PAVEL N. KRIVITSKY
SENIOR LECTURER IN STATISTICS
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Education

'03–'09 **PhD in Statistics** University of Washington, Seattle, WA, USA
Thesis: Statistical Models for Social Network Data and Processes
Advisor: Mark S. Handcock

'03–'06 **MS in Statistics** University of Washington, Seattle, WA, USA
Advisors: Adrian E. Raftery and Mark S. Handcock

'99–'03 **BS in Biometry and Statistics, Cum Laude with Distinction in Research**
Cornell University, Ithaca, NY, USA
Thesis: The Effect of Integration Cell Size and *In Situ* Target Strength Calculation Method on Acoustic Fish Density Estimates for Alewife Lakes of New York State
Advisors: Steven J. Schwager and Lars G. Rudstam

Positions

7/'20– **Senior Lecturer (US: Associate Professor) in Statistics** at University of New South Wales School of Mathematics and Statistics, Sydney, NSW, Australia
Converted (Tenured): 6/'21

7/'19–6/'20 **Lecturer (US: Assistant Professor) in Statistics** at University of New South Wales School of Mathematics and Statistics, Sydney, NSW, Australia

7/'13–7/'19 **Lecturer (US: Assistant Professor) in Statistics** at University of Wollongong School of Mathematics and Applied Statistics and National Institute for Applied Statistics Research Australia (NIASRA), Wollongong, NSW, Australia
Confirmed (Tenured): 5/'16

9/'11–6/'13 **Research Associate** at Pennsylvania State University Department of Statistics, University Park, PA, USA

9/'09–8/'11 **Visiting Research Scientist** at Carnegie Mellon University iLab at Heinz College and Department of Statistics; and Instituto Superior Técnico Institute for Systems and Robotics, Pittsburgh, PA, USA; and Lisbon, Portugal

Publications

Peer-Reviewed

Journal Saman Forouzandeh, **Pavel N. Krivitsky**, and Rohitash Chandra. Multiview Graph Dual-Attention Deep Learning and Contrastive Learning for Multi-Criteria Recommender Systems. *Expert Systems With Applications*, 291:128378, 2025 doi:10.1016/j.eswa.2025.128378.

David Dekker, David Krackhardt, Patrick Doreian, and **Pavel N. Krivitsky**. Balance Correlations, Agentic Zeros, and Networks: The Structure of 192 Years of War and Peace. *PLOS ONE*, 19(12): e0315088, 2024 doi:10.1371/journal.pone.0315088.

Victoria L. Leaver, Robert G. Clark, **Pavel N. Krivitsky**, Carole L. Birrell. A Comparison of Likelihood-Based Methods for Size-Biased Sampling. *Journal of Statistical Planning and Inference*, 230:106115, 2024 doi:10.1016/j.jspi.2023.106115.

Pavel N. Krivitsky, Alina R. Kuvelkar, and David R. Hunter. Likelihood-based Inference for Exponential-Family Random Graph Models via Linear Programming. *Electronic Journal of Statistics*, 17(2):3337–3356, 2023 doi:10.1214/23-EJS2176.

Pavel N. Krivitsky, Pietro Coletti, and Niel Hens. Rejoinder to Discussion of "A Tale of Two Datasets: Representativeness and Generalisability of Inference for Samples of Networks". *Journal of the American Statistical Association*, 118(544):2235–2238, 2023 doi:10.1080/01621459.2023.2280383 arXiv:2312.06028.

Pavel N. Krivitsky, Pietro Coletti, and Niel Hens. A Tale of Two Datasets: Representativeness and Generalisability of Inference for Samples of Networks. *Journal of the American Statistical Association*, 118(544):2213–2224, 2023 doi:10.1080/01621459.2023.2242627.

Pavel N. Krivitsky, David R. Hunter, Martina Morris, and Chad Klumb. `ergm` 4: New Features for Analyzing Exponential-Family Random Graph Models. *Journal of Statistical Software*, 105(1):1–44, 2023. doi:10.18637/jss.v105.i06

Rohitash Chandra, Mahir Jain, Manavendra Maharana, **Pavel N. Krivitsky**. Revisiting Bayesian Autoencoders with MCMC. *IEEE Access*, 2022. doi:10.1109/ACCESS.2022.3163270

Pavel N. Krivitsky, Michał Bojanowski, and Martina Morris. Impact of Egocentric Survey Design on Estimable Network Features. *Social Networks*, 69:22–34, 2022. doi:10.1016/j.socnet.2020.10.001

Rohitash Chandra, Ayush Bhagat, Manavendra Maharana, **Pavel N. Krivitsky**. Bayesian Graph Convolutional Neural Networks via Tempered MCMC. *IEEE Access*, 9:130353–130365, 2021. doi:10.1109/ACCESS.2021.3111898

Pavel N. Krivitsky, Laura Koehly, and Christopher S. Marcum. Exponential-Family Random Graph Models for Multi-Layer Networks. *Psychometrika*, 85(3):630–659, 2020. doi:10.1007/s11336-020-09720-7

Luke Mazur, Thomas Suesse, and **Pavel N. Krivitsky**. Investigating Foreign Portfolio Investment Holdings: Gravity Model with Social Network Analysis. *International Journal of Finance and Economics*, 27(1):554–570, 2020. doi:10.1002/ijfe.2168

Michael Schweinberger, **Pavel N. Krivitsky**, Carter T. Butts, and Jonathan Stewart. Exponential-Family Models of Random Graphs: Inference in Finite-, Super-, and Infinite Population Scenarios. *Statistical Science*, 35(4):627–662, 2020. doi:10.1214/19-STS743

Pavel N. Krivitsky and Carter T. Butts. Exponential-Family Random Graph Models for Rank-Order Relational Data. *Sociological Methodology*, 47(1):68–112, 2017. doi:10.1177/0081175017692623

Pavel N. Krivitsky and Martina Morris. Inference for Social Network Models from Egocentrically-Sampled Data, with Application to Understanding Persistent Racial Disparities in HIV Prevalence in the US. *Annals of Applied Statistics*, 11(1):427–455, 2017. doi:10.1214/16-AOAS1010

Pavel N. Krivitsky. Using Contrastive Divergence to Seed Monte Carlo MLE for Exponential-Family Random Graph Models. *Computational Statistics and Data Analysis*, 107:149–161, 2017. doi:10.1016/j.csda.2016.10.015

Vishesh Karwa, **Pavel N. Krivitsky**, and Aleksandra B. Slavković. Sharing Social Network Data: Differentially Private Estimation of Exponential-Family Random

Graph Models. *Journal of the Royal Statistical Society, Series C*, 66(3):481–500, 2017. doi:10.1111/rssc.12185

Noel Cressie, Sandy Burden, Walter Davis, **Pavel N. Krivitsky**, Payam Mokhtarian, Thomas Suesse, and Andrew Zammit-Mangion. Capturing Multivariate Spatial Dependence: Model, Estimate, and then Predict (Discussion Paper). *Statistical Science*, 30(2):170–175, 2015. doi:10.1214/15-STS517

Pavel N. Krivitsky and Eric D. Kolaczyk. On the Question of Effective Sample Size in Network Modeling: An Asymptotic Inquiry. *Statistical Science*, 30(2):184–198, 2015. doi:10.1214/14-STS502

Nicole Bohme Carnegie, **Pavel N. Krivitsky**, David R. Hunter, and Steven M. Goodreau. An Approximation Method for Improving Dynamic Network Model Fitting. *Journal of Computational and Graphical Statistics*, 24(2):502–519, 2015. doi:10.1080/10618600.2014.903087

Pavel N. Krivitsky and Mark S. Handcock. A Separable Model for Dynamic Networks. *Journal of the Royal Statistical Society, Series B*, 76(1):29–46, 2014. doi:10.1111/rssb.12014

David R. Hunter, **Pavel N. Krivitsky**, and Michael Schweinberger. Computational Statistical Methods for Social Network Models (Invited Paper). *Journal of Computational and Graphical Statistics*, 21(4):856–882, 2012. doi:10.1080/10618600.2012.732921

Pavel N. Krivitsky. Exponential-Family Random Graph Models for Valued Networks. *Electronic Journal of Statistics*, 6:1100–1128, 2012. doi:10.1214/12-EJS696

Pavel N. Krivitsky, Mark S. Handcock, and Martina Morris. Adjusting for Network Size and Composition Effects in Exponential-Family Random Graph Models. *Statistical Methodology*, 8(4):319–339, 2011. doi:10.1016/j.stamet.2011.01.005

Pavel N. Krivitsky, Mark S. Handcock, Adrian E. Raftery, and Peter D. Hoff. Representing Degree Distributions, Clustering, and Homophily in Social Networks with Latent Cluster Random Effects Models. *Social Networks*, 31(3):204–213, 2009. doi:10.1016/j.socnet.2009.04.001

