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Education : **Ph.D., Statistics** August 1989

University of Chicago
Thesis Advisor : Michael L. Stein
Thesis: Inference for Spatial Random Fields when
the Objective is Prediction

B. Sc. (Hons.), Mathematics, May 1983

University of Western Australia, Perth, Australia
Majors : Mathematics and Statistics,
Thesis : An Introduction to Geostatistical Theory

Academic and Professional Positions : **Professor of Statistics** January 2010
Department of Statistics to present
The University of California – Los Angeles

Professor and Chair of Statistics July 2015
Department of Statistics to June 2019
The University of California – Los Angeles

Professor and Chair of Statistics July 2007 to
Department of Statistics December 2009
Center for Statistics and the Social Sciences
The University of Washington

Professor of Statistics and Sociology January 2000 to
Department of Statistics and Sociology
Center for Statistics and the Social Sciences August 2006
The University of Washington

Associate Professor of Statistics and Social Science
Department of Statistics August 1996 to
The Pennsylvania State University December 1999

Assistant/Associate Professor

Department of Statistics
New York University

September 1990
to July 1996

Postdoctoral Research

IBM Thomas J. Watson Research Center
Research Assistant (RAND Corporation)

February 1989 to
August 1990

Research Officer

Western Mining Corporation, Western Australia
Mathematical and Technical section

Summer 1985
Jan-Dec 1983

Honors and Awards

2019 winner of the [William D. Richards Software Award](#) by the International Network for Social Network Analysis (INSNA). This is a “lifetime achievement award” to honor individuals who have created publicly available social network analysis software without which it would be impossible to study social networks. The award was given for **statnet**, a suite of software packages for network analysis that implement state-of-the-art statistical modeling of networks. The award was given to the seven primary developers of **statnet**.

2012 winner of the International Network for Social Network Analysis (INSNA) citation award sponsored by [i2](#). The award is for the most cited paper in an INSNA publication over the preceding five years. It was awarded “*Recent developments in Exponential Random Graph (p^*) Models for Social Networks*” appearing in *Social Networks*, 29(2): 192-215, 2006.

Fellow of the American Statistical Association, Elected 2009.

Richard A. Lester Prize for the Outstanding Book in Labor Economics and Industrial Relations published in 2001. Awarded for *Divergent Paths: Economic Mobility in the New American Labor Market*, 2002.

Cornell University, *Center for the Study of Inequality* Annual distinguished book award for 2003. Awarded for *Divergent Paths: Economic Mobility in the New American Labor Market*, 2003.

Professor of the Year, Runner-up, Stern School of Business, 1996.

Citicorp Award for Excellence in Teaching, New York University, 1995.

JASA Annual Applications and Case Studies Invited paper, 1993.

Conferred 1st class honors, University of Western Australia, 1982.

Publications

Books published

Divergent Paths: Economic Mobility in the New American Labor Market Russell Sage Foundation, New York. ISBN 0-87154-150-5, 267 pp. June 2001 (A. D. Bernhardt, M. Morris, MSH and M. Scott). (<http://www.russellsage.org/publications/divergent-paths>).

Relative Distribution Methods in the Social Sciences. Springer-Verlag, New York, August 1999. In the “Statistics for Social Science and Public Policy” series, S. Fienberg, D. Lieversley and J. Rolph series editors, pp. 256 (MSH and M. Morris) (<https://faculty.stat.ucla.edu/handcock/RelDist>). DOI: [10.1007/b97852](https://doi.org/10.1007/b97852)

A Casebook for a First Course in Statistics and Data Analysis, John Wiley & Co., New York, 1995. Also *Annotated Edition for Instruction*, (Samprit Chatterjee, MSH and Jeffrey S. Simonoff) (pages.stern.nyu.edu/~jsimonof/Casebook).

Articles in Peer Reviewed Journals

“Modeling of networked populations when data is sampled or missing” (2023) (Ian E. Fellows and MSH). *METRON*, 1–15. DOI: [10.1007/s40300-023-00246-3](https://doi.org/10.1007/s40300-023-00246-3).

“A Practical Revealed Preference Model for Separating Preferences and Availability Effects in Marriage Formation” (2023) (Shuchi Goyal, MSH, Heide M. Jackson, Michael S. Rendall, and Fiona C. Yeung). *Journal of the Royal Statistical Society, A*, 1–31. DOI: [10.1093/jrsssa/qnad031](https://doi.org/10.1093/jrsssa/qnad031).

“Practical Network Modeling via Tapered Exponential-family Random Graph Models” (2022) (Bart Blackburn and MSH). *Journal of Computational and Graphical Statistics*, 1–20, DOI: [10.1080/10618600.2022.2116444](https://doi.org/10.1080/10618600.2022.2116444).

“Tool for tracking all-cause mortality and estimating excess mortality to support the COVID19 pandemic response” (2022) (Duan Mengjuan, MSH, Bart Blackburn, Fiona Kee, Viema Biaukula, Tamano Matsui and Babatunde Olowokure). *Western Pacific Surveillance and Response Journal*, 13, 2. DOI: [10.5365/wpsar.2022.13.2.921](https://doi.org/10.5365/wpsar.2022.13.2.921).

“A New Record Minimum for Antarctic Sea Ice” (2022) (Marilyn N. Raphael and MSH). *Nature Reviews Earth & Environment*, 1-2. DOI: [10.1038/s43017-022-00281-0](https://doi.org/10.1038/s43017-022-00281-0).

“Comparing the real-world performance of exponential-family random graph models and latent order logistic models for social network analysis” (2022) (Duncan A. Clark and MSH). *Journal of the Royal Statistical Society, A*, 1–22. DOI: [10.1111/rssa.12788](https://doi.org/10.1111/rssa.12788).

“A Regime Shift in Seasonal Total Antarctic Sea Ice Extent in the Twentieth Century” (2022) (Ryan L Fogt, Amanda M Sleinkofer, Marilyn N. Raphael and MSH). *Nature Climate Change*, 12, 54-62. [DOI: 10.1038/s41558-021-01254-9](https://doi.org/10.1038/s41558-021-01254-9).

“Eighteen-year record of circum-Antarctic landfast-sea-ice distribution allows detailed baseline characterisation and reveals trends and variability” (2021). (Alex D. Fraser, Robert A. Massom, MSH, P. Reid, K. I. Ohshima, M. N. Raphael, J. Cartwright, A. R. Klekociuk, Z. Wang, and R. Porter-Smith). *The Cryosphere*, Vol. 15, No. 11, 5061-5077. [DOI: 10.5194/tc-15-5061-2021](https://doi.org/10.5194/tc-15-5061-2021)

“A Note on “Sequential Neighborhood Effects” by Hicks et al. (2018)” (2021) (MSH, Andrew Hicks, Narayan Sastry, and Anne R. Pebley). *Demography*, 58, 1, 773-784. [DOI:10.1215/00703370-9000711](https://doi.org/10.1215/00703370-9000711). PMID: [29192386](https://pubmed.ncbi.nlm.nih.gov/29192386/).

“Population Size Estimation Using Multiple Respondent-Driven Sampling Surveys” (2021). (Brian J. Kim and MSH). *Journal of Survey Statistics and Methodology*, Vol. 9, No. 1, 94-130. [DOI: 10.12.14/10.1093/jssam/smz055](https://doi.org/10.12.14/10.1093/jssam/smz055). PMID: [33521154](https://pubmed.ncbi.nlm.nih.gov/33521154/)

“An Assessment of the Temporal Variability in the Annual Cycle of Daily Antarctic Sea Ice in the NCAR Community Earth System Model, Version 2: A Comparison of the Historical Runs with Observations” (2020). (Marilyn N. Raphael, MSH, Marika M Holland, Laura L Landrum). *Journal of Geophysical Research: Oceans*, Vol. 125, No. 11, e2020JC016459. [DOI: 10.1029/2020JC016459](https://doi.org/10.1029/2020JC016459).

“Modeling the annual cycle of daily Antarctic sea ice extent” (2020). (MSH and Marilyn N. Raphael). *The Cryosphere*, Vol. 14, No. 7, 2159-2172. [DOI: 10.5194/tc-14-2159-2020](https://doi.org/10.5194/tc-14-2159-2020).

“Bayesian inference for finite populations under spatial process settings” (2020). (Alec M. Chan-Golston, Sudipto Banerjee and MSH). *Environmetrics*, Vol. 31, No. 3, e2606. [DOI: 10.1002/env.2606](https://doi.org/10.1002/env.2606).

“Modeling wildfire ignition origins in southern California using linear network point processes” (2020). (Medha Uppala and MSH). *Annals of Applied Statistics*, Vol. 14, No. 1, 339-356. [DOI: 10.1214/19-AOAS1309](https://doi.org/10.1214/19-AOAS1309).

“A Simulation-Based Framework for Assessing the Feasibility of Respondent-Driven Sampling for Estimating Characteristics in Populations of Lesbian, Gay and Bisexual Older Adults” (2018). (Maryclare Griffin, Elena Erosheva, Krista J. Gile, MSH and Karen Fredriksen-Goldsen). *Annals of Applied Statistics*, Vol. 12, No. 4, 2252-2278. [DOI: 10.1214/18-AOAS1151](https://doi.org/10.1214/18-AOAS1151). PMID: [31632509](https://pubmed.ncbi.nlm.nih.gov/31632509/).

“A Conditional Empirical Likelihood Based Method for Model Parameter Estimation from Complex survey Datasets” (2018) (Sanjay Chaudhuri and MSH). *Statistics and Applications*, 16, 1, 245-268.

“Sequential Neighborhood Effects: The Effect of Long-Term Exposure to Concentrated Disadvantage on Children’s Reading and Mathematical Skills” (2018) (Andrew Hicks, MSH, Narayan Sastry, and Anne R. Pebley). *Demography*, 55, 1, 1-31. [DOI:10.1007/s13524-017-0636-5](https://doi.org/10.1007/s13524-017-0636-5). PMID: [29192386](https://pubmed.ncbi.nlm.nih.gov/29192386/).

“Methods for Inference from Respondent-Driven Sampling Data” (2018) (Krista J. Gile, Isabelle S. Beaudry, MSH, Miles Q. Ott) *Annual Review of Statistics and Its Application*, 5, 65-93. [DOI: 10.1146/annurev-statistics-031017-100704](https://doi.org/10.1146/annurev-statistics-031017-100704).

“Evaluating Variance Estimators for Respondent-Driven Sampling” (2018) (Michael W. Spiller, Krista J. Gile, MSH, Corinne M. Mar, Cyprian Wejnert). *Journal of Survey Statistics and Methodology*, 6, 23-45. [DOI: 10.1093/jssam/smx018](https://doi.org/10.1093/jssam/smx018). PMID: [29376083](https://pubmed.ncbi.nlm.nih.gov/29376083/).

“Removing Phase Transitions from Gibbs Measures” (2017) (Ian E. Fellows and MSH). Peer-reviewed conference. Accepted and selected for Presentation. *Proceedings of the 20th International Conference on Artificial Intelligence and Statistics (AISTATS)*, [Proceedings of Machine Learning Research](https://proceedings.mlr.press/v70/fellows17a.html), 54, 289-297. One of the 29 papers selected for presentations out of the 530 submitted papers (5.4%).

“Analysis of Networks with Missing Data with Application to the National Longitudinal Study of Adolescent Health” (2017) (Krista J. Gile and MSH). *Journal of the Royal Statistical Society*, C, 66, Part 3, 501–519. [DOI: 10.1111/rssc.12184](https://doi.org/10.1111/rssc.12184). PMID: [35095118](https://pubmed.ncbi.nlm.nih.gov/35095118/).

“Modeling Concurrency and Selective Mixing in Heterosexual Partnership Networks with Applications to Sexually Transmitted Diseases” (2016) (Ryan Admiraal and MSH). *The Annals of Applied Statistics*, 10, 4, 2021-2046. [DOI: 10.1214/16-AOAS963](https://doi.org/10.1214/16-AOAS963).

“If You Are Not Counted, You Don’t Count: Estimating the Number of African-American Men Who Have Sex with Men in San Francisco Using a Novel Bayesian Approach” (2015) (Paul Wesson, MSH, Willi McFarland, H. Fisher Raymond). *Journal of Urban Health*, 10993460, 1-13. [DOI: 10.1007/s11524-015-9981-0](https://doi.org/10.1007/s11524-015-9981-0) PMID: [26392276](https://pubmed.ncbi.nlm.nih.gov/26392276/).

“Estimating the size of hidden populations using respondent-driven sampling data: Case examples from Morocco” (2015) (Lisa G. Johnston, Katherine R. McLaughlin, Houssine El Rhilani, Amina Latifi, Abdalla Toufik, Aziza Bennani, Kamal Alami, Boutaina Elomari, MSH). *Epidemiology*, 26, 6, 846-52. DOI: [10.1097/EDE.0000000000000362](https://doi.org/10.1097/EDE.0000000000000362) PMID: [26258908](https://pubmed.ncbi.nlm.nih.gov/26258908/).

“Local Dependence in Random Graph Models: Characterisation, Properties, and Statistical Inference” (2015) (Michael Schweinberger and MSH). *Journal of the Royal Statistical Society*, B, 77, 3, 647-676. [DOI: 10.1111/rssb.12081](https://doi.org/10.1111/rssb.12081). PMID: [26560142](https://pubmed.ncbi.nlm.nih.gov/26560142/).

“Network Model-Assisted Inference from Respondent-Driven Sampling Data” (2015) (Krista J. Gile and MSH). *Journal of the Royal Statistical Society, A*, 178, 3, 619-639. DOI: [10.1111/rssa.12091](https://doi.org/10.1111/rssa.12091). PMID: [26640328](https://pubmed.ncbi.nlm.nih.gov/26640328/).

“Estimating Hidden Population Size using Respondent-Driven Sampling Data” (2014) (MSH, Krista J. Gile and Corinne M. Mar). *Electronic Journal of Statistics*, 8, 1, 14911521. DOI: [10.1214/14-EJS923](https://doi.org/10.1214/14-EJS923). PMID: [26180577](https://pubmed.ncbi.nlm.nih.gov/26180577/).

“Estimating the Size of Populations at High Risk for HIV using Respondent-Driven Sampling Data” (2015) (MSH, Krista J. Gile and Corinne M. Mar). *Biometrics*, 71, 1, 258266. DOI: [10.1111/biom.12255](https://doi.org/10.1111/biom.12255). A preliminary version is [here](#). PMID: [25585794](https://pubmed.ncbi.nlm.nih.gov/25585794/)

“A Separable Model for Dynamic Networks” (2014) (Pavel N. Krivitsky and MSH). *Journal of the Royal Statistical Society, B.*, 76, 1, 29-46. A preliminary version is [here](#). DOI: [10.1111/rssb.12014](https://doi.org/10.1111/rssb.12014) PMID: [24443639](https://pubmed.ncbi.nlm.nih.gov/24443639/)

“A Loglinear Modeling Approach to Assessing the Consistency of Ego Reports of Dyadic Outcomes with Applications to Fertility and Sexual Partnerships” (2015) (Ryan Admiraal and MSH). *Journal of the Royal Statistical Society, A*, 178, 2, 363–382. DOI: [10.1111/rssa.12067](https://doi.org/10.1111/rssa.12067) PMID: [26560312](https://pubmed.ncbi.nlm.nih.gov/26560312/).

“Identifying Sources of Health Care Underutilization among California's Immigrants” (2014) (Jocelyn T. Chi and MSH). *Journal of Racial and Ethnic Health Disparities*, 1, 3, 207-218. DOI: [10.1007/s40615-014-0028-0](https://doi.org/10.1007/s40615-014-0028-0) PMID: [26561540](https://pubmed.ncbi.nlm.nih.gov/26561540/).

“**ergm.userterms**: A Template Package for Extending statnet” (2013) (David R. Hunter and Steven M. Goodreau and MSH). *Journal of Statistical Software*, 52, 2, Feb 2013. DOI: [10.18637/jss.v052.i02](https://doi.org/10.18637/jss.v052.i02) PMID: [24307887](https://pubmed.ncbi.nlm.nih.gov/24307887/).

“Estimating Within-School Contact Networks To Understand Influenza Transmission” (2012) (Gail E. Potter, MSH, Ira M. Longini, Jr., and M. Elizabeth Halloran). *Annals of Applied Statistics*, 6, 1, 1-26. DOI: [10.1214/11-AOAS505](https://doi.org/10.1214/11-AOAS505) PMID: [22639701](https://pubmed.ncbi.nlm.nih.gov/22639701/).

“Improving simulation-based algorithms for fitting ERGMs” (2012) (Ruth M. Hummel and David R. Hunter, MSH). *Journal of Computational and Graphical Statistics*, Volume 21, Number 4, Pages 920–939. DOI: [10.1080/10618600.2012.679224](https://doi.org/10.1080/10618600.2012.679224). PMID: [26120266](https://pubmed.ncbi.nlm.nih.gov/26120266/).

“[Estimating Within-Household Contact Networks from Egocentric Data](#)” (2011) (Gail E. Potter, MSH, Ira M. Longini, Jr., and M. Elizabeth Halloran). *Annals of Applied Statistics*, 5, 3, 1816-1838. DOI: [10.1214/11-AOAS474](https://doi.org/10.1214/11-AOAS474) PMID: [22639701](https://pubmed.ncbi.nlm.nih.gov/22639701/).

“Adjusting for network size and composition effects in exponential-family random graph models” (2011) (Pavel N. Krivitsky, MSH and Martina Morris). *Statistical Methodology*. Volume 8, Issue 4, 319–339. URL: <http://arxiv.org/abs/1004.5328>. DOI: [10.1016/j.stamet.2011.01.005](https://doi.org/10.1016/j.stamet.2011.01.005) PMID: [21691424](https://pubmed.ncbi.nlm.nih.gov/21691424/).

“Respondent-Driven Sampling: An Assessment of Current Methodology” (2010) (Krista J. Gile and MSH). *Sociological Methodology*, **40**. DOI: [10.1111/j.1467-9531.2010.01223.x](https://doi.org/10.1111/j.1467-9531.2010.01223.x). Published online June 28, 2010. Manuscript at <http://arxiv.org/abs/0904.1855>. PMID: [22969167](https://pubmed.ncbi.nlm.nih.gov/22969167/).

“A Description of Within-family Resource Exchange Networks in a Malawian Village” (2010) (Gail E. Potter and MSH). *Demographic Research*, **23**, 6, pp. 117–152. DOI: [10.4054/DemRes.2010.23.6](https://doi.org/10.4054/DemRes.2010.23.6). PMID: [21113421](https://pubmed.ncbi.nlm.nih.gov/21113421/).

“Resolving Contested Elections: The Limited Power of Post-Vote Choice Data” (2010) (Adam Glynn, Thomas S. Richardson and MSH). *Journal of the American Statistical Association*, **105**, 1, pp. 84–91. DOI: [10.1198/jasa.2009.ap08640](https://doi.org/10.1198/jasa.2009.ap08640). PMID: [26640307](https://pubmed.ncbi.nlm.nih.gov/26640307/).

“Representing Degree Distributions, Clustering, and Homophily in Social Networks with Latent Cluster Random Effects Models” (2009) (Pavel Krivitsky, MSH, Peter Hoff and Adrian E. Raftery). *Social Networks*, **31**, 3, 204–213. DOI: [10.1016/j.socnet.2009.04.001](https://doi.org/10.1016/j.socnet.2009.04.001) PMID: [20191087](https://pubmed.ncbi.nlm.nih.gov/20191087/).

“Bayesian estimation of Hispanic fertility hazards from survey and population data” (2009) (Michael S. Rendall, MSH and Stefan H. Jonsson). *Demography*, **46**, 1, 65–83. DOI: [10.1353/dem.0.0041](https://doi.org/10.1353/dem.0.0041). PMID: [19348109](https://pubmed.ncbi.nlm.nih.gov/19348109/).

“A Framework for the Comparison of Maximum Pseudo Likelihood and Maximum Likelihood Estimation of Exponential Family Random Graph Models” (2009) (Marijtje van Duijn, Krista J. Gile, MSH). *Social Networks*, **30**, 1, 52–62. DOI: [10.1016/j.socnet.2008.10.003](https://doi.org/10.1016/j.socnet.2008.10.003) PMID: [23170041](https://pubmed.ncbi.nlm.nih.gov/23170041/).

“Modeling Networks from Sampled Data” (2010) (MSH and Krista Gile). *Annals of Applied Statistics*, **4**, Number 1, 5–25. DOI: [10.1214/08-AOAS221](https://doi.org/10.1214/08-AOAS221) PMID: [26561513](https://pubmed.ncbi.nlm.nih.gov/26561513/).

“Goodness of Fit of Social Network Models” (2008) (David R. Hunter, Steven Goodreau and MSH). *Journal of the American Statistical Association*, **103**, 1, pp. 248–258. DOI: [10.1198/016214507000000446](https://doi.org/10.1198/016214507000000446).

“Generalised Linear Models Incorporating Population Level Information: An Empirical Likelihood Based Approach” (2008) (Sanjay Chaudhuri, MSH and Michael S. Rendall). *Journal of the Royal Statistical Society, B*, **70**, Part 2, pp. 311–328. DOI: [10.1111/j.1467-9868.2007.00637.x](https://doi.org/10.1111/j.1467-9868.2007.00637.x) PMID: [22740776](https://pubmed.ncbi.nlm.nih.gov/22740776/).

“Degree distributions in sexual networks: A framework for evaluating evidence” (2008) (Deven Hamilton, MSH and Martina Morris). *Sexually Transmitted Diseases*, Jan **35**, 1, 3040. DOI: [10.1097/olq.0b013e3181453a84](https://doi.org/10.1097/olq.0b013e3181453a84) PMID: [18217224](https://pubmed.ncbi.nlm.nih.gov/18217224/).

“Population constraints on pooled surveys in demographic hazard modeling” (2008) (Michael Rendall, Ryan Admiraal, Alessandra DeRose, Paola DiGiulio, MSH, and Filomena Racioppi). *Statistical Methods and Applications*, DOI [10.1007/s10260-008-0106-8](https://doi.org/10.1007/s10260-008-0106-8). PMID: [20668649](https://pubmed.ncbi.nlm.nih.gov/20668649/).

“Alleviating Linear Ecological Bias and Optimal Design with Subsample Data” (2008) (Adam Glynn, Jon Wakefield, MSH, and Thomas Richardson). *Journal of the Royal Statistical Society, A*, **171**, Part 1, pp. 179–202. DOI: [10.1111/j.1467-985X.2007.00511.x](https://doi.org/10.1111/j.1467-985X.2007.00511.x) PMID: [20052294](https://pubmed.ncbi.nlm.nih.gov/20052294/).

“**statnet**: Software Tools for the Representation, Visualization, Analysis and Simulation of Network Data.” (2008) (MSH, David R. Hunter, Carter T. Butts, Steven M. Goodreau and Martina Morris). *Journal of Statistical Software*, **24**(1). DOI: [10.18637/jss.v024.i01](https://doi.org/10.18637/jss.v024.i01) PMID: [18618019](https://pubmed.ncbi.nlm.nih.gov/18618019/).

“**ergm**: A Package to Fit, Simulate and Diagnose Exponential-Family Models for Networks.” (2008) (David R. Hunter, MSH, Carter T. Butts, Steven M. Goodreau and Martina Morris). *Journal of Statistical Software*, **24**(3). DOI: [10.18637/jss.v024.i03](https://doi.org/10.18637/jss.v024.i03). PMID: [19756229](https://pubmed.ncbi.nlm.nih.gov/19756229/).

“Specification of Exponential-Family Random Graph Models: Terms and Computational Aspects.” (2008) (Martina Morris, MSH and David R. Hunter). *Journal of Statistical Software*, **24**(4). DOI: [10.18637/jss.v024.i04](https://doi.org/10.18637/jss.v024.i04). PMID: [18650964](https://pubmed.ncbi.nlm.nih.gov/18650964/).

“A curved exponential family model for complex networks” (2008). *Computational and Mathematical Organization Theory* (MSH and Martina Morris), 15, 294-302. DOI [10.1007/s10588-008-9055-x](https://doi.org/10.1007/s10588-008-9055-x). PMID: [26612976](https://pubmed.ncbi.nlm.nih.gov/26612976/).

“Fitting Latent Cluster Models for Social Networks with **latentnet**.” (2008) (Pavel N. Krivitsky and MSH). *Journal of Statistical Software*, **24**(5). DOI: [10.18637/jss.v024.i05](https://doi.org/10.18637/jss.v024.i05). PMID: [28804272](https://pubmed.ncbi.nlm.nih.gov/28804272/)

“**networksis**: A Package to Simulate Bipartite Graphs with Fixed Marginals through Sequential Importance Sampling.” (2008) (Ryan Admiraal and MSH). *Journal of Statistical Software*, **24**(8). DOI: [10.18637/jss.v024.i08](https://doi.org/10.18637/jss.v024.i08). PMID: [29129971](https://pubmed.ncbi.nlm.nih.gov/29129971/)

“A **statnet** Tutorial.” (2008) (Steven M. Goodreau, MSH, David R. Hunter, Carter T. Butts, and Martina Morris). *Journal of Statistical Software*, **24**(9). DOI: [10.18637/jss.v024.i09](https://doi.org/10.18637/jss.v024.i09), PMID: [18612375](https://pubmed.ncbi.nlm.nih.gov/18612375/).

“Model-Based Clustering for Social Networks” (2007) (MSH and Adrian E. Raftery and Jeremy M. Tantrum). *Journal of the Royal Statistical Society, A*, **170**, Part 2, pp. 301-354 as a read paper. DOI: [10.1111/j.1467-985X.2007.00471.x](https://doi.org/10.1111/j.1467-985X.2007.00471.x)

“Model-Based Combination of Spatial Information for Stream Networks” (2007). *Environmental and Ecological Statistics*, **14**, 3, DOI: [10.1007/s10651-007-0015-2](https://doi.org/10.1007/s10651-007-0015-2).

“Recent developments in Exponential Random Graph (p*) Models for Social Networks.” (2006) (Garry Robins, Tom Snijders, Peng Wang, MSH and Philippa Pattison). *Social Networks*, **29**, 2, 192-215. [DOI: 10.1016/j.socnet.2006.08.003](https://doi.org/10.1016/j.socnet.2006.08.003)

“Positional Estimation within a Latent Space Model for Networks” (2006) (S. Shortreed, MSH and P. Hoff), *Methodology*, 2006, **2**, No. 1, 24-33. [DOI: 10.1027/1614-2241.2.1.24](https://doi.org/10.1027/1614-2241.2.1.24)

“Urban landscape patterns and global environmental change (GEC): Complex dynamics and emergent properties.” (2006) (M. Alberti, C. Redman, J. Wu, J. Marzluff, MSH, J. Anderies, P. Waddell, D. Fox, H. Kautz, and J. Hepinstall. *International Human Dimension of Global Climate Change*, Spring 2006.

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Other Articles, Chapters in Books and Discussions

Invited discussions indicated

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Invited Discussion of “Connections between survey calibration estimators and semi parametric models for incomplete data” by Thomas Lumley, Pamela A. Shaw and James Y. Dai (2011). *International Statistical Review*, 79, 2, p. 223-225. DOI: [10.1111/j.1751-5823.2011.00147.x](https://doi.org/10.1111/j.1751-5823.2011.00147.x)

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“Incorporating Model Uncertainty into Spatial Predictions” (1996), in *Environmental Studies: Mathematical, Computational and Statistical Analysis*. IMA Volumes in Mathematics and its Applications, Vol. 79, 189-200. Edited by Mary F. Wheeler. SpringerVerlag, New York.

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“Latin Hypercube Sampling to Improve the Efficiency of Monte Carlo Simulations: Application to a CSEF logic circuit within ASTAP” (1989), IBM Research Report, RC 14546.

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Published Software for Field Researchers

- ⤴ The [RDS Analyst](#) is a software package for the analysis of Respondent-driven sampling (RDS) data that implements recent advances in statistical methods. RDS Analyst has an easy-to-use graphical user interface to the powerful and sophisticated capabilities of the computer package R. RDS Analyst provides a comprehensive framework for working with RDS data, including tools for sample and population estimations, testing, confidence intervals and sensitivity analysis.
- ⤴ The [R](#) software package [reldist](#): R functions for the comparison of distributions. For more information on Relative Distribution Methods, including the preface to the book, data sets, and software to implement the methods are available from the [Relative Distribution github site](#).
- ⤴ The [R](#) software package [ruf](#): Estimates of the Resource Utilization Function. For more information on [R](#) software to implement the statistical methods described in the paper *Resource utilization by an avian nest predator: relating resources to a*

probabilistic measure of animal space use, by John M. Marzluff, J. J. Millspaugh, P. Hurvitz, and Mark S. Handcock, *Ecology*, 2004, 85:1411-1427, see the [Resource Utilization Function Estimation github site](#).

- ⤴ The [R](#) software package [statnet](#): software tools for the representation, visualization, analysis and simulation of social network data.
- ⤴ The [R](#) software package [latentnet](#): software to fit and evaluate latent position and cluster models for statistical networks.
- ⤴ The [R](#) software package [networksis](#): A Package to Simulate Bipartite Graphs with Fixed Marginals through Sequential Importance Sampling.
- ⤴ The [R](#) software package [ergm](#): A Package to Fit, Simulate and Diagnose Exponential-Family Models for Networks.
- ⤴ The [R](#) software package [ergm.tapered](#): Provides a set of terms and functions implementing Tapered exponential-family random graph models (ERGMs). Tapered ERGMs are a modification of ERGMs that reduce the effects of phase transitions, and with properly chosen hyper-parameters, provably removes all multiphase behavior.
- ⤴ The [R](#) software package [glmclm](#): Fitting Generalized Linear Models Subject to Constraints.
- ⤴ The [R](#) software package [RDS](#): Carries out estimation with data collected using Respondent-Driven Sampling. This includes Heckathorn's RDS-I and RDS-II estimators as well as Gile's Sequential Sampling estimator. For more information, click [here](#).
- ⤴ The [R](#) software package [sspse](#): implements successive sampling population size estimation (SS-PSE).

SS-PSE is used to estimate the size of hidden populations using respondent-driven sampling (RDS) data. The package can implement SS-PSE, visibility SS-PSE, and capture-recapture SS-PSE.
- ⤴ The [R](#) software package [network](#): Classes for Relational Data (Carter T. Butts, maintainer).
- ⤴ The [R](#) software package [ergm.userterms](#): User-specified terms for the statnet suite of packages.

- ⤴ The [R](#) software package [degreenet](#): Models for Skewed Count Distributions Relevant to Networks.
- ⤴ The [R](#) software package [ergm.count](#): Fit, Simulate and Diagnose Exponential-Family Models for Networks with Count Edges (Pavel N. Krivitsky, maintainer)
- ⤴ I have developed statistical models and tools for tracking all-cause mortality and estimating excess mortality. This is to support the COVID-19 pandemic response. These tools are being used by the World Health Organization (WHO). The software has two components: a graphical user interface to the underlying statistical techniques, and the techniques themselves.

Here is the resulting [WHO all cause of mortality and excess death calculator](#).

Using the [Shiny](#) framework, I built an application that runs in a web browser and gives the user access to powerful visualization, analysis and modeling of All Cause mortality and Excess Death statistics, without requiring software installation or knowledge of programming in [R](#).

The software is open-source and does not require an internet connection to use. Details are on the [github site](#). Details of the statistical methodology are available [here](#) and in the associated [publication](#).

Papers presented at Professional Meetings

invited papers indicated

Since advancement to Step VI, I have been an invited speaker at JSM 2010, JSM 2011, JSM 2012, JSM 2013, JSM 2014, JSM 2015, JSM 2016, JSM 2017, JSM 2022.

Since advancement to Step VI, I have given invited lectures at 36 universities including Columbia, Princeton, Yale, Duke, Stanford, University of Chicago, UC-Berkeley, Penn State Huck Distinguished Lecture Series, University of Massachusetts, New York University, Stern Business School, Paris 1 Panthéon-Sorbonne University, University of Waterloo, University of Padua, University of Manchester, University College London, University of Heidelberg, UC-Irvine, UC-Davis, UC-Riverside, University of Southern California, and the University of Western Australia.

I have also given invited talks at research institutions, including RTI International, September 9, 2012; RAND seminar, October 11, 2012; SAMSI Computational Methods in Social Sciences (CMSS) Workshop, August 18-22, 2013; RAND Network Analysis Speakers Series, October 3, 2013; IPAM Workshop on the Mathematics of Politics 22 April 2014; Westat, 18 November 2015; World Health Organization (WHO) WPRO Modeling Group, June 2, 2020; World Health Organization (WHO) HQ Technical Advisory Group, Dec 9, 2021.

Since advancement to Step VI, I have been the keynote or invited speaker at 9 conferences including the 13th Biennial Centers for Disease Control (CDC) Symposium on Statistical Methods, May 23-25 2011; Commonwealth Scientific, Industrial Research Organization (CSIRO) OCE Cutting Edge Symposium, Dec 10-12, 2012; 3th Italian Conference on Survey Methodology, 26-28 June 2013; UNAIDS Reference Group Consultation, UMass, June 9-10, 2014, Invited Discussion of the Morris Hansen Lecture, Nov 17, 2015, Biostatistics, Statistics; Centers for Disease Control (CDC) Expert Consultation on Advancing Methods For Biobehavioral Surveys, Sept 18, 2018; Conference on Transdisciplinary Homelessness Research, May 24, 2018; Statistical Society of Canada Annual Meeting Survey Methods Section Presidential Invited Address, 31 May, 2022; 7th Italian Conference on Survey Methodology, June 9, 2022; American Sociological Association, Duncan Lecture, August 8, 2022.

Since advancement to Step VI, I have given many seminars on UCLA campus, including the Center for Behavior, Evolution and Culture Seminar Series, Jan 27, 2013; The California Center for Population Research Seminar Series; Big Data - UCLA Seminar Series, April 4, 2014; Anderson School, Operations Research/Operation Management Day, May 22, 2015; Workshop on "Reproducibility of Statistical Results", Nov 13 2015; The Best of UCLA in Mexico, March 8, 2018; CCPR Population-Based Modeling and Measurement of COVID19, December 17, 2020; Statistics Alumni Day, April 21, 2022.

Details of my presentations prior to my advancement to Step VI are below:

Invited speaker at UseR! Conference 2010.

Invited speaker on “Estimating hidden population size using respondent-driven sampling,” (MSH, Krista J. Gile and Corinne M. Mar) at RDS 2.0: Improving Methods to Analyze Recruitment Data from Respondent Driven Samples, Yale University, April 16-17, 2010

Invited speaker on “Modeling Networks from Partially-Observed Network Data,” NSF/SFI workshop: Statistical Methods for the Analysis of Network Data, Dublin, Ireland, June 15th – 18th 2009.

Invited speaker on “Modeling Networks from Partially-Observed Network Data,” DIMACS/ECDC workshop: Spatio-temporal and Network Modelling of Diseases III, Tubingen, Germany, 21-25 October 2008.

Invited speaker on “Statistical Models for Social Networks: Heider's theory of Balance vs. Simmel's triadic formation,” Royal Statistical Society Conference, Nottingham, UK, September 1 - 5, 2008.

Invited discussion on the “Analysis of Massive Online Social Networks,” Joint Statistical Meetings, Denver, CO, August 2 - 5, 2008.

Invited paper on “A Longitudinal Model of Network Formation: Heider's theory of Balance vs. Simmel's triadic formation, *Meeting on Methodology for Empirical Research on Social Interactions, Social Networks, and Health*, Harvard University, Boston, MA May 2-3, 2008

Invited paper on “Inference for a Longitudinal Model of Network Formation: Heider's theory of Balance vs. Simmel's triadic formation, *Conference on The Empirical Analysis of Networks*, Alicante, Spain, May 26-29, 2008

Invited paper on “Respondent-Driven Sampling Assumptions: Violations and Diagnostics, *Respondent-Driven Sampling Consultation*, Centers for Disease Control (CDC), Atlanta, GA, February 12, 2008

Presentation on “Respondent-Driven Sampling: Network and Statistical Perspectives,” Sunbelt XXXVIII Conference, January 24-28, 2008, St Petersburg, Florida.

Invited paper on “Inference for a Longitudinal Model of Network Formation: Heider's theory of Balance vs. Simmel's triadic formation, *SFI Workshop “Is there a Physics of Society?” January 10-12, 2008*, Sante Fe Institute, Sante Fe, January 10-12, 2008

Plenary speaker “Statistical Modeling of Networks,” *NIPS 2007*, Vancouver, BC, Canada, December 4-7, 2007.

Invited speaker “Assessing the Goodness-of-Fit of Network Models,” *NIPS Workshop on Network Modeling*, Whistler, BC, Canada, December 8-9, 2007.

Invited paper on “Network Science,” Joint Statistical Meetings, Salt Lake City, UT, July 29 - August 2, 2007.

Invited paper on “Statistical Model for Epidemic Processes on Networks,” Workshop on Spatio-temporal and Network Modelling of Diseases, *DIMACS Program on Computational and Mathematical Epidemiology*, Edinburgh, UK May 14-18, 2007

Presentation on “Using Exponential Family Random Graph Models for Dynamic Network Simulations,” Sunbelt XXXVII Conference, April 29-May 5, 2007, Corfu, Greece.

Workshop on “Exponential random graph (ERG or p^*) models,” Sunbelt XXXVII Conference, April 29-May 5, 2007, Corfu, Greece.

Workshop on “An Introduction to Exponential Family Random Graph Modeling with **statnet**,” Sunbelt XXXVII Conference, April 29-May 5, 2007, Corfu, Greece.

Invited paper on “Statistical Network Models for Joint Contact and Transmission of Wildlife Diseases,” Workshop on Estimating contact networks from data relevant to pathogen transmission, Penn State University, State College, PA, April 17-21, 2007.

Invited paper on “Modeling of social networks,” Winemiller 2006 Conference on Methodological Developments of Statistics in the Social Sciences, Columbia, MO, October 11-14, 2006.

Read paper on “Model-Based Clustering for Social Networks,” Royal Statistical Society Ordinary Meeting, London, UK, October -11, 2006 (MSH, Adrian E. Raftery and Jeremy Tantrum).

Invited paper on “Bayesian Solutions to the Degeneracy of Network Models,” IMS, Joint Statistical Meetings, Seattle, WA, August 6-10, 2006.

Workshop on “Exponential random graph (ERG or p^*) models,” Sunbelt XXXVI Conference, April 24-30, 2006, Vancouver, BC, Canada.

Workshop on “An Introduction to Exponential Family Random Graph Modeling with **statnet**,” Sunbelt XXXVI Conference, April 24-30, 2006, Vancouver, BC, Canada.

Presentation on “Degree Distributions of Sexual Networks: Should We Buy Scale Free,” Sunbelt XXXVI Conference, April 24-30, 2006, Vancouver, BC, Canada. Presented by Deven Hamilton.

Presentation on “Model-based Assessment of the Impact of Missing Data on Inference for Networks,” Sunbelt XXXVI Conference, April 24-30, 2006, Vancouver, BC, Canada. Presented by Krista Gile.

Presentation on “A Bayesian Approach to Combining Population and Survey Data for Male Fertility Estimation,” Population Association of America, 2006 Annual Meeting, Los Angeles, CA, March 30-April 1, 2006. Presented by Michael Rendall

Presentation on “Degree Distributions of Sexual Networks: Should We Buy Scale Free,” Population Association of America, 2006 Annual Meeting, Los Angeles, CA, March 30-April 1, 2006. Presented by Deven Hamilton.

Invited paper on “Statistical Models for Social Networks,” National Academy of Sciences/National Research Council Workshop on the Statistical Analysis of Networks, Washington, DC, September 26-27, 2005.

Invited paper on “Model-Based Clustering for Social Networks,” IMS, Joint Statistical Meetings, Minneapolis, MN, August 7-11, 2005 (MSH, Adrian E. Raftery and Jeremy Tantrum).

Invited paper on “Statistical models for social networks,” Statistical and Applied Mathematical Sciences Institute (SAMSI) Random Graphs & Stochastic Computation, June 13-14, 2005, Research Triangle Park, NC.

Paper on “Recent developments in exponential random graph (p^*) models,” Sunbelt XXV, International Sunbelt Social Network Conference, Redondo Beach, CA, February 16-20, 2005.

Paper on “Curved Exponential Family Models For Networks,” Sunbelt XXV, International Sunbelt Social Network Conference, Redondo Beach, CA, February 16-20, 2005 (MSH and David R. Hunter).

Invited paper on “Comparison (Relative) Distributions Approaches in the Social Sciences,” American Statistical Association Workshop: “Nonparametric Statistics: Frontier,” January 14-15, 2005, College Station, Texas.

Invited paper on “Models for Social Networks: A Statistical Perspective,” Models of Infectious Disease Agent Study (MIDAS) Consultation on Social Networks, National Institute of General Medical Sciences, NIH, January 5-6, 2005, Washington, D.C.

Invited paper on “Latent Variables in the Social Sciences,” Statistical and Applied Mathematical Sciences Institute (SAMSI) Workshop on Latent Variables in the Social Sciences, September 1-14, 2004, Research Triangle Park, NC.

Paper on “Estimation with population-level constraints on two survey datasets: An application to first birth probabilities by education in Italy,” Sixth International Conference on Social Science Methodology, 17-20 August, 2004, Amsterdam, Netherlands (Presented by co-author Michael S. Rendall).

Invited paper on “Model-Based Clustering for Social Networks”, American Sociological Association 99th Annual Meeting, August 14-17, 2004, San Francisco, CA (Presented by co-author Adrian E. Raftery).

Invited paper on “Model-based Combination of Spatial Information for Stream Networks,” Joint Statistical Meetings, August 8-12, 2004, Toronto, Canada.

Invited paper on “Social Networks: A Statistician’s view,” SRL2004: Statistical Relational Learning and its Connections to Other Fields, July 8, 2004, Banff, Canada.

Invited paper on “Degeneracy and Inference for Social Network Models”, WNAR/IMS Joint Meeting, June 27-30, 2004, Albuquerque, New Mexico.

Invited discussion of papers in Session 32: *Modeling Issues in Statistical Demography*, Population Association of America, 2004 Annual Meeting, Boston, MA April 1, 2004.

Seminar on “Social Networks Models: Inference and Degeneracy,” IMA Workshop 3: Networks and the Population Dynamics of Disease Transmission, November 19, 2003

Seminar on “Demonstration of Latent Space Models,” IMA Workshop 3: Networks and the Population Dynamics of Disease Transmission, November 18, 2003.

Invited discussion of papers in the Section on Methodology Keynote Session: *Networks and Spatial Externalities in the Specification of Spatial Regression Models*, American Sociological Association 98th Annual Meeting, August 19, 2003, Atlanta, GA.

Invited paper on “Bayesian Inference for Social Network Models Using Non-Degeneracy Priors,” Joint Statistical Meetings, August 3-7, 2003, San Francisco, California.

Invited paper on “Social Networks: A Statistical View” Workshop on Statistical Inference, Computing and Visualization for Graphs, August 1, 2003, Stanford University.

Contributed paper on “Degeneracy and Inference for Social Networks Models” Workshop on Statistical Inference, Computing and Visualization for Graphs, August 2, 2003, Stanford University.

Invited paper on “Model-based Ecological Assessment of Riverine Systems by Combining Information from Multiple Sources Data,” IMS/ENAR Meeting, March 30-April 2, 2003, Tampa, Florida.

Seminar on “HIV and STD Prevalence in Wave III,” 2003 Add Health Users Workshop, July 28-29, 2003, Bethesda, MD.

Invited paper on “Statistical Models, Degeneracy and Inference for Social Networks,” Computer Science and Statistics: *Interface '03*, Salt Lake City, Utah, March 12-15, 2003.

Invited paper on “Assessing Degeneracy in Statistical Models for Social Networks,” National Academy of Sciences/National Research Council Workshop on Dynamic Social Network Analysis, Washington, DC, November 7-9, 2002.

Paper on “Modeling Social Networks,” Joint Statistical Meetings, August 11 - 15, 2002 New York City, New York.

Invited paper on “Models and Inference for Social Networks,” *19th Annual Political Methodology Meetings*, Seattle, WA, July 18-20, 2002.

Invited discussion of “Models of Causal Inference: Going Beyond the Neyman-RubinHolland Theory,” by Henry Brady, *19th Annual Political Methodology Meetings*, Seattle, WA, July 18-20, 2002.

Paper on “New Approaches to Statistical Modeling in the Social Sciences,” Seminar on *Socioeconomic Development in a Sustainable Environment*, June 25-26, 2002, Chulalongkorn University Bangkok, Thailand.

Invited Discussion of “Applications of Spectral Methods for Spatial Data,” IMS/ENAR Meeting, March 17-20, 2002, Washington, DC .

Paper on “Degeneracy and Inference for Social Network Models,” Sunbelt XXII Conference, February 13-17, 2002, New Orleans, Louisiana.

Invited Discussion of “Hierarchical Modeling in the Analysis of Spatial Data,” by Alan E. Gelfand Joint Statistical Meetings, August 2001, Atlanta, GA.

“Constrained Maximum Likelihood and Bayesian Estimates of Hispanic and HispanicImmigrant Fertility in the United States,” presented at the Population Association of America Meetings, Session #142, March 28-30, 2001, Washington, D.C., (MSH, Michael Rendall and Stefan H. Jonsson).

“Models and Inference for Social Networks,” presented at the 2000 Meeting of the American Sociological Association Methodology Section, May 4-5, Minneapolis, MN.

“Statistical Methods For Ecological Assessment Of Riverine Systems By Combining Information From Multiple Sources,” presented at the Joint Statistical Meetings, August 13-17, 2000, Indianapolis, Indiana, (MSH, A. Olsen and J. Sedransk).

“Random Effects for Wage Profile Heterogeneity”, American Sociological Association Joint Statistical Meetings, August 1998, San Francisco, (MSH and M. Scott).

“Work and Opportunity in the Post-Industrial Labor Market: Summary of Findings,” American Sociological Association Annual Meetings, August 1998, San Francisco, (A. Bernhardt, M. Morris, MSH and M. Scott).

“Alternative Frameworks for Measuring Inequality: Lorenz Curves and Relative Distributions”, Population Association of America Annual Meetings, April 1998, Chicago, (MSH and D. K. McLaughlin).

Invited paper, 51st Session of the International Statistical Institute, Istanbul, 18–26 August, 1997.

Invited paper, Making Statistics More Effective in Schools of Business, Smeal College of Business, The Pennsylvania State University, June 28, 1997.

Contributed paper, Conference on Social Science and Statistics: In Honor of the C. C. Clogg, September 26–28, 1996.

Contributed paper, Annual Statistical Societies Meetings, Chicago, Illinois, August 6 - 8, 1996.

Contributed paper, “Trends in Crude Prevalence may not Reflect Incidence in Communities,” 10th International Conference on AIDS, Yokohama, Japan, September 8th, 1994.

Invited *JASA* Applications and Case Studies Annual paper, Annual Statistical Societies Meetings, San Francisco, California, August 10 - 14, 1993.

Contributed discussion, Royal Statistical Society meeting, Cambridge, England, June 23, 1993.

Contributed paper, Geostatistics for the Next Century, Montreal, Canada, June 3 - 5, 1993.

Contributed paper, Institute of Mathematical Statistics Winter Conference, Philadelphia, Pennsylvania, March 23–27, 1993.

Invited paper, Annual Statistical Societies Meetings, Boston, Massachusetts, August 9 - 13, 1992.

Invited paper, IMA Program on the Statistical Climate Modeling, Minneapolis, Minnesota, July 20-24, 1992.

Invited paper, 12th Conference on Probability in the Atmospheric Sciences, Toronto, June 22 - 25, 1992.

Invited paper, Computer Science and Statistics: *Interface '92*, College Station, Texas, March 18-21, 1992.

Contributed paper, Annual Statistical Societies Meetings, Atlanta, Georgia, August 19–22, 1991.

Contributed paper, New England Statistics Symposium, Storrs, Connecticut, April 26, 1991.

Contributed paper, Annual Statistical Societies Meetings, Washington, D. C., August 6–10, 1990.

Contributed paper, Conference on Design for Quality Improvement, Philadelphia, Pennsylvania, June 1–4, 1990.

Contributed paper, Computer Science and Statistics: *Interface '90*, East Lansing, Michigan, March 16-19, 1990.

Contributed paper, 11th Geochautauqua (Geostatistics), Newark, Maryland, October 15–17, 1989.

Contributed paper, Annual Statistical Societies Meetings, New Orleans, Louisiana, August 7–11, 1989.

Workshops given at Professional Meetings

Workshop on “Exponential random graph (ERG or p^*) models,” Sunbelt XXX Conference, June 26-28, 2010, Riva Del Garda, Italy.

Workshop on “Exponential random graph (ERG or p^*) models,” Sunbelt XXVIII Conference, January 24-28, 2008, St Petersburg, Florida.

Workshop on “An Introduction to Exponential Family Random Graph Modeling with **statnet**,” Sunbelt XXXVIII Conference, January 24-28, 2008, St Petersburg, Florida.

Workshop on “Exponential random graph (ERG or p^*) models,” Sunbelt XXVII Conference, April 29-May 5, 2007, Corfu, Greece.

Workshop on “An Introduction to Exponential Family Random Graph Modeling with **statnet**,” Sunbelt XXXVII Conference, April 29-May 5, 2007, Corfu, Greece.

Workshop on “Exponential random graph (ERG or p^*) models,” Sunbelt XXVI Conference, April 24-30, 2006, Vancouver, BC, Canada.

Workshop on “An Introduction to Exponential Family Random Graph Modeling with **statnet**,” Sunbelt XXVI Conference, April 24-30, 2006, Vancouver, BC, Canada.

Research Grants and Awards
only including grants for which I am a PI or co-PI

- CCF- 2200197 09/01/2022 – 01/31/2024
Sponsor: NSF
Role: PI Eliah Aronoff-Spenser (co-PO)
Title: *Collective Intelligence for Pandemic Prediction Prevention and Response*
- OPP-1745089 09/01/2018 – 08/31/2023
Sponsor: NSF
Role: PI Marilyn Raphael (co-PO)
Title: *Collaborative Research: Understanding Contemporary Variability in Antarctic Sea Ice: Ensemble Reconstruction of Sea Ice Extent and Concentration for the 20th Century*
- IIS-1546300 01/01/2017 – 12/31/2021
Sponsor: NSF
Title: *BIGDATA: Collaborative Research: IA: Population Reproduction of Poverty at Birth from Surveys, Censuses, and Birth Registrations*
- OVCR-COR TSG 7/01/2017 – 06/31/2018
Sponsor: UCLA
Role: PI (co-PO: von Wachter)
Title: *Reducing Homelessness in LA using Big Data and Predictive Modeling*
- R01HD078526-02S2 09/04/2014 – 05/31/2019
Sponsor: NIH – NICHD
Role: co-Investigator (P.I.: Meyer)
Title: *Identity Stress and Health in Three Cohorts of Lesbians Gay Men and Bisexuals*
- SURP 1514272 10/01/2014 – 09/25/2015
Sponsor: Jet Propulsion Lab
Title: *Combining Statistical Analysis of Impact Craters and Geologic Processes to Assess Surface Evolution*
- R21HD075714 09/24/2013 – 05/31/2016
Sponsor: NIH - NICHD
Title: *Innovations In Network Modeling For HIV Prevention Studies*

SES-1357619 08/15/2014 – 07/31/2016
Sponsor: NSF
Title: *Scalable Model-Based Inference for Social Networks from Complex Sampling Designs*

OVCR-COR TSG 12/01/2012 – 09/01/2015
Sponsor: UCLA
Role: co-Investigator (P.I.: Lawrence)
Title: *Lifting the Fog: Networks of Career Opportunity for Minorities*

Office of Naval Research
“*Scalable Methods for the Analysis of Networks-Based Data*”
(Padhraic Smyth, MSH, Carter Butts, UC-Irvine), May 8, 2008 - May 7, 2015, \$5,381,300
subcontract \$600,000.

R21HD063000-01 09/01/2010-08/31/2012
Sponsor: National Institute of Child Health and Human Development
Title: “*Valid Inference for Respondent Driven Sampling of Hidden Networked Populations*”,
\$147,001.

SES-0851555 01/09/2009-08/31/2012
Sponsor: The National Science Foundation
“*Statistical Methods for Respondent Driven Sampling Data*” \$269,318.

National Institute of Child Health and Human Development
“*Immigration, Emigration, and Age-by-Country Structure of Mexican Cohort Lifetimes*”
(Michael Rendall and MSH), August 1, 2007 - July 31, 2011, subcontract \$64,000.

The National Science Foundation
“*BE/CNH: Urban Landscape Patterns as Emergent Phenomena in Seattle and Phoenix*,”
(Marina Alberti, Paul Waddell, Charles L. Redman, MSH and Jianguo Wu), September 1,
2005 to August 31, 2009, \$1,399,644. BCS 0508002

National Institute of Child Health and Human Development “*Combining Survey and
Population Data on Births and Family* (M. Rendall and MSH), June 2003 – May 2008,
\$1,095,133.

National Institute of Child Health and Human Development “*Quantifying HIV Transmission
Risk in Sex/Drug Networks*,” (M. Morris and MSH), March 2002 – February 2007, \$750,000.

National Institute of Child Health and Human Development “*Modeling HIV and STDs in
Drug User and Sexual Networks*,” (M. Morris and MSH), July 2001 – June 2007, \$2,237,939.

The National Science Foundation
“*Integrated Simulation Model of Urban Development, Land Cover Change and Bird*

Diversity.” (Marina Alberti, Paul Waddell, John Marzluff and MSH), September 1, 2001 to February 28, 2005, \$1,128,818. BCS-0120024

The National Science Foundation and U.S. Environmental Protection Agency
“*Statistical Methods for Ecological Assessment of Riverine Systems by Combining Information from Multiple Sources,*” January 2001 – December 2003, \$205,344.

The National Science Foundation
“*Hybrid Population-average and Individual-specific Models for Clustered Longitudinal Data,*” (MSH and M. Scott), July 2000 – June 2002, \$132,000.

The National Science Foundation
“*Nonparametric Models for Incomplete Clustered Data with Applications to the Social Sciences,*” (MSH, M. J. Akritas, and W. Osgood), July 2000 – June 2002, \$88,024.

The Russell Sage Foundation
“*Divergent Paths: Economic Mobility in the New American Labor Market,*” (A. Bernhardt, M. Morris and MSH), July 1995 – June 1999, \$31,000.

National Research Center for Statistics and the Environment
(U.S. Environmental Protection Agency) “*Ecological Assessment of Riverine Systems by Combining Information from Multiple Sources,*” (MSH, J. Sedransk and A. Olsen), August 1998 – December 2000, \$11,874.

U.S. Department of Agriculture
“*Industrial Restructuring and Income Inequality in U.S. Counties,*” (D. K. McLaughlin and MSH), July 1997 – June 2000, \$170,000.

The Russell Sage Foundation, The Rockefeller Foundation
“*Work and Opportunity in the Post-Industrial Labor Market,*” (A. Bernhardt, M. Morris and MSH), July 1995 – June 1997, \$169,000.

Citibank Behavioral Research Council
“*Changing Jobs: Technology and the Transformation of Employment,*” (A. Bernhardt, M. Morris, MSH, N. Sicherman, S. Spilerman), July 1996 – June 1997, \$12,725.

Columbia University Research Planning Grant
“*Mobility in a Restructured Labor Market,*” (A. Bernhardt, M. Morris and MSH), September 1994 – August 1995, \$30,000.

Teaching

Courses: UCLA

Undergraduate: STATS 102A (Computational Statistics with R), STATS C116 (Social Sciences)

Graduate level: STATS 202B (Matrix Algebra and Optimization), STATS 202C (Monte Carlo Methods for Optimization), STATS C216 (Social Sciences), STATS 218 (Statistical Analysis of Networks), STATS 290 (Current Literature in Statistics).

Courses: University of Washington

Undergraduate: STAT 220 (Basic Statistics) CS&SS 321 (Case-based Social Statistics I), CS&SS 322 (Case-based Social Statistics II)

Graduate level: CS&SS 594 (Distributional Methods with Application to the Measurement of Inequality), CS&SS 505 (Review of Mathematics for Social Scientists), CS&SS 506 (Computer Environments for the Social Sciences), CS&SS 536 (Log-linear Modeling), CS&SS 567 (Statistical Analysis of Networks).

Supervised Doctoral Research (as Chairperson)

“Statistical Models for Heterogeneity in the Labor Market,” Marc Scott, September 1994-May 1998, Stern School of Business, NYU.

“Spatial Models for Real Estate Valuation,” David Barg, September 1990-November 1996, Stern School of Business, NYU.

“Statistical Modelling of the Sleep Hypnogram and an Analysis of Sufficient Statistics for Grouped Data,” Ilangkovan Krishnasamy, September 1993-May 1995, Stern School of Business, NYU.

“Information Sources and the Innovation Diffusion Process of a New Product,” Yongseok Sohn, September 1990-May 1994, Stern School of Business, NYU. Co-chaired with Samprit Chatterjee and Darius J. Sabavala.

“Alleviating ecological bias in generalized linear models and optimal design with subsample data”

Adam Nathaniel Glynn

September 2004 -2006, Statistics, University of Washington

“Inference from Partially-Observed Network Data”

Krista Jennifer Gile

August 2008, Statistics, University of Washington

“Dynamic Network Models based on Revealed Preference for observed relations and Egocentric Data”

Ryan Admiraal

November 2009, Statistics, University of Washington

“Latent Cluster Random Effects and Dynamic Models for Networks”

Pavel N. Krivitsky

August 2009, Statistics, University of Washington

“Estimating social contact networks to improve epidemic simulation models” Gail

E. Potter

October 2010, Statistics, University of Washington

“Likelihood-based Inference of Exponential-family Random Graph Models for Social Networks”

Ranran Wang

February 2011, Statistics, University of Washington

“Statistical Methods for Network Sampling”

Ian E. Fellows

October 2012, Statistics, UCLA

“Regime Based Clustering for the Modeling for Two-Dimensional Vector Fields”

Mark H. Nakamura

July 2014, Statistics, UCLA

“Social Network Analysis with Temporal Random Actors in Latent Space”

Joshua D. Embree

June 2015, Statistics, UCLA

“Statistical Modeling of Peer-Driven Interventions”

Katherine R. McLaughlin

June 2016, Statistics, UCLA

“Using Multiple List Methods with Respondent Driven Sampling to Estimate the Size of a Hidden Population”

Brian J. Kim

October 2017, Statistics, UCLA

“Improved Estimation of Model Fit and Degeneracy for Exponential-Family Random Graph Models”

Jane Carlen

January 2018, Statistics, UCLA

“Modelling Spatial Point Processes on a Sphere: with application to the cratering of Venus”

Meihui Xie

June 2018, Statistics, UCLA

“Some Models in Relational Systems”

Aaron Danielson
June 2018, Statistics, UCLA

“Separable Temporal Modeling of Point Processes on Linear Networks and Balancing Data Sufficiency and Privacy”
Medha Uppala
December 2018, Statistics, UCLA

“Statistical Revealed Preference Models for Bipartite Networks”
Fiona Yeung
April 2019, Statistics, UCLA

“Novel Approaches to Degeneracy in Network Models”
Timothy Blackburn
October 2020, Statistics, UCLA

“Latent Order Logistic Models for Social Network Analysis & Causal Inference for Stochastic Networks”
Duncan A. Clark
March 2022, Statistics, UCLA

I have also served on the dissertation committees of six students at the NYU Stern School of Business, seven students in the NYU School of Arts and Sciences, nine doctoral students at the Pennsylvania State University, nineteen doctoral students at the University of Washington, and one student at Carnegie Mellon University.

Supervised Statistics Masters Degree Research (as Chairperson)

At UCLA, I have also served on the chair of the MS in Statistics dