

# Curriculum Vitae

Johan Koskinen

## 1 Education and employment

### 1.1 Education

- 2015 Higher Education Academy (HEA) Fellow. A higher education teaching qualification, Part of the University of Manchester Humanities New Academics Programme (roughly equivalent to 15 credit points), University of Manchester
- 2005 (June) PhD in Statistics. Stockholm University (thesis defended 21 May 2004; Start of PhD 2001). Supervisor: Ove Frank; Discussant: Philippa Pattison
- 2003 (Sept.) Licentiate of Philosophy in Statistics. Stockholm University
- 2000 (Feb.) BA in Statistics. Stockholm University
- 1998 (Oct.) Diploma in History of Art and Sociology. Stockholm University

### 1.2 Employment history

- Aug 2022 (ongoing) Lecturer, Department of Statistics, Stockholm University.
- Mar 2019-Aug 2022 Senior Lecturer in Social Network Analysis, Melbourne School of Psychological Sciences, University of Melbourne.
- Oct 2018-2020 Alan Turing Fellow, Alan Turing Institute, London.
- Aug 2014-Sept 2020 Visiting academic at the Institute for Analytical Sociology, Linköping University
- Jan 2011-Mar 2019 Lecturer in Social Statistics, School of Social Sciences, University of Manchester.
- Apr 2009-Jan 2011 Research Fellow (Post-doctoral), Centre for Research Methods in the Social Sciences (ReMiSS), Department of Politics and International Relations, University of Oxford.
- Apr 2009-Jan 2011 Non-Stipendiary Research Fellow Nuffield College.
- Jan 2009 Visiting Statistician, University of Manchester (no salary)
- Sep 2006-Dec 2008 Research Fellow, Department of Psychology, University of Melbourne.
- Dec 2005-July 2006 Researcher, Swedish Institute for Social Research (SOFI), Stockholm University.
- Oct 2004-Aug 2005 Lecturer (temporary), Department of Statistics, Stockholm University.
- Oct 2004-Dec 2005 Research assistant, Department of Sociology, Stockholm University.
- July 2000-Oct 2004 Doctoral Studentship, Department of Sociology, Stockholm University.

## 2 Research

### 2.1 Publications

#### Monographs

- [37] Nick Crossley, Elisa Bellotti, Gemma Edwards, Martin G Everett, Johan Koskinen, and Mark Tranmer. *Social network analysis for ego-nets: Social network analysis for actor-centred networks*. Sage, 2015.
- [71] Johan Koskinen. *Essays on Bayesian Inference for Social Networks*. PhD-Thesis, Department of Statistics, Stockholm University, 2004. ISBN: 91-7265-888-6.
- [72] Johan Koskinen. *Bayesian Analysis of Cognitive Social Structures*. Licentiate-Thesis, Department of Statistics, Stockholm University, 2002.

## Edited volumes

- [47] Dean Lusher, Johan Koskinen, and Garry Robins. *Exponential Random Graph Models*. (Awarded the 2016 Harrison White Book Award by the American Sociological Association; cited: 1334; copies: ) Cambridge: Cambridge University Press, 2013.

## Book chapters

- [2] Johan Koskinen. “Exponential Random Graph Models”. In: *SAGE Handbook of Social Network Analysis*. Ed. by Peter Carrington, John McLevey, and John Scott. 2nd ed. (In Press). NY: SAGE, 2023.
- [14] Johan Koskinen. “Exponential Random Graph Modelling”. In: *SAGE Research Methods Foundations*. Ed. by P. Atkinson, S. Delamont, A. Cernat, J.W. Sakshaug, and R.A. Williams. SAGE, 2020. DOI: 10.4135/9781526421036888175.
- [19] Chiara Broccatelli, Martin Everett, and Johan Koskinen. “Sticking together under covertness. An evidence of co-offending partnerships in two-mode covert networks”. In: *Criminal Networks and Law Enforcement: Global International Perspectives on Illicit Enterprise*. Ed. by Hufnagel and Moiseienko. Routledge, 2019.
- [20] Johan Koskinen, Chiara Broccatelli, Peng Wang, and Garry Robins. “Bayesian analysis of ERG models for multilevel, multiplex, and multi-layered networks with sampled or missing data”. In: *New Statistical Developments in Data Science: SIS 2017, Florence, Italy, June 28–30*. Ed. by Alessandra Petrucci, Filomena Racioppi, and Rosanna Verde. Vol. 288. Springer, 2019, pp. 105–117.
- [26] Johan Koskinen. “Exponential Random Graph Models”. In: *Wiley StatsRef: Statistics Reference Online*. Ed. by Walter Piegorsch Brian Everitt Geert Molenberghs, Marie Davidian Fabrizio Ruggeri, and Ron Kenett. article: stat08136. Wiley, 2018. DOI: 10.1002/9781118445112.stat08136.
- [30] Johan Koskinen, Tim Müller, and Thomas Grund. “A dynamic discrete-choice model for movement flows”. In: *Studies in Theoretical and Applied Statistics: SIS 2016, Salerno, Italy, June 8–10*. Ed. by C. Perna, M. Pratesi, and A. Ruiz-Gazen. Springer, 2017, pp. 107–117. DOI: 10.1007/978-3-319-73906-9\_10.
- [31] Filip Agneessens and Johan Koskinen. “Modelling individual outcomes using a multilevel social influence (MSI) model”. In: *Multilevel Network Analysis for the Social Sciences*. Ed. by Emmanuel Lazega and Tom Snijders. London: Springer, 2016, pp. 81–105.
- [33] James Hollway and Johan Koskinen. “Multilevel Bilateralism and Multilateralism”. In: *Multilevel Network Analysis for the Social Sciences*. Ed. by Emmanuel Lazega and Tom Snijders. London: Springer, 2016, pp. 315–332.
- [43] Johan Koskinen and Galina Daraganova. “Dependence Graphs and Sufficient statistics”. In: *Exponential random graph models for social networks: Theory, methods and applications*. Ed. by Dean Lusher, Johan Koskinen, and Garry Robins. NY: Cambridge University Press New York, 2013, pp. 77–89.
- [44] Johan Koskinen and Galina Daraganova. “Exponential random graph model fundamentals”. In: *Exponential random graph models for social networks: Theory, methods and applications*. Ed. by Dean Lusher, Johan Koskinen, and Garry Robins. NY: Cambridge University Press New York, 2013, pp. 49–76.
- [46] Johan Koskinen and T.A.B. Snijders. “Simulation, Estimation and Goodness of Fit”. In: *Exponential random graph models for social networks: Theory, methods and applications*. Ed. by Dean Lusher, Johan Koskinen, and Garry Robins. NY: Cambridge University Press New York, 2013, pp. 141–166.
- [49] T.A.B. Snijders and J.H. Koskinen. “Longitudinal models”. In: *Exponential Random Graph Models for Social Networks: Theory, Methods, and Applications*. Ed. by Dean Lusher, Johan Koskinen, and Garry Robins. Cambridge: Cambridge University Press, 2013, pp. 130–140.
- [73] Johan Koskinen, Ingegerd Jansson, and Marinus Spreen. “The Role of Perceptual Data in Sampling Large Networks from Hidden Populations”. In: *Contributions to Social Network Analysis, Information Theory, and Other Topics in Statistics; A Festschrift in honour of Ove Frank*. Ed. by Jan Hagberg. Stockholm: Department of Statistics, Stockholm University, 2002, pp. 56–73.

## Peer-reviewed proceedings

- [10] Y. Xiao, Y. Cui, N. Raut, J. Januar, J. Koskinen, N. Contractor, W. Chen, and Z. Sha. “Information Retrieval and Survey Design for Two-Stage Customer Preference Modeling”. In: *Proceedings of the Design Society*. Vol. 2. Cambridge University Press, 2022, pp. 811–820. DOI: 10.1017/pds.2022.83.
- [29] Johan Koskinen, Chiara Broccatelli, Peng Wang, and Garry Robins. “Statistical analysis for partially observed multilayered networks”. In: *SIS 2017. Statistics and Data Science: new challenges, new generations*. Ed. by A. Petrucci and R. Verde. Firenze University Press. 2017, pp. 561–568.
- [35] Johan Koskinen, Tim Müller, and Thomas Grund. “A dynamic discrete-choice model for movement flows”. In: *Proceedings of 8th Scientific Meeting of the Italian Statistical Society*. Italian Statistical Society. 2016.
- [57] J. Koskinen. “Using latent variables to account for heterogeneity in exponential family random graph models”. In: *Proceedings of the 6th St. Petersburg Workshop on Simulation*. Ed. by S. M. Ermakov, V. B. Melas, and A. N. Pepelyshev. Vol. 2. St. Petersburg, Russia: St. Petersburg State University, 2009, pp. 845–849.
- [66] Johan Koskinen. “On Bayesian Inference for Dynamic Network Data”. In: *Proceedings of the 5th St. Petersburg Workshop on Simulation*. Ed. by S. M. Ermakov, V. B. Melas, and A. N. Pepelyshev. Vol. 2. St. Petersburg, Russia: St. Petersburg State University, 2005, pp. 385–390.

## Peer-reviewed journal articles

- [1] Colin Gallagher, Dean Lusher, Johan Koskinen, Bopha Roden, Peng Wang, Aaron Gosling, Anatasios Polyzos, Martina Stenzel, Sarah Hegarty, Thomas Spurling, and Gregory Simpson. “Network patterns of university-industry collaboration: A case study of the chemical sciences in Australia”. In: *Scientometrics* (2023). DOI: 10.1007/s11192-023-04749-8.
- [3] Johan Koskinen, Pete Jones, Darkhan Medeuov, Artem Antonyuk, Kseniia Puzyreva, and Nikita Basov. “Analysing networks of networks”. In: *Social Networks* 74 (2023), pp. 102–117. DOI: 10.1016/j.socnet.2023.02.002.
- [4] Johan Koskinen and T.A.B Snijders. “Multilevel longitudinal analysis of social networks”. In: *Journal of the Royal Statistical Society Series A: Statistics in Society* 186 (3 2023), pp. 376–400. DOI: 10.1093/jrssa/qnac009.
- [5] Garry Robins, Dean Lusher, Chiara Broccatelli, David Bright, Colin Gallagher, Maedeh Aboutalebi Karkavandi, Petr Matous, James Coutinho, Peng Wang, Johan Koskinen, et al. “Multilevel network interventions: Goals, actions, and outcomes”. In: *Social Networks* 72 (2023), pp. 108–120. DOI: 10.1016/j.socnet.2022.09.005.
- [6] Filip Agneessens, Francisco J Trincado-Munoz, and Johan Koskinen. “Network formation in organizational settings: Exploring the importance of local social processes and team-level contextual variables in small groups using bayesian hierarchical ERGMs”. In: *Social Networks* (2022). DOI: 10.1016/j.socnet.2022.07.001.
- [7] Per Block, James Hollway, Christoph Stadtfeld, Johan Koskinen, and Tom Snijders. “Circular specifications and “predicting” with information from the future: Errors in the empirical SAOM–TERGM comparison of Leifeld & Cranmer”. In: *Network Science* 10.1 (2022), pp. 3–14. DOI: 10.1017/nws.2022.6.
- [8] Johan Koskinen and Galina Daraganova. “Bayesian analysis of social influence”. In: *Journal of the Royal Statistical Society Series A: Statistics in Society* 185.4 (2022), pp. 1855–1881. DOI: doi.org/10.1111/rssa.12844.
- [9] Patrycja Stys, Samuel Muhindo, Sandrine N’simire, Ishara Tchumisi, Papy Muzuri, Bauma Balume, and Johan Koskinen. “Trust, quality, and the network collection experience: A tale of two studies on the Democratic Republic of the Congo”. In: *Social Networks* 68 (2022), pp. 237–255. DOI: 10.1016/j.socnet.2021.08.002.

- [11] James A Coutinho, Tomáš Diviák, David Bright, and Johan Koskinen. “Multilevel determinants of collaboration between organised criminal groups”. In: *Social Networks* 63 (2020), pp. 56–69. DOI: 10.1016/j.socnet.2020.04.002.
- [13] Pete Jones, Eithne Quinn, and Johan Koskinen. “Measuring centrality in film narratives using dynamic character interaction networks”. In: *Social Networks* 63 (2020), pp. 21–37. DOI: 10.1016/j.socnet.2020.03.003.
- [15] Giovanni RP Sadewo, Emiko S Kashima, Colin Gallagher, Yoshihisa Kashima, and Johan Koskinen. “International students’ cross-cultural adjustment: Social selection or social influence?” In: *Journal of Cross-Cultural Psychology* 51.6 (2020), pp. 490–510. DOI: 10.1177/0022022120930092.
- [16] Christophe Sohn, Dimitris Christopoulos, and Johan Koskinen. “Borders moderating distance: a social network analysis of spatial effects on policy interaction”. In: *Geographical Analysis* 52.3 (2020), pp. 428–451. DOI: 10.1111/gean.12218.
- [17] Patrycja Stys, Judith Verweijen, Papy Muzuri, Samuel Muhindo, Christoph Vogel, and Johan H Koskinen. “Brokering between (not so) overt and (not so) covert networks in conflict zones”. In: *Global Crime* 21.1 (2020), pp. 74–110. DOI: 10.1080/17440572.2019.1596806.
- [18] David Bright, Johan Koskinen, and Aili Malm. “Illicit network dynamics: The formation and evolution of a drug trafficking network”. In: *Journal of Quantitative Criminology* 35 (2019), pp. 237–258. DOI: 10.1007/s10940-018-9379-8.
- [22] Jose Pina-Sánchez, Johan Koskinen, and Ian Plewis. “Adjusting for measurement error in retrospectively reported work histories: An analysis using Swedish register data”. In: *Journal of Official Statistics* 35.1 (2019), pp. 203–229.
- [23] Per Block, Johan Koskinen, James Hollway, Christian Steglich, and Christoph Stadtfeld. “Change we can believe in: Comparing longitudinal network models on consistency, interpretability and predictive power”. In: *Social Networks* 52 (2018), pp. 180–191. DOI: 10.1016/j.socnet.2017.08.001.
- [24] Martin G Everett, Chiara Broccatelli, Stephen P Borgatti, and Johan Koskinen. “Measuring knowledge and experience in two mode temporal networks”. In: *Social Networks* 55 (2018), pp. 63–73. DOI: 10.1016/j.socnet.2018.05.003.
- [25] Johan Koskinen. “Discussion of ”Optimal treatment allocations in space and time for on-line control of an emerging infectious disease” by Laber, N. J. Meyer, B. J. Reich, K. Pacifici, J. A. Collazo and J. Drake”. In: *Journal of the Royal Statistical Society Series C* 67 (2018), p. 779. arXiv: 2006.16527.
- [27] Johan Koskinen, Peng Wang, Garry Robins, and Philippa Pattison. “Outliers and influential observations in exponential random graph models”. In: *Psychometrika* 83 (2018), pp. 809–830. DOI: 10.1007/s11336-018-9635-8.
- [28] Tim S Müller, Thomas U Grund, and Johan H Koskinen. “Residential segregation and ‘ethnic flight’ vs. ‘ethnic avoidance’ in Sweden”. In: *European Sociological Review* 34.3 (2018), pp. 268–285. DOI: 10.1093/esr/jcy010.
- [32] Chiara Broccatelli, Martin Everett, and Johan Koskinen. “Temporal dynamics in covert networks”. In: *Methodological Innovations* 9 (2016), pp. 1–14.
- [34] James Hollway and Johan Koskinen. “Multilevel embeddedness: The case of the global fisheries governance complex”. In: *Social Networks* 44 (2016), pp. 281–294. DOI: 10.1016/j.socnet.2015.03.001.
- [36] Alex D Stivala, Johan H Koskinen, David A Rolls, Peng Wang, and Garry L Robins. “Snowball sampling for estimating exponential random graph models for large networks”. In: *Social Networks* 47 (2016), pp. 167–188. DOI: 10.1016/j.socnet.2015.11.003.
- [38] Johan Koskinen, Alberto Caimo, and Alessandro Lomi. “Simultaneous modeling of initial conditions and time heterogeneity in dynamic networks: An application to foreign direct investments”. In: *Network Science* 3.1 (2015), pp. 58–77. DOI: 10.1017/nws.2015.3.
- [40] Jose Pina Sánchez, Johan Koskinen, and Ian Plewis. “Measurement error in retrospective work histories”. In: *Survey Research Methods* 8.1 (2014), pp. 43–55.

- [42] Johan H Koskinen, Garry L Robins, Peng Wang, and Philippa E Pattison. “Bayesian analysis for partially observed network data, missing ties, attributes and actors”. In: *Social Networks* 35.4 (2013), pp. 514–527. DOI: 10.1016/j.socnet.2013.07.003.
- [45] Johan Koskinen and Alessandro Lomi. “The local structure of globalization”. In: *Journal of statistical physics* 151.3-4 (2013), pp. 523–548.
- [48] Jose Pina Sánchez, Johan Koskinen, and Ian Plewis. “Implications of retrospective measurement error in event history analysis”. In: *Metodologia de Encuestas* 15 (2013), pp. 5–25.
- [50] Galina Daraganova, Pip Pattison, Johan Koskinen, Bill Mitchell, Anthea Bill, Martin Watts, and Scott Baum. “Networks and geography: Modelling community network structures as the outcome of both spatial and network processes”. In: *Social networks* 34.1 (2012), pp. 6–17.
- [51] Johan Koskinen and Christofer Edling. “Modelling the evolution of a bipartite network—Peer referral in interlocking directorates”. In: *Social Networks* 34.3 (2012), pp. 309–322.
- [52] Johan Koskinen and Sten-Åke Stenberg. “Bayesian analysis of multilevel probit models for data with friendship dependencies”. In: *Journal of Educational and Behavioral Statistics* 37.2 (2012), pp. 203–230. DOI: 10.3102/1076998611402504.
- [54] J. H. Koskinen, G. L. Robins, and P. E. Pattison. “Analysing exponential random graph (p-star) models with missing data using Bayesian data augmentation”. In: *Statistical Methodology* 7.3 (2010), pp. 366–384. DOI: 10.1016/j.stamet.2009.09.007.
- [55] Tom AB Snijders, Johan Koskinen, and Michael Schweinberger. “Maximum likelihood estimation for social network dynamics”. In: *The annals of applied statistics* 4.2 (2010). (NIH Public Access), pp. 567–588. DOI: 10.1214/09-AOAS313.
- [56] Gebrenegus Ghilagaber and Johan Koskinen. “Bayesian Adjustment of Anticipatory Covariates in the Analysis of Retrospective Demographic Data”. In: *Mathematical Population Studies* 16.2 (2009), pp. 105–130.
- [64] Johan H Koskinen and Tom AB Snijders. “Bayesian inference for dynamic social network data”. In: *Journal of statistical planning and inference* 137.12 (2007), pp. 3930–3938.

## Research reports

- [39] Kathryn Oliver, N Crossley, G Edwards, J Koskinen, M Everett, and C Broccatelli. *Covert networks: structures, processes and types*. Tech. rep. The Mitchell Centre for Social Network Analysis, University of Manchester, Manchester, UK, 2014. URL: [https://hummedia.manchester.ac.uk/schools/soas/research/mitchell/covertnetworks/wp/working\\_paper1.pdf](https://hummedia.manchester.ac.uk/schools/soas/research/mitchell/covertnetworks/wp/working_paper1.pdf).
- [58] Johan Koskinen, G Robins, and P Pattison. *Missing data in social networks: Problems and prospects for model-based inference*. Tech. rep. 1. MelNet Social Networks Laboratory, Dept. of Psychology, University of Melbourne, 2009.
- [59] J. Koskinen. *The Linked Importance Sampler Auxiliary Variable Metropolis Hastings Algorithm for Distributions with Intractable Normalising Constants*. Tech. rep. 1. Working paper. MelNet Social Networks Laboratory, Dept. of Psychology, University of Melbourne, 2008. URL: <http://www.melnet.org.au/s/MelNet-Techreport-08-01.PDF>.
- [60] J. Koskinen, G. Robins, and P. Pattison. *Extreme Actors - Outliers and Influential Observations in exponential random graph (p-star) models*. Tech. rep. 5. Working paper. MelNet Social Networks Laboratory, Dept. of Psychology, University of Melbourne, 2008. URL: [http://www.sna.unimelb.edu.au/publications/MelNet\\_Techreport\\_08\\_05.pdf](http://www.sna.unimelb.edu.au/publications/MelNet_Techreport_08_05.pdf).
- [61] Johan Koskinen, G Robins, and P Pattison. *Analysing Exponential Random Graph (p-star) Models with Missing Data Using Bayesian Data Augmentation*. Tech. rep. 4. MelNet Social Networks Laboratory, Dept. of Psychology, University of Melbourne, 2008. URL: [http://www.sna.unimelb.edu.au/publications/MelNet\\_Techreport\\_08\\_04.pdf](http://www.sna.unimelb.edu.au/publications/MelNet_Techreport_08_04.pdf).

- [62] G. L. Robins, P. E. Pattison, and J. H. Koskinen. *Network Degree Distributions*. MelNet Social Networks Laboratory Technical Report 08-02. Department of Psychology, School of Behavioural Science, University of Melbourne, 2008.
- [65] Gebrenegus Ghilagaber and Johan Koskinen. *Bayesian Adjustment of Anticipatory Covariates in the Analysis of Retrospective Data*. Tech. rep. 9. Department of Statistics, Stockholm University, 2006.
- [67] JH Koskinen. *Bayesian analysis of exponential random graphs-estimation of parameters and model selection*. Tech. rep. 2. Research Report 2004: 2, Department of Statistics, Stockholm University, 2004.
- [68] JH Koskinen. *Bayesian Inference for Longitudinal Social Networks*. Tech. rep. 4. Research Report 2004: 4, Department of Statistics, Stockholm University, 2004.
- [69] JH Koskinen. *Model selection for Cognitive Social Structures*. Tech. rep. 3. Research Report 2004: 3, Department of Statistics, Stockholm University, 2004.
- [70] JH Koskinen. *Model Selection for Longitudinal Social Networks*. Tech. rep. 5. Research Report 2004: 5, Department of Statistics, Stockholm University, 2004.

## Official reports

- [21] Johan Koskinen, Pete Jones, and Darhan Medeuov. *Towards a statistical framework for socially produced knowledge*. Report for Methodological Subaward of "Creation of knowledge on ecological hazards in Russian and European local communities". Russian Science Foundation, 2019.
- [53] J. Lospinoso, J. Koskinen, and T.A.B. Snijders. *Latent Stochastic Actor Oriented Models for Relational Event Data*. NY 10996: US Military Academy West Point, 2012. URL: <http://www.dtic.mil/get-tr-doc/pdf?AD=ADA591247>.
- [63] J. H. Koskinen, G. L. Robins, and P. E. Pattison. *Missing data in social network analysis: Inferences from incomplete missing data, Interim report*. 73 pages. Edinburgh, SA: Defence Science and Technology Organisation, Australia, 2007.

## Misc.

- [41] Peng Wang, Garry Robins, Philippa Pattison, and Johan H Koskinen. *MPNet: Program for the simulation and estimation of ( $p^*$ ) exponential random graph models for multilevel networks*. Melbourne School of Psychological Sciences, The University of Melbourne. Melbourne, 2014.

## 2.2 Other academic activities

### 2.2.1 Grant funding

- 2021- ‘Societal Threats, Psychosocial Security, and Collective Information Processing,’ Co-I, OR-net: Influence and interference in the Grey Zone, Defence Science and Technology Group (\$100,000 AUD)
- 2021-2022 ‘Statistical analysis of community networks in post-disaster communities,’ RO Research Contract, Bushfire Recovery Victoria and University of Melbourne Research Partnership funded by Dept of Justice and Community Safety (via Lisa Gibbs)(\$10,000 AUD)
- 2021-2022 ‘Investigating post-disaster community resilience through network analysis,’ Co-I, Melbourne Climate Futures Climate Research Accelerator (CRX) (\$50,000 AUD)
- 2021-2024 ‘Covert Networks: How to learn as much as possible about the structure of a network from sampled subnetworks’ (Grant W911NF-21-1-0335 for Proposal 79034-NS), Co-I and principal investigator for Melbourne sub-award, US Army Research Office (\$650,429 USD)
- 2020-2021 ‘Social Network Analysis: U-10 Research brief,’ Internal University of Melbourne consultancy, (PI: John Fitzgerald, UniMelb) DHHS Victoria (\$4,000 AUD)
- 2021-2024 ‘Composing Teams with TEAMSTaR: Tool for Evaluating and Mitigating Space Team Risk,’ Named non-US partner, NASA: Human Exploration Research Opportunities (HERO), (\$45,845 USD)
- 2020-2021 ‘Developing statistical models for social influence in large-scale educational networks,’ Co-I, Chancelleries of Universities of Manchester and Melbourne, (\$10K AUD)
- 2020-2023 ‘Multidimensional networks of users and car purchases,’ non-US collaborator, National Science Foundation US (NSF-CMMI-2005661)(\$ by contractual invoicing)
- 2020-2023 ‘Statistical models for social influence and contagion in dynamic, large-scale urban networks,’ Global Doctoral Research Network (GOLDEN) Dual award between The University of Manchester and The University of Melbourne (a fully funded PhD scholarship shared between the Universities of Manchester and Melbourne)
- 2019-2020 ‘Pathways to radicalisation: Using social network analysis to detect harmful and protective influences within social networks,’ Principal (lead) investigator, Department of Justice, Victoria (\$79,996 AUD)
- 2019-2021 ‘Creation of knowledge on ecological hazards in Russian and European local communities,’ co-applicant, Russian Science Foundation (RUB6000K)
- 2017 Short Term Research Collaboration Programme (STRCP), Singapore Management University (£2030)
- 2016-2019 European Cooperation for Statistics of Network data science (COST), EU Horizon, 2020, one of 56 secondary proposers, across 13 countries.
- 2015-2018 ‘A Comparative Analysis of Combatants’ Economic and Social-Political Power during and after War’ (ES/M009130/1), co-proposer and named researcher, SRC-DfID poverty alleviation grant.
- 2014-2017 ‘Complex Ties: The Role of Networks in the Commercialisation of Public Research’ (FT130101201), co-proposer, Australian Research Council, Future Fellowship (PI: Dean Lusher).
- 2013-2016 ‘Collecting and analyzing secondary covert social network data’ (RPG-2013-140) Leverhulme, Co-I, (£248K)
- 2013-2015 ‘Network structure and social processes in empirical social systems’ (DP130101573) Australian Research Council, named researcher.
- 2010-2014 ‘Multilevel Network Modelling Group,’ Co-I, Leverhulme Trust (£83,162)
- 2012-2014 ‘Incomplete multilevel networks and networks in complex contexts,’ Principal investigator BA/Leverhulme, (£3,000)

### 2.2.2 A selection of international conference presentations (ca 60 since 2001)

Modeling the ‘Who’ and ‘How’ of Social Influence in the Adoption of Health Practices (presented by Neelam Modi) Sunbelt 2023, XLIII Social Networks Conference of the International Network for Social Network

Analysis, Portland, June 27-July 1

Homophily Estimation in Nationally Representative Egocentric Data Using an Alter-Based Framework (Presented by Michael Genkin) Sunbelt 2023, XLIII Social Networks Conference of the International Network for Social Network Analysis, Portland, June 27-July 1

Modelling Unobserved Ties in Covert Networks with Missing Data Models (presented by Jonathan Januar) Sunbelt 2023, XLIII Social Networks Conference of the International Network for Social Network Analysis, Portland, June 27-July 1.

Autologistic Actor-Attribute Models with Partially Observed Data. Sunbelt 2023, XLIII Social Networks Conference of the International Network for Social Network Analysis, Portland, June 27-July 1.

Bayesian estimation for partially observed networks and large component ERGM, *ARS'13*, Ischia, Italy, 2-3 May, 2023

Social influence in egocentrically sampled networks. *Sunbelt 2022, XLII Social Networks Conference of the International Network for Social Network Analysis*, Cairns, 12-16 July, 2022.

A Network-Based Approach to Modeling Product Co-consideration and Choice Relations. *Sunbelt 2022, XLII Social Networks Conference of the International Network for Social Network Analysis*, Cairns, 12-16 July, 2022.

Massively parallel computing for hierarchical stochastic actor oriented models on high performance computing. *Sunbelt 2022, XLII Social Networks Conference of the International Network for Social Network Analysis*, Cairns, 12-16 July, 2022.

ERGMs – good or bad? *Sunbelt 2022, XLII Social Networks Conference of the International Network for Social Network Analysis*, Cairns, 12-16 July, 2022.

Analysing ALAAM in post-disaster communities with missing actor attributes, ties, and outcome variables. *Sunbelt 2022, XLII Social Networks Conference of the International Network for Social Network Analysis*, Cairns, 12-16 July, 2022.

Network-based Customer Preference Modeling. *Sunbelt 2022, XLII Social Networks Conference of the International Network for Social Network Analysis*, Cairns, 12-16 July, 2022.

Social Distance in the United States Reconsidered. *Sunbelt 2022, XLII Social Networks Conference of the International Network for Social Network Analysis*, Cairns, 12-16 July, 2022.

What can experiments tell us about the coevolution of communication networks and collective action in social-ecological systems? *Sunbelt 2022, XLII Social Networks Conference of the International Network for Social Network Analysis*, Cairns, 12-16 July, 2022.

Longitudinal co-evolution of social support and mental health: Findings from bushfire-affected communities. *Sunbelt 2022, XLII Social Networks Conference of the International Network for Social Network Analysis*, Cairns, 12-16 July, 2022.

Symptomatology of network ineffectiveness: Taxonomy and diagnostics. *Sunbelt 2022, XLII Social Networks Conference of the International Network for Social Network Analysis*, Cairns, 12-16 July, 2022.

Modelling the evolution of cooperation in social-ecological systems: do we need to incorporate network processes or is network structure sufficient? *Sunbelt 2022, XLII Social Networks Conference of the International Network for Social Network Analysis*, Cairns, 12-16 July, 2022.

Visible ties may not mean important ties: An approach to modelling unobserved actors and ties. *12th Illicit Networks Workshop*, Limerick, June 2022.

Bayesian Analysis of Social Influence, *ARS'19*, Salerno October 2019, Italy. Bayesian Analysis of Social Influence, *3rd International Conference on Computational Social Science IC2S2*, Amsterdam July 2019.

Bayesian analysis of ERGM for large networks, *Mannheim workshop on large networks*, University of Mannheim, June 2019.

Koskinen, Marcum, Christopoulos and Sohn (2019), What makes an organisation – Bayesian aggregation of perceived organisational ties *Sunbelt 2019* Montreal, 2019

What makes an organisation – Bayesian aggregation of perceived organisational ties, *2nd American Social Network Conference, NASN*, Washington DC, November 2018.

Bayesian Analysis of Social Network Data from Patchy Sources, *Royal Statistical Society International Conference*, Cardiff, Sept 2019

Statistical analysis for partially observed multilayered networks, *SIS 2017 Statistical Conference*, ‘Statistics and Data Science: new challenges, new generations,’ University of Florence, 28-30 June 2017.

Applying Bayesian inference for ERGM to a large multilevel criminal network *Sunbelt XXXVII, International*



*Sunbelt Social Network Conference*, Beijing China, May 30– June 4, 2017  
 Non-parametric analysis of bi-dynamic line-graphs for dynamic network data. *Sunbelt XXXVI, International Sunbelt Social Network Conference*, Newport Beach, CA, April 6– 10, 2016  
 Bayesian analysis of ERGM for large networks using component decomposition with an application to a large criminal network, *ISA*, Marrakesh, July 2016  
 Large-scale Bayesian estimation for component exponential random graph models, University of London *7th International Conference of the ERCIM*, London, Dec 2015  
 Network Perspectives on Residential Segregation. *Sunbelt XXXV, International Sunbelt Social Network Conference*, Brighton, UK, June 23– 28, 2015  
 Bayesian analysis of patchy covert networks. *Sunbelt XXXIV, International Sunbelt Social Network Conference*, TradeWinds Island Resorts, St. Pete Beach, FL February 18 – 23, 2014  
 Using semiparametric copulas for assessing overall goodness-of-fit to network data. Dec 15 2013 University of London *6th International Conference of the ERCIM*  
 Bayesian Hierarchical Stochastic Actor-oriented Models for Networks Observed in Time Across Different Settings, *INSNA Sunbelt XXXIII*, May 21-26, Hamburg.  
 Posterior predictive p-values for network data from semiparametric copulas, *8th World Congress in Probability and Statistics*, Istanbul, July 11 2012.  
 Assessing fit for multilevel models of binary response with peer dependencies, *Sunbelt XXXII International Sunbelt Social Network Conference*, Redondo Beach, CA, March 13 – 15, 2012.

### 2.2.3 Academic enterprise and knowledge transfer

#### 2.2.4 Visiting appointments/secondments

|                   |  |
|-------------------|--|
| Aug 2022-         | Honorary Research Fellow at the Faculty of Medicine, Dentistry and Health Sciences, University of Melbourne                                  |
| April 2019-       | Honorary Research Fellow, University of Manchester   |
| Jan 2012-Dec 2018 | Honorary Research Fellow at the Faculty of Medicine, Dentistry and Health Sciences, University of Melbourne                                  |
| Jan 2016          | Academic Visiting Fellow University of Swinburne   |
| Nov 2017-Dec 2017 | Academic Visiting Fellow University of Swinburne   |
| Jan 2011-Mar 2019 | Member of the Mitchell Centre for Social Network Analysis, University of Manchester  |
| Jan 2018-Mar 2019 | Member of the Data Science Institute, University of Manchester   |
| Jan 2014-         | International Fellow The Social Network Analysis Research Center (SoNAR-C), Faculty of Economics, Università della Svizzera italiana, Lugano |
| Jan 2011-Dec 2016 | Associate member of Nuffield College   |
| 2010-2013         | Associate Member of the Department of Statistics, University of Oxford   |

#### 2.2.5 Prizes, Honours and Awards

|      |   |
|------|---|
| 2023 | The Pip Pattison Research Award, the Australian Network of Social Network Analysts (ANSNA)      |
| 2018 | Alan Turing Fellowship, the Alan Turing Institute   |
| 2017 | William D. Richards software award (awarded biannually) for R-package RSiena (co-author), INSNA |
| 2016 | Harrison White Book Award (for ERGM CUP book), American Sociological Association                |
| 2016 | Sponsor of Simon visiting Professorship for Prof. Murray Aitkin                                 |
| 2014 | Nominated for the INSNA Freeman award   |

### 2.2.6 Invited/ keynote/ plenary lectures or talks (all expenses paid)

Selected invites (total ca 30 since 2009)

- 2023 Making Sense of Imperfectly Observed Networks, College of Arts and Social Sciences, **Australian National University**, Canberra
- 2022 Social Networks Lab Seminar, **ETH**
- 2022 Invited speaker, 6th Networks in the Global World - Structures in Contexts, **St Petersburg State University**
- 2020 Invited speaker, 5th Networks in the Global World - Structures in Contexts, **St Petersburg State University**
- 2020 Invited speaker, 10th ANN SONIC NICO International Workshop on Network Theory, **Northwestern University** (rescheduled due to Covid-19)
- 2018 Topology and Networks - Network representations and network shapes, Data Topography, **International Business School Suzhou at Xi'an Jiaotong – Liverpool University**, China
- 2018 Bayesian Hierarchical ALAAM, invited speaker, NetGlow 2018, **St Petersburg State University**
- 2017 Recruitment, grievances, and inertia, **DST Group (Department of Defence)**, Australia (jointly presented by Stys. and Koskinen)
- 2017 Some aspects of statistical modelling of networks, Department of Social Work and Social Administration, **University of Hong Kong**, Hong Kong
- 2017 Bayesian ERGM for large networks, invited speaker, super computer K, **University of Hyogo**, Japan
- 2017 School of Social Sciences, **Singapore Management University**, Singapore
- 2017 Analysing network data from unstructured sources, WINPEC, **Waseda**, Japan
- 2017 Analysing covert networks from unstructured sources, Waterloo Institute for Complexity & Innovation, **University of Waterloo**, Canada
- 2017 Modelling large and sampled network data, featured speaker NICO, **Northwestern University**, USA
- 2017 Bayesian hierarchical modelling of longitudinal networks, Plenary Lecture, **ARS'17, Napoli**, Italy.
- 2016 Invited lecture at A Joint Meeting of the **Fisher Trust, the Royal Statistical Society** and the **London Mathematical Society Data Science**, London, UK (also in Section 4.1)
- 2016 Invited speaker at 48th Meeting of the **Italian Statistical Society**, Salerno, Italy
- 2016 Networks in the Global World 2016, invited speaker **St. Petersburg State University**, Russia
- 2016 Invited lecture, RSS event on networks, **Royal Statistical Society (Applied Prob. Section)**, London, UK (also in Section 4.1)
- 2015 Insights from applying social network models to spatially embedded flows, The 3rd Tokyo Network Workshop, Advances in multi-disciplinary research of networks, **Waseda University**
- 2014 Invited talk at Advances in multi-disciplinary research of networks, **University of Tokyo**
- 2013 Invited talk at STATS in Paris, **ENSAE ParisTech**, Paris
- 2013 Invited talk on Analysing Ego-networks over time, **University of Tokyo**
- 2013 Invited and featured speaker, space and network dynamics, **ARS'13, Rome**
- 2011 What is: Social Network Analysis. **Method Festival in Tampere**, Finland
- 2011 Invited lecture at **Royal Statistical Society** event on social network analysis, London, UK (also in Section 4.1)
- 2009 Invited speaker at Statistical Methods for the Analysis of Network Data, **University College Dublin**.

### 2.2.7 Examination duties

|                  |  |
|------------------|--|
| 2023, May        | MRes Thesis committee, Jie Zhuo, MRes, Macquarie University  |
| 2023, February   | PhD Thesis committee (chair), Hector Rodriguez, PhD, University of Linköping   |
| 2019, December   | PhD Thesis committee, Robert Krause, PhD, University of Groningen. 2017, March. Internal Assessor, Angelo Moretti, PhD in Social Statistics, University of Manchester. |
| 2016, October    | Internal Assessor, Wulung Hanandita, PhD in Applied Social research, University of Manchester.   |
| 2016, Hilary     | External Assessor, Charlotte Greenan, PhD in Statistics, University of Oxford  |
| 2014, 31 March   | External Assessor ('Suffrageant'), Çilem Selin HAZIR, doctoral thesis in economics at Université Jean Monnet Saint-Étienne   |
| 2011, Michaelmas | Assessor of the Confirmation of status for Lospinoso, Department of Statistics, University of Oxford.  |
| 2010, Michaelmas | Assessor of the Transfer of status for Lospinoso, Department of Statistics, University of Oxford   |
| 2005             | Member of examination committee of Licentiate-thesis by Jessica Franzén, Department of Statistics, Stockholm University  |

### 2.2.8 Reviewing

#### *Grants*

|            |  |
|------------|--|
| March 2022 | Round NWO Open Competition SSH Social sciences 2021, Dutch Research Council, Domain Social Sciences and Humanities (SSH) |
| June 2014  | Army Research Office (ARO): ARO Core Programs  |
| Jan 2016   | EPSRC, First Grant Scheme (Revised version 2009)   |

#### *Journals*

Reviewer inter alia (a selection): Annals of Applied Statistics, Psychometrika, Test, Social Networks, Journal of Social Structure, Advances in Data Analysis and Classification, Procedia, Mathematical Population Studies, Journal of the Royal Statistical Society, British Journal of Math. and Stat. Psych, Journal of Research On Adolescence, Communications in Statistics - Simulation and Computation, Industry & Innovation, Field Methods, Global Crime, Journal of the American Statistical Association

## 2.2.9 Academic service and leadership

### *Stewardship of research groups and labs*

- 2019-2022 Director of the ‘Social Networks Lab’ in MSPS; current and past regular members include but is not limited to Giovanni Sadewo (postdoc); Professor Garry Robins; Tasuku Igarashi (official visitor MSPS); Lucia Falzon (DST fellow and Honourary Fellow MSPS); Jonathan Haris Januar (Honours student; now PhD student); Pip Pattison (emeritus); Yoshi Kashima (Prof); Elle Pattenden (PhD student); Colin Gallagher (MSPGH); Andre Gygax (MBS); Catherine Earby (Honours); Floyd Creevey (PhD student, Optima); Vanessa Ferdinand (research fellow, CHDH); Glenn Hoetker (Prof, MBS); Vera Somers (Research fellow, Optima); Trisna Fraser (PhD student); Chiara Brocatelli (Research fellow, UQ). Under my directorship, the lab also managed to arrange for and secure funding for the academic visitors Pete Jones (official visitor Sept-Dec 2019; fully funded by RSF and DST group); Nikita Basov (official visitor 2019, Aug); Christian Steglich (official visitor November-December, 2019; full funded by MSPS) [https://psychologicalsciences.unimelb.edu.au/research/msps-research-groups/Social\\_Networks\\_Laboratory](https://psychologicalsciences.unimelb.edu.au/research/msps-research-groups/Social_Networks_Laboratory)
- 2019-2022 Director of Melbourne node of the MelNet consortium <http://www.melnet.org.au/>
- 2015-2019 Lead of the Statistical Modelling Group (SMOG) in the Social Statistics Department, University of Manchester. Duties involved promoting research activities in statistical modelling, capacity building for PhD students and ECR, through arranging training and seminars and inward-, and outward-facing promotion of SMOG.
- 2009-2012 Co-convenor of the Statistical network modelling group seminar series, Nuffield College.
- 2009-2012 Co-convenor of termly Statistics Question and Answer session (with T.A.B., Snijders, K. Gile, and Sir David Cox), Nuffield College.

### *Committees*

- 2023 Committee Chair INSNA William D. Richards, Jr. Software Award
- 2022 Committee INSNA Simmel Award
- 2020-2021 Scientific committee for joint International Sunbelt Social Network Conference and Network Science conference, Washington DC
- 2018 Programme committee Seventh Conference on Complex Networks and their Applications, Cambridge UK, December 11- 13, 2018.

### *Conference organisation*

- 2019-2022 Sunbelt 2022 organising committee. On the original organising committee that successfully applied to host Sunbelt. When team enlarged, mainly responsible for Programming and scheduling, Time-zone management, Scientific committee, Hybrid format (together with Prof Rob Ackland), Environmental policy (with Colin Gallagher) and website <https://www.sunbelt2022.org/environmental-impact>, as well as floating overall responsibility (volunteers, time of year, etc).
- 2021 Organising committee the 2021 Australian Social Network Analysis Conference (ASNAC), Melbourne
- 2016 Organiser and chair of invited session: ‘Statistical Analysis of Social Networks,’ RSS 2016, Manchester, Sept.
- 2016 Co-organiser and chair of invited session: ‘Session 225 STS: Methodological and computational advances for complex network systems’ at International Society for Bayesian Analysis, Sardinia, June
- 2010 Multilevel Network Modelling Group, Università della Svizzera italiana, Lugano (together with Eric Quintane), Sept.
- 2009 Main Organiser of the Workshop Statistical Network Modelling, Nuffield College, November

### *Administrative positions: Departmental*

2021-2022 Board of Human Ethics Low and Negligible Risk (University of Melbourne)  
 2020-2022 Chair of PhD committee for committee Claudia Oke, Alice Mullins, Sevil Ince, and Eliza Honybun  
 2019-2022 Chair of PhD committee for committee Will Liheng Xu  
 2019-2021 Member of Human Ethics review board at Melbourne School of Psychological Sciences  
 2018 (March) Hiring committee for post-doctoral fellowship in Social Networks  
 2014-2019 Exams officer for the Social Statistics Discipline Area. Main tasks involve coordinating UG and PGT preparation and marking of assessment, in the absence of a formal UG programme board for the DA.  
 2013 (Jan) Hiring committee for Permanent Lectureship in Social Statistics  
 2013 (Nov) Hiring committee for Permanent Lectureship in Social Statistics  
 2012 (May) Hiring committee for Temporary Lectureship in Social Statistics  
 2013-2019 Academic Advisor in BA Econ program University of Manchester (Mandatory service)  
 2003-2004 Graduate student representative on the board of the Department of Statistics, Stockholm University

*Administrative positions: External*

2022- Dissertation committee of Neelam Modi, Northwestern University  
 2014- 2017 Director of Methods Northwest (MNW). Initiated work on integrating institutional training provision in joint online portal as part of implementing new strategic vision for MNW role in doctoral training partnership (DTP) (as set out in MNW memorandum 2015). Secured MNW representation on DTP board and formalised role with respect to TEKE panel. Initiated interfacing of UG Q-step programme with PGR  
 2013-2017 Social Statistics institutional Pathway lead North West Doctoral Training Centre (NWDTC). Information meetings; pro-actively promoting supervisor engagement. Identified potential CASE studentship partnerships (from no applications in 2013, the numbers in subsequent years were 1 and 2 respectively). Setting up of a committee with Q-step director and Social Statistics UG director to develop procedures for feeding Q-step students through to PGT and PGR to aim to satisfy ESRC anticipation of 50:50 split between 1+3 and +3 studentships in new DTP  
 2013-2017 Social Statistics overall Pathway lead North West Doctoral Training Centre (NWDTC). Lead bid for pathway in DTP. Dedicated work on meeting ESRC expectation of 30% CASE studentships, we have increase our CASE applications from two in 2013, to three in 2014, and four in 2015. Thus in the 2015/16 round CASE studentships account for at least 33% of pathway studentships (assuming not all 8 standard studentship applications are successful, the proportion of CASE will be higher)  
 2013-2017 Chair NWDTC AQM subcommittee. Reforming adherence to criteria, changed forms, program of disentangling excessive co-branding to align training provision with ESRC guidelines

*Memberships of academic and professional bodies*

2017- INCIS, The Collaboration for Research on Illicit Networks, Criminal Intelligence and Security  
 2010-2014 The Multilevel Network Modelling Group (MNMG) funded by the Leverhulme Trust, under the International Collaborative Networks scheme  
 2001- International Network for Social Network Analysis (INSNA)  
 2015- International Society for Bayesian Analysis (ISBA)  
 2013- International Statistical Institute (ISI)

### 3 Teaching expertise

#### 3.1 Teaching experience

##### 3.1.1 Curriculum and course development

- 2023 Developing Generalised Linear Models (ST2201,39994), 2nd semester UG course in Statistics, Stockholm University, to be given Autumn 2023 and replace ST223G
- 2023 Redevelopment: Multivariate Methods (ST304G), 3rd semester UG course in Statistics
- 2021 Lecturer, coordinator, and proposer: Computational Behavioural Science (PSYC30023). 3rd year UG course. Lead on Curriculum development, Developing a Business case, Scheduling and programming, Developing Assessments and forms of assessment, Coordination of course, Teaching and delivering a third of the course.
- 2016 Re-development: 1st year UG module in Introductory Statistics (SOST 10062), University of Manchester, UK. I redeveloped this from the previous Statistics for Economists (ECON 10062). I convened the module, taught half of the lectures and coordinated 3 tutors (3 tutorial groups each), designed summative assessments (assignments and final multiple choice exam), and formative assessments (delivered as weekly blackboard quizzes). On average 200 students. Compulsory for BA Economics students. 10 Credit points.
- 2014 Course and syllabus development: 3rd year UG module in Advanced Social Network Analysis (SOST30022), University of Manchester, UK. I proposed and developed this course (including summative assessments in the form of coursework and a number of formative assessments) as an elective course for students in the School of Social Sciences but it was also open to other faculties (I had students from for example computer science, Criminology, and linguistics). On average 11 students. Elective. 20 Credit points.
- 2012-18 Redevelopment: Foundations of statistics (SOST70151), SRMS, CCSR and SSDA, University of Manchester, UK. I redesigned content, designed summative assessments (course-work essay and final exam) and labs
- 2011 Social Statistics (MATH38152), 3rd year undergraduate course in Mathematics, School of Mathematics (through Social Statistics DA), University of Manchester, UK. Taught over 12 weeks with 2 hours' of lectures and 1 hour lab each week. I designed the summative and formative assessments. 10 Credit points

### 3.1.2 Teaching and course convening

- 2022-23 Lecturer and coordinator: Multivariate Methods (ST304G), 3rd semester UG course in Statistics; Econometrics (ST223G), 2nd semester UG course in Statistics
- 2021 Lecturer, coordinator, and proposer: Computational Behavioural Science (PSYC30023). 3rd year UG course. Coordination of course, Teaching and delivering a third of the course
- 2020-21 Lecturer: Graduate Research Methods (PSYC90029). Masters course in Psychology
- 2017-19 Lecturer and coordinator: MSc module in Social Network Analysis (SOST 71032), University of Manchester, UK. The module had an introductory part (taught by lecturers in Sociology) and a statistical part that I taught and developed. On average 15 students. Elective for MSc students in Social Statistics. In total teaching concentrated over 6 full days.
- 2016-19 Lecturer and coordinator: 1st year UG module in Introductory Statistics (SOST 10062), University of Manchester, UK. I redeveloped this from the previous Statistics for Economists (ECON 10062). I convened the module, taught half of the lectures and coordinated 3 tutors (3 tutorial groups each), designed summative assessments (assignments and final multiple choice exam), and formative assessments (delivered as weekly blackboard quizzes). On average 200 students. Compulsory for BA Economics students. 10 Credit points. In 2019 I taught until end of March
- 2014-18 Lecturer and coordinator: 3rd year UG module in Advanced Social Network Analysis (SOST30022), University of Manchester, UK. I proposed and developed this course (including summative assessments in the form of coursework and a number of formative assessments) as an elective course for students in the School of Social Sciences but it was also open to other faculties (I had students from for example computer science, Criminology, and linguistics). On average 11 students. Elective. 20 Credit points
- 2012-18 Delivered courses in the CCSR (now CMIST) short course programme, e.g. 'Longitudinal analysis,' 'Introduction to R.' A course typically one to three days with fee-paying students open to practitioners and academics.
- 2012-18 Lecturer and coordinator: Foundations of statistics (SOST70151), SRMS, CCSR and SSDA, University of Manchester, UK. I designed summative assessments (course-work essay and final exam) and labs. I coordinated 2-3 tutorial assistants. Taught over 12 weeks with one 2-hour lecture per week. In 2017 I was on sabbatical and 2016 and 2018 Half of the lectures were delivered by another lecturer. On average 31 students. Compulsory for MSc students in Social Statistics
- 2011-13 Lecturer and coordinator: Social Statistics (MATH38152), 3rd year undergraduate course in Mathematics, School of Mathematics (through Social Statistics DA), University of Manchester, UK. Taught over 12 weeks with 2 hours' of lectures and 1 hour lab each week. I designed the summative and formative assessments. No TA's provided. On average 70 students. In 2011 and 2012 4 and 2 lectures were given by other lecturers. Elective. 10 Credit points.
- 2011-13 Lectures and practicals: Multilevel analysis (SOST70292) (binary response, MCMC, mixed membership, etc). Compulsory for MSc students in Social Statistics. On average 4, 3-hour sessions in 2011-2013. Compulsory for MSc students in Social Statistics
- 2011-13 Lectures and practicals Advanced Survey Methods (SOST70032)(model-based sampling; Interviewer effect, etc). Compulsory for MSc students in Social Statistics. On average 4, 3-hour sessions in 2011-2013. Compulsory for MSc students in Social Statistics
- 2007 Lecturer and assistant teacher: Statistical Models for Social Networks (512989), Dep. of Psychology, School of Behavioural science, University of Melbourne
- 2007 Lecturer and assistant teacher: Introduction to Social Network Analysis (512988), Dep. of Psychology, School of Behavioural science, University of Melbourne
- 2005 Lecturer and coordinator: Basic course in Financial Statistics, Department of Statistics, Stockholm University
- 2000-05 Assistant teacher: Various courses in the undergraduate statistics program at Stockholm University, on basic, intermediate, and advanced levels: probability theory; survey techniques; descriptive statistics; Bayesian statistics; decision theory; time series

## 3.2 Supervision

### 3.2.1 Undergraduate and postgraduate supervision

- 2023-2020-21 Stockholm University (Statistics), MSc: Tea Unneback (2023); Malin Mattiasson (2023).  
University of Melbourne, Supervision 4th year Honours projects: 'Mental health in bushfire-affected communities in Australia' (Januar, 2020); 'How International Students' Social Networks Effect their Cross-Cultural Adjustment' (Earby, 2021)
- 2011-2018 University of Manchester (Social Statistics), MSc: Watson (2015); Fenton (2015); Duran, Minas (2014); Williamson, Owen (2013); Bayliss (2012); Podetti, Moreno (2011).
- 2010 University of Oxford (Statistics), MSc: Xie (2010)
- 2005 Stockholm University (Statistics), 'Magister' (D): Soukkan (2005)

### 3.2.2 PhD supervision

- 2021- Jonathan Januar, 'Missing data mechanisms in covert networks, University of Melbourne,' Funded by Grant W911NF-21-1-0335 for Proposal 79034-NS. Primary Supervisor
- 2020-2021 Manchester-Melbourne GOLDEN scheme, (student withdrawn), Primary Melbourne Supervisor, joint supervision with Manchester's Mitchell Centre for Social Network analysis.
- 2016-2019 Pete Jones, 'Analysing the Bechdel test and dialogic gender bias in film through social network analysis,' defended Viva 12 Feb 2020. Funded by School Scholarship. Primary Supervisor. University of Manchester
- 2016-2020 Ella Guest, 'Bridging the Interest Divide: Do Brokerage and Information Diffusion Increase Community Cohesion on Reddit?' Funded by English Social Research Council (ESRC), Primary supervisor until March 2019. University of Manchester
- 2015-2018 S. Thestrup, 'Integration through deliberation,' funded by ESRC/Uni Manchester, viva 21 May (awarded 2021). Primary Supervisor. University of Manchester
- 2014-2018 J. Watson, 'Uncovering the Structure of Underground Punk Music Networks in the UK using Statistical Models.' Funded by ESRC with Advanced Quantitativ Models (AQM) top-up stipend. Thesis defended: Nov 4 2019. Primary Supervisor. University of Manchester
- 2013-2016 C. Broccatelli, 'Covert Social Networks,' Funded by Leverhulme. Awarded March 2017. Second supervisor (Primary: Martin Everett). University of Manchester
- 2013-2016 Ana Ivon Moralez Gomez, 'A multilevel analysis of recidivism in Chile,' funded by Chilean Department of Education. Awarded Feb 2018. Primary supervisor. University of Manchester
- 2012-2017 J. Prattley, 'Older worker exit transitions from employment in a recessionary era,' Funded by ESRC with AQM top-up stipend. Awarded; viva 12 Sept 2016. Second supervisor (Primary: Tarani Chandola). University of Manchester
- 2010-2014 J.P. Sanchez, 'Measurement Error in Retrospective Data,' funded by ESRC Awarded; viva 29 July 2014. Second Supervisor (Primary: Ian Plewis). University of Manchester

### 3.2.3 Pedagogical training

- 2015 Higher Education Academy (HEA) Fellow.
- 2015 Humanities New Academics Programme (roughly equivalent to 15 credit points), University of Manchester
- 1994 Leadership and pedagogical training, Marinens Sjukvårsskola, Göteborg
- 1992 4th year Leadership and teaching training, Sjövärnskåren, Berga



## 4 Knowledge transfer

### 4.1 Professional advisory work and consultancy

- 2019-2022 Scientific Advisory Board Member for the longitudinal study Ten-to-Men, Australian Institute for Family Studies.
- 2018 Programme committee Seventh Conference on Complex Networks and their Applications, Cambridge UK
- 2013-2019 Advisory board Research centre for educational and network studies Corvinus University of Budapest (RECENS)
- Dec 2019 Site-visit and briefing about CVE and Networks, Defence Science and Technology, SA
- Feb 2016 Bayesian data-augmentation for estimation of ERGM for partially observed multi-layered network, Royal Statistical Society RSS event on networks, London, UK [available from the RSS youtube channel <https://youtu.be/fesU0iNuz6w>]
- Mar 2011 Recent advances in Exponential Random Graph Modelling (ERGM) and inference, Royal Statistical Society, RSS event on social network analysis, London, UK [available on the RSS youtube channel <https://youtu.be/Cu0spWL3c3E>]
- Apr 2017 Two-day on-site consultancy and collaborative workshop with criminal intelligence, CISA, Edmonton, Canada
- Apr 2017 Three-day on-site consultancy on networks of young men who have sex with men, Northwestern University, Feinberg School of Medicine, Chicago, IL (fully paid for)
- 2006-2011 Defence Science and Technology Organisation (DSTO), Australia. 2 Reports and 4 papers delivered. Ca 10 on-site (Edinburg, SA) consultation sessions
- 2012-2017 Redowl Analytics, Baltimore, US. Relational event modelling and inference for email and transaction data. Advisory board & consultancy work on location in Baltimore 3 times
- Nov 2008 Methodological implications of missing data in social network analysis - recent findings and future challenges, Connections Talk, DSTO, Edinburgh, South Australia.



## 4.2 Extramural and external teaching and training (design and delivery)

|             |  |
|-------------|--|
| July 2023   | Statistical Analysis of Social Networks (2 days), Short Course at ISI World Statistics Congress, Ottawa  |
| Feb 2023    | Statistical Network Analysis (3 days), Complex Human Data Hub, University of Melbourne, Australia  |
| Dec 2020    | Hands-on introduction to SAOMs for newbies, ASNAC 2020 Perth, Australia  |
| Dec 2020    | A review of advanced use of SAOM, ASNAC 2020 Perth, Australia  |
| Dec 2019    | Relational Event Models - An Introduction to Survival Modelling of Relational Data and Time-Stamped Networks. University of Melbourne  |
| Nov 2019    | Introduction to SAOM, Flinders University, Australia   |
| Nov 2019    | Current developments for SAOM, Flinders University, Australia  |
| July 2017   | Statistical modelling of social networks, St. Petersburg Summer School on Network Analysis, St. Petersburg State University, Russia  |
| July 2016   | Network dependencies in social space, geographical space, and temporal space, Networks in the Global World 2016, St. Petersburg State University, Russia   |
| Sept 2015   | Introduction to Exponential Random Graph Models (ERGM) (3 Days), ECAS Course 2015, Haus der bayerischen Landwirtschaft Herrsching, Luddwig-Maximilians Universität, Munich   |
| July 2015   | An outlook on modeling the dynamics of spatially embedded social networks, Interdisciplinary Summer School 'Network Analysis of European Urban Landscapes: Communities, Spaces and Meanings,' St. Petersburg, Russia |
| Recurent    | Advanced methods for social network analysis (3-5 days), University of Manchester Methods Summer School, July 2015,2016,2017, and 2018   |
| July 2014   | Advanced SNA (5 days), University of Manchester Methods Summer School  |
| Aug 2013    | RSiena, ASNA, University of Zurich   |
| June 2013   | Networks in space and time: Stochastic Actor-oriented Models in RSiena, ARS'13 Rome  |
| June 2013   | Advanced SNA (5 days), University of Manchester Methods Summer School  |
| May 2013    | Exponential Random Graph Models for Social Networks, Using PNet, Sunbelt XXXIII, International Social Network Conference, Hamburg  |
| May 2013    | What creates a network (2 days), and why does it look like it does? Stockholm Resilience Centre, Stockholm University, Stockholm   |
| April 2013  | ERGM, NET-WORK-SHOP IV, Network Dynamics: Recent developments, Hungarian Academy of Sciences, Budapest   |
| Sept 2012   | An introduction to Stochastic Actor Oriented Models, ASNA, The University of Zurich and ETH  |
| June 2012   | An introduction to exponential random graph models (ERGM), the 8th UK Social Network Conference, Bristol   |
| Dec 2011    | An Introduction to the Analysis of Longitudinal Social Network Data using RSiena, Department of Psychology, University of Melbourne, Australia   |
| Sept 2011   | The Analysis of Longitudinal Social Network Data using SIENA, ASNA, The University of Zurich and ETH   |
| August 2011 | Statistical Social Network Analysis, Method Festival in Tampere, Finland   |
| July 2011   | An introduction to exponential random graph models (ERGM), the 7th UK Social Network Conference, University of Greenwich, UK   |
| May 2011    | Statistical Social Network Analysis, the 2011 American Sociological Association Spring Methodology Conference, Tilburg, the Netherlands  |
| April 2011  | Social Network Analysis 3: Statistical Analysis of Social Networks (3 days), Mitchell center for Social Network analysis and CCSR, University of Manchester, UK  |
| Sept 2010   | The Analysis of Longitudinal Social Network Data using SIENA, ASNA, The University of Zurich and ETH   |
| June 2010   | Invited Coordinator and Lecturer: Statistical Models for Social Networks, School of Social Science, University of Manchester, UK   |
| Jan 2009    | Invited Coordinator and Lecturer: Social Network Analysis, Cathie Marsh Centre for Census and Survey Research, University of Manchester, UK  |
| June 2008   | Lecturer and assistant teacher: Workshop on theories and methods for understanding human social networks, Dep. of Psychology   |

### 4.3 Invitation-only extramural workshops and meetings

- 2020 Co-organiser of multi-agency (Victoria Department of Justice, Defence Science and Technology Group, Department of Home Affairs, Australian Federal Police, etc) workshop on Pathways to radicalisation, hosted at DSTG
- 2019 - 2021 Scientific Advisory meetings for Ten-To-Men, Australian Institute for Family Studies, Occasional
- 2019 Koskinen, Crime and Networks Workshop – a workshop for academics, criminal intelligence, and law enforcement, Deakin CBD, Melbourne
- 2018 Stys., Koskinen [presenter], Pot and the World’s Oldest Profession: Illicit Networks of Most Unlikely Co-Offenders in Eastern DR Congo, invited speaker at 10th Illicit Networks Workshop, SEATAC, Seattle, Nov 2018
- 2017 Brokering Between Overt and Covert Networks in Conflict Zones, 9th Illicit Networks Workshop, Flinders University, Australia, 11 December – 13 December (jointly presented by Stys, P. and Koskinen, J)
- 2017 Competition and Collaboration in Multilevel Organized Criminal Networks (with Coutinho [pres.], Bright, D., and Wright, A.), 9th Illicit Networks Workshop, Adelaide, Australia (accommodation, meals, fees)
- 2016 Sticking together under covertness (presented by Broccatelli), 8th Illicit Networks Workshop, London
- 2015 MERGM for Partially Observed Covert Networks, 7th Illicit Networks Workshop, Montreal, (Canada)

### 4.4 Software development

#### CRAN

- Bayesian estimation for stochastic actor-oriented models, **RSiena** (based on [64])
- Maximum likelihood estimation for stochastic actor-oriented models, **RSiena** (based on [55])
- Estimation for Multilevel stochastic actor-oriented models, **RSiena** [4]
- Modelling evolution of bipartite networks, **RSiena** (based on [51])

#### Stand-alone graphical user-interface statistical packages for network analysis

- Approximate Bayesian goodness-of-fit for ERGMS, **PNet** (based on [67, 54])
- Bayesian estimation for ERGMS, (new .net version **MPNet** of) **PNet** (based on [67, 54, 59])
- Bayesian estimation for ERGMS with missing data, (new .net version **MPNet** of) **PNet** (based on [54, 42])
- Estimation of Longitudinal network data using Longitudinal ERGM (**LPNet**)(based on [49, 45])
- Outlier analysis in ERGMs (in **MPNet**) ERGM (based on [27])

#### GitHub

- Outlier analysis in ERGMs (in **MPNet**) ERGM (based on [27])
- Bayesian Hierarchical ERGM (following [6]) has been made available on GitHub and vignettes for usage will be posted on the MelNet resources web page.
- Bayes ALAAM (following [8]) has been made available on GitHub and is used in the NSF and BB projects. Noshir Contractor has volunteered his centre’s programming resources to transition the code from GitHub to CRAN.
- Multiple rater ERGM (following Koskinen, Marcum, Christopholus, and Sohn, 2019). in the process of being added to GitHub Bayesian estimation for large networks using component decomposition. in the process of being added to GitHub.