Pavel N. Krivitsky and Mark S. Handcock. Fitting Position Latent Cluster Models for Social Networks with `latentnet`. *Journal of Statistical Software*, 24(5):1–23, 2008. doi:10.18637/jss.v024.i05

Proceedings

Marijka Batterham and **Pavel N. Krivitsky**. Relationship Between Statistics Anxiety and Final Marks in an Introductory Biostatistics in Undergraduate Health Sciences Students. *OZCOTS 2021: Proceedings of the 10th Australian Conference on Teaching Statistics*, 2021 https://iase-web.org/documents/ANZCOTS/OZCOTS_2021_Proceedings.pdf.

Yue Ma, Yan-Xia Lin, **Pavel N. Krivitsky**, and Bradley Wakefield. Quantifying Protection Level of a Noise Candidate for Noise Multiplication Masking Scheme. *Privacy in Statistical Databases: Lecture Notes in Computer Science*, 11126:279–293, 2018. doi:10.1007/978-3-319-99771-1_19

Yan-Xia Lin and **Pavel N. Krivitsky**. Reviewing the Methods of Estimating the Density Function Based on Masked Data. *Privacy in Statistical Databases: Lecture Notes in Computer Science*, 11126:231–246, 2018. doi:10.1007/978-3-319-99771-1_16

Vishesh Karwa, Aleksandra Slavković, and **Pavel N. Krivitsky**. Differentially Private Exponential Random Graphs. *Privacy in Statistical Databases: Lecture Notes in Computer Science* (J. Domingo-Ferrer (ed.)), 8744:143–155, 2014. doi:10.1007/978-3-319-11257-2_12

Pavel N. Krivitsky, Pedro M. A. Ferreira, and Rahul Telang. Network Neighbor Effects on Customer Churn in Cell Phone Networks. *Proceedings of the 7th Symposium on Statistical Challenges in E-Commerce Research (SCECR 2011)*, 2011. https://ro.uow.edu.au/articles/conference_contribution/Network_neighbor_effects_on_customer_churn_in_cell_phone_networks/27694986

Adrian E. Raftery, Michael A. Newton, Jaya M. Satagopan, and **Pavel N. Krivitsky**. Estimating the Integrated Likelihood via Posterior Simulation Using the Harmonic Mean Identity. *Bayesian Statistics 8: Proceedings of the Eighth Valencia International Meeting* (J. M. Bernardo, M.J. Bayarri, J. O. Berger, A. P. Dawid, D. Heckerman, A. F. M. Smith, and M. West (eds.)), 8:371–416, 2007. doi:10.1093/oso/9780199214655.003.0015

Tech Reports & Working Papers

Pavel N. Krivitsky, David R. Hunter, Martina Morris, and Chad Klumb. ergm 4: Computational Improvements. 2022. arXiv:2203.08198

Pavel N. Krivitsky, Michał Bojanowski, and Martina Morris. Inference for Exponential-Family Random Graph Models from Egocentrically-Sampled Data with Alter–Alter Relations. *University of Wollongong National Institute for Applied Statistics Research Australia Working Paper*, 08-19, 2019. https://www.uow.edu.au/niasra/publications/

Michael Schweinberger, **Pavel N. Krivitsky**, and Carter T. Butts. A note on the role of projectivity in likelihood-based inference for random graph models. 2017. arXiv:1707.00211

Pavel N. Krivitsky. Modeling of Dynamic Networks based on Egocentric Data with Durational Information. *Pennsylvania State University Department of Statistics Technical Report*, TR12-01, 2012. arXiv:2203.06866

Pavel N. Krivitsky. Modeling Tie Duration in ERGM-Based Dynamic Network Models. *Pennsylvania State University Department of Statistics Technical Report*, TR12-02, 2012. arXiv:2203.11817

Teaching

Courses

University of New South Wales

'23–	MATH3831: Statistical Methods for Social and Market Research
'22, '24–	DATA5002: Data Visualisation
'20–'22	ZZSC5855: Multivariate Analysis (Online)
'19–'21	MATH5855: Multivariate Analysis
'19–'22	DATA1001: Introduction to Data Science and Decisions

University of Wollongong MATH100: Introduction to Mathematics, STAT902: Advanced Data Analysis, STAT251: Fundamentals of Biostatistics, STAT903: Model-Based Survey Design and Analysis, INFO411/911: Data Mining, STAT131: Understanding Variation and Uncertainty, MATH131: Mathematics for Primary School Teachers

External Workshops and Tutorials

Statnet Project Exponential-family Random Graph (ERG or p*) Modeling · Extending ERGM Functionality: Building Custom User Terms · Temporal ERGMs for Modeling Discrete Relational Dynamics · Latent Variable Network Modeling · Egocentric Network Analysis with ERGMs · Valued Network Modeling · Advanced ERGMs

’09–’24 at *International Network for Social Network Analysis Annual Conference: Sunbelt* (with Martina Morris, Mark S. Handcock, Steven M. Goodreau, Skye Bender-deMoll, Carter T. Butts, David R. Hunter, Michał Bojanowski, and others)

’24–’24 at *Australian Network for Social Network Analysis Annual Conference: ASNAC*

’19 at *European Network for Social Network Analysis Annual Conference: EUSN* (with Martina Morris and Michał Bojanowski)

4–5/2/’16 at *StatsWeek@UOW 2016* (with Martina Morris)

Supervision

PhD

’22– **Yunhe Pan** (primary, with Feng Chen)

’16– **Victoria Leaver** (part-time) (co-supervisor, with Carole Birrell primary and Robert Clark)

’21–’25 **Saman Forouzandeh** (primary, with Rohitash Chandra and Wenjie Zhang)

’22–’24 **Arya Karami** (hosting visiting scholar)

’21–’24 **Alina Kuvelkar** (external committee member, with David R. Hunter primary)

’23–’24 **Amir Alvandi** (external committee member, with Krista J. Gile primary)

’16–’20 **Yue Ma** (co-supervisor, with Yan-Xia Lin primary)

MSc

’20–’23 **Christopher Shaw** (panel member from ’21, with Jonathan Russell primary and Michael Kasumovic)

’15–’18 **Georgina Davies** (part-time) (co-supervisor, with Noel Cressie primary)

Honours

’25 **Patrick Liang**, **Roy Lin** (all primary)

’23 **Christopher Gordon** (primary)

’22 **Marco Diodati**, **Andrew Murphy**, **Rodrick Safi** (all primary)

’21– **Marc Ishak** (primary)

’19–’20 **Zachary Edelstein** (joint, with Catherine Greenhill)

’19 **Samuel Brown** (primary, with James Ng)

’18 **Aidan Mison** (primary)

’15 **Luke Mazur** (equal co-supervisor, with Thomas Suesse)

Competitive Grants

Successful

’26–’29 **Chief Investigator** on Australian Research Council Discovery Project
Title: How Personal Networks Build Capacity to Respond to Compound Natural Hazards
Principal Investigator: Angela Guerrero Gonzalez
Other Chief Investigator: Michele Barnes
Amount: 720,277 AUD

’25–’26 **Project Leader (UNSW)** on Pontificia Universidad Católica de Chile and UNSW Seed Grant

Title: Sustainability Science in Practice: From Global Challenges to Interdisciplinary Collaboration
Project Leader (UC): Alejandro Espinosa Rada
Amount: 10,000 AUD

'21–'25 **Co-Principal Investigator** on US Army Research Office Award W911NF-21-1-0335 (79034-NS)
Title: Covert networks: How to learn as much as possible about the structure of a network from sampled subnetworks
Principal Investigator: Michael Schweinberger
Co-Investigator: Johan Koskinen
Amount: 650,000 USD

'20–'21 **Chief Investigator** on UNSW Triple I Seed Grant
Title: Open source modelling tools to support policy decision-making throughout the COVID-19 post-pandemic phase
Principal Investigator: Mark Hanly
Chief Investigators: Tim Churches, Jeffrey Post, Oisin Fitzgerald, Raina MacIntyre, Louisa Jorm
Amount: 50,000 AUD

'18–'23 **Consultant/Co-Investigator** on US National Institutes of Health Grant R01AI138783
Title: EpiModel 2.0: Integrated Network Models for HIV/STI Prevention Science
Principal Investigator: Samuel M. Jenness
Co-Investigators: Kimberly Workowski, Patrick Sullivan, Gregory Phillips II, Brian Mustanski, Michelle Birkett, Patrick Janulis, Martina Morris, Steven Goodreau, Deven Hamilton, Karen Kuntz, and Eva Enns
Amount: 2,974,839 USD

'11–'16 **Co-Investigator** on US National Institutes of Health Grant R01HD68395
Title: Statistical Methods for Network Epidemiology
Principal Investigator: Martina Morris
Co-Investigators: Steven M. Goodreau, David R. Hunter, Carter T. Butts, and Skye Bender-deMoll
Amount: 3,040,740 USD

Awards and Honours

'24 **Mid-career Impact Award for Fundamental Research** by *University of New South Wales Faculty of Science*
for contributions to methodology and software tooling for social network analysis

'23 **JASA A&CS Discussion Paper at JSM** by *American Statistical Association*
for *A Tale of Two Datasets: Representativeness and Generalisability of Inference for Samples of Networks* (with Pietro Coletti and Niel Hens)

'19 **Freeman Award** by *International Network for Social Network Analysis*
for significant contributions to the scientific study of social structure by a young investigator

'19 **Richards Award** by *International Network for Social Network Analysis*
for Development of `Statnet` Social Network Analysis Software (with Martina Morris, Mark Handcock, David Hunter, Steven Goodreau, and Skye Bender-deMoll)

Presentations

⋆ — *travel funded in whole or in part by organisers*

Keynotes

8/7/'21 ⋆ Graphs, Networks, Big Data, Big Models. Freeman Award Lecture at *International Network for Social Network Analysis and Network Science Society Joint Conference: Networks 2021*, Washington, DC, USA (Online)

Invited

9/8/'23 A Tale of Two Datasets: Representativeness and Generalisability of Inference for Samples of Networks (with Pietro Coletti and Niel Hens). Invited session at *American Statistical Association Joint Statistical Meetings*, Toronto, ON, Canada

21/5/'20 Statistical Models for Bipartite Contact Networks: Methods and Data. Invited presentation at *Isaac Newton Institute Programme on Mathematical and Statistical Challenges in Understanding the Dynamics of Infectious Disease Pandemics, virtual workshop on Models Old and New*, Cambridge, UK (Online)

7/9/'19 ⋆ Some Factoids about Relational Event Models and Dynamic Network Actor Models. Invited presentation at *EUSN Satellite Meeting on Relational Event Models at ETH Zurich*, Zurich, Switzerland

16/7/'19 ⋆ Inference for Network Models based on Egocentrically-Sampled Data. Invited presentation at *International Society for Clinical Biostatistics Annual Conference*, Leuven, Belgium

21/3/'19 ⋆ Inference for Network Models based on Egocentrically-Sampled Data. Invited presentation at *Joint Statistical Meeting of the German Statistical Societies*, Munich, Germany

5/1/'18 ⋆ Exponential-Family Random Graph Models for Multi-Layer Networks (with Christopher S. Marcum and Laura Koehly). Invited presentation at *Next Generation Network Analytics Meeting at University College London*, London, UK

17/12/'16 ⋆ Modeling and Simulation of Dynamic Networks using Egocentrically-Sampled Data (with Martina Morris and others). Invited presentation at *Isaac Newton Institute Programme Theoretical Foundations for Statistical Network Analysis, workshop on Dynamic Networks*, Cambridge, UK

1/8/'11 A Separable Model for Dynamic Networks (with Mark S. Handcock). Invited paper at *American Statistical Association Joint Statistical Meeting*, Miami Beach, FL, USA

16/6/'11 Latent Space Cluster Models for Social Networks. Invited paper at *Classification Society Annual Meeting*, Pittsburgh, PA, USA

11/1/'11 A Separable Model for Dynamic Networks (with Mark S. Handcock). Invited presentation at *SAMSI Complex Networks Modeling Workshop*, Research Triangle Park, NC, USA

Refereed

8/7/'21 Relationship between Statistics Anxiety and Final Marks in Introductory Biostatistics in Undergraduate Health Sciences Students (with Marijka Batterham (presenter)). Contributed paper to *OZCOTS 2021*, Online

5/12/'19 On the Generalisability of Within-Household Contact Networks and Impact on Epidemic Spread (with Pietro Coletti (presenter) and Niel Hens). Contributed paper to *Epidemics*^{7}*: International Conference on Infectious Disease Dynamics*, Charleston, SC, USA

3/12/'15 Inference and Simulation for Dynamic Network Models from Egocentrically Sampled Data. Contributed paper to *MODSIM 2015: 21st International Congress on Modelling and Simulation*, Gold Coast, QLD, Australia

7/12/'12 Fitting Dynamic Network Models to Static Network Data. Poster presentation at *Neural Information Processing Systems Conference, Workshop on Algorithmic and Statistical Approaches for Large Social Networks*, Lake Tahoe, NV, USA

10/6/'11 Network Neighbor Effects on Customer Churn in Cell Phone Networks (with Pedro M. A. Ferreira (presenter), Rahul Telang). Contributed paper to *Seventh Symposium on Statistical Challenges in Electronic Commerce Research (SCECR 2011)*, Rio de Janeiro, RJ, Brazil

12/12/'08 Adjusting for Network Size and Composition Effects in Exponential Family Random Graph Models (with Mark S. Handcock and Martina Morris). Poster presentation at *Neural Information Processing Systems Conference, Workshop on Analyzing Graphs*, Whistler, BC, Canada

Recent External Seminar

5/7/'24 ETH Zurich, Zurich, Switzerland

23/5/'24 Australian National University, Canberra, ACT, Australia

30/8/'23 University of Nebraska at Lincoln, Lincoln, Nebraska, USA

22/8/'23 Illinois Institute of Technology, Chicago, Illinois, USA

23/2/'22 Cornell University, Ithaca, New York, USA

6/11/'21 Royal Melbourne Institute of Technology, Melbourne, Australia (Online)

13/8/'21 Macquarie University, Sydney, Australia (Online)

4/9/'19 ETH Zurich, Zurich, Switzerland

22/2/'19 The University of Sydney, Sydney, NSW, Australia

Other Recent

27/11/'25 Modelling Rank-Order Networks when the Ordering is Partially Observed (with Patrick Liang). Presentation at *Australian Network for Social Network Analysis Annual Conference: ASNAC 2025*, Byron Bay, NSW, Australia

30/6/'25 Rate Guarantees for Recovery of Latent Space Distances (with Yunhe Pan (presenter), Feng Chen). Presentation at *2025 ICSA China Conference*, Zhuhai, Guangdong, China

27/6/'25 Extending respondent-driven sampling to allow modeling of social networks with application to people who inject drugs (with Amirhossein Alvandi and Krista Gile). Presentation at *International Network for Social Network Analysis Annual Conference: Sunbelt 2025*, Paris, France

26/6/'25 Testsing in Restricted Multigraphs: Balance Correlation (with David Krackhardt (presenter), David Dekker, and Patrick Doreian). Presentation at *International Network for Social Network Analysis Annual Conference: Sunbelt 2025*, Paris, France

24/6/'25 Social-Ecological Networks and Risk: How Is Perceived Social and Ecological Risk Associated with Network Structure? (with Laura Roldan (presenter), Stephen Alexander, Michele Barnes, Angela Guerrero, Lorien Jasny). Online presentation at *International Network for Social Network Analysis Annual Conference: Sunbelt 2025*, Paris, France

15/11/'24 Error Bounds on Link Prediction in Dyad Independent Networks (with Yunhe Pan (presenter) and Feng Chen). Presentation at *Australian Network for Social Network Analysis Annual Conference: ASNAC 2024*, Brisbane, Queensland, Australia

14/11/'24 Maximum Likelihood Estimation for Network Models from Ambiguous Egocentric Data. Presentation at *Australian Network for Social Network Analysis Annual Conference: ASNAC 2024*, Brisbane, Queensland, Australia

28/6/'24 Maximum Likelihood Estimation for Network Models from Ambiguous Egocentric Data. Presentation at *International Network for Social Network Analysis Annual Conference: Sunbelt 2024*, Edinburgh, Scotland, UK

27/11/'23 Generalised Method of Moment Inference for Exponential-Family Random Graph Models (with Andrew Murphy). Presentation at *Australian Network for Social Network Analysis Annual Conference: ASNAC 2023*, Sydney, New South Wales, Australia

27/11/'23 Model Based Estimation of the Graph Total from a Sample (with Yunhe Pan (presenter) and Feng Chen). Presentation at *Australian Network for Social Network Analysis Annual Conference: ASNAC 2023*, Sydney, New South Wales, Australia

9/8/'23 Generalised Method of Moment Inference for Exponential-Family Random Graph Models (with Andrew Murphy). Presentation at *American Statistical Association Joint Statistical Meetings*, Toronto, ON, Canada

28/6/'23 Optimal Sampling Design for Exponential-Family Random Graph Models with Block Structure (with Yunhe Pan (presenter) and Feng Chen). Presentation at *International Network for Social Network Analysis Annual Conference: Sunbelt 2023*, Portland, OR, USA

28/6/'23 Generalised Method of Moment Inference for Exponential-Family Random Graph Models (with Andrew Murphy). Presentation at *International Network for Social Network Analysis Annual Conference: Sunbelt 2023*, Portland, OR, USA

15/7/'22 Effect of Incomplete Observation on Identifiability and Estimation of Exponential-Family Random Graph Models. Presentation at *International Network for Social Network Analysis Annual Conference: Sunbelt 2022*, Cairns, QLD, Australia

14/7/'22 Generalised Method of Moments Estimation for Exponential-Family Random Graph Models (with Andrew Murphy (presenter)). Poster at *International Network for Social Network Analysis Annual Conference: Sunbelt 2022*, Cairns, QLD, Australia

Learning and Teaching

16/12/'21 Randomised Automatic Assessment in Statistics using Moodle Quiz CodeRunner Question. Presentation at *2021 First Year in Maths NSW*, Sydney, NSW, Australia

26/10/'20 Self-Marking R Code in Moodle with CodeRunner. Presentation at *UNSW School of Mathematics and Statistics Learning and Teaching Seminar*, Online

12/12/'19 `LyX` and `knitr`: Using Literate Programming to Prepare Lecture Materials for Statistics. Presentation at *2019 Mathematical Educational Software Interest Group (MESIG) Meeting*, Sydney, NSW, Australia

Administration

University of New South Wales

'25– **Member** of the Human Research Ethics Advisory Panel: Science and Engineering.

'24–'25 **Statistics Representative** on the UNSW School of Mathematics and Statistics Research Committee.

'20–'22, '25– **Coordinator** of the UNSW School of Mathematics and Statistics Co-Op Program.

'19–'22 **Statistics Representative** on the UNSW School of Mathematics and Statistics Computing Committee.

University of Wollongong

'16–'19 **Statistician** on the University of Wollongong Animal Ethics Committee.

'18 **Member** of the School of Mathematics and Applied Statistics Research Committee.

Member of the School of Mathematics and Applied Statistics Statistical Science Lecture Committee.

'17 **Academic Program Director** of the Bachelor of Medical Mathematics Program.

'16 **Academic Program Director** of the Masters in Statistics Program.

Chair of the School of Mathematics and Applied Statistics Awards Committee.

Member of the School of Mathematics and Applied Statistics Internationalisation Committee.

'14–'16 **Member** of the School of Mathematics and Applied Statistics Computing Committee.

Seminar Convener for the National Institute for Applied Statistics Research Australia.

Service

Software

Statnet Project **contributor ('07–) core developer ('08–)** an open-source project to develop a suite of R packages for analysis and statistical modelling of network data.
`http://www.statnet.org`

Network Analysis task view **co-creator and co-maintainer (with Fabio Ashtar Telarico and James Hollway) ('24–)** a guide on using R packages for network analysis hosted on the Comprehensive R Archive Network (CRAN).
`https://CRAN.R-project.org/view=NetworkAnalysis`

ergm **contributor ('07–) core developer ('08–) maintainer ('12–)** an R package in the `statnet` suite for fitting, visualization, and diagnosing of exponential random graph models (ERGMs).
`http://cran.r-project.org/package=ergm`

tergm **creator ('12–)** an R package in the `statnet` suite for fitting, visualization, and diagnosing of dynamic network models based on ERGMs.
`http://cran.r-project.org/package=tergm`

ergm.count **creator ('12–)** an R package in the `statnet` suite extending `ergm` to fit and simulate ERGMs for networks of counts.
`http://cran.r-project.org/package=ergm.count`

ergm.rank **creator ('16–)** an R package in the `statnet` suite extending `ergm` to fit and simulate ERGMs for networks of ranks.
`http://cran.r-project.org/package=ergm.rank`

ergm.ego **creator ('16–)** an R package in the `statnet` suite extending `ergm` to fit and simulate ERGMs for egocentrically sampled data.
`http://cran.r-project.org/package=ergm.ego`

ergm.multi **creator ('22–)** an R package in the `statnet` suite extending `ergm` to fit and simulate ERGMs for multilayer networks and samples of networks.
`http://cran.r-project.org/package=ergm.multi`

latentnet **core developer, maintainer ('05–)** an R package in the `statnet` suite for fitting latent space and latent cluster models to binary and weighted networks.
`http://cran.r-project.org/package=latentnet`

networkDynamic **contributor ('12–)** an R package in the `statnet` suite for storing and processing dynamic network data.
`http://cran.r-project.org/package=networkDynamic`

rle **creator ('20–)** an R package providing common functions for run-length encoded vectors.
`http://cran.r-project.org/package=rle`

piecemeal **creator ('25–)** a R package for wrangling large simulation studies.
`http://cran.r-project.org/package=piecemeal`

egor **co-creator, contributor ('18–)** an R package for importing, analysing and visualising ego-centred network data.
`http://cran.r-project.org/package=egor`

ergm.userterms **(non-CRAN) contributor ('12–) maintainer ('12–)** an R package in the `statnet` suite providing templates to demonstrate the use of user-specified statistics for use in `ergm`.
`https://github.com/statnet/ergm.userterms`

Organisational

'25 **Board Member** of the Australian Network for Social Network Analysis.

Organising Committee Member of the Australian Network for Social Network Analysis Annual Conference 2025 (Byron Bay, NSW, Australia).

Co-Organiser and Chair of the International Network for Social Network Analysis Sunbelt Conference Session on Sampled and Missing Network Data.

'24 **President** of the Australian Network for Social Network Analysis.

Scientific Committee Member of the International Network for Social Network Analysis Sunbelt Conference (Edinburgh, Scotland, UK).

'23 **Organising Committee Chair** of the Australian Network for Social Network Analysis Annual Conference 2023 (Kensington, NSW, Australia).

Co-Organiser and Chair of the International Network for Social Network Analysis Sunbelt Conference Sessions on Models and Methods for Network Analysis for Sampled or Missing Data: Relations and Nodal Attributes.

'21–'22 **Organising and Program Committees (Member) and Workshop Committee (Chair)** of the International Network for Social Network Analysis Sunbelt Conference 2022 (Cairns, QLD, Australia).

'20 **Chair** of the International Network for Social Network Analysis Freeman Award Committee.

Program Committee of the International Network for Social Network Analysis COVID-19 Satellite Meeting.

'19 **Chair** of the International Network for Social Network Analysis Best Student Paper Award Committee.

Co-Organiser and Chair of the International Network for Social Network Analysis Sunbelt Conference Session on Inference and Generalisability in Modelling Samples of Networks and Multi-Level Networks.

Co-Organiser and Co-Chair of the International Network for Social Network Analysis European Social Networks Conference (EUSN) Session on Inference and Generalisability in Modelling Samples of Networks and Multi-Level Networks.

'12 **Co-Organiser and Co-Chair** of the 2012 Neural Information Processing Systems Workshop on Algorithmic and Statistical Approaches for Large Social Networks.

Peer Review

'25 for *Nature, Network Science.*

'24 for *Journal of Computational and Graphical Statistics, Network Science, Social Networks, SIAM Journal on Applied Dynamical Systems.*

'23 for *Journal of Computational and Graphical Statistics, Social Networks, SIAM Journal on Applied Dynamical Systems, Annals of Applied Statistics, Journal of Mathematical Sociology.*

'22 for *SIAM Journal on Applied Dynamical Systems, Proceedings of the National Academy of Sciences, Journal of Computational and Graphical Statistics.*

'08–'21 for *Social Networks, Annals of Applied Statistics, Journal of the American Statistical Association, Electronic Journal of Statistics, Journal of Mathematical Psychology, Science, Sociological Methodology, Annals of Statistics, Journal of Statistical Theory and Practice, Statistica Sinica, Journal of Computational and Graphical Statistics,* Health Research Council of New Zealand (Grant), *Journal of Statistical Software, Computational Statistics and Data Analysis, Journal of the Royal Statistical Society Series B,* Swiss National Science Foundation (Grant), *Science, Journal of Selected Topics in Signal Processing, Computational Statistics, Annals of Statistics, Bernoulli, Statistical Science, Biostatistics, PLOS One.*

Memberships and Certifications

Memberships **International Network for Social Network Analysis** (member since 2009)
Australian Network for Social Network Analysis (founding member since 2016)
American Statistical Association (member since 2007)
Statistical Society of Australia (member since 2023)

Certifications **Society of Actuaries/Casualty Actuarial Society** (SOA/CAS Level 1 in June 2002)

Other Information

Citizenship **United States of America** (naturalised in 2000)

Languages **Russian** (native speaker), **English** (native-level),
French (some competence), **Japanese** (some competence)

Programming R, PYTHON, C, C++, JAVA, SQL (MySQL, PosgreSQL, Oracle, and SQLite), S-PLUS, MATLAB

Software *WinBUGS, JAGS, SAS, MINITAB, DataDesk, SPSS*