directed ERGMs
- Estimating ERGMs with actor attributes
- ALAAMs – social influence models
- Problem solving for model fit

Day 5: Network Evaluation & Presentations

- Network evaluation
- Network problem solving
- Group presentations

The course includes all course exercise materials, lunch and afternoon tea.

Lecturers: A/Prof Dean Lusher, Dr Peng Wang, Prof Garry Robins, Dr Colin Gallagher, Dr James Coutinho, Dr Alex Stivala and Dr Maedeh Aboutablebi Karkavandi

Cost: $3,000 (Full-time PhD students $1,500; discounts for Swinburne staff and students)

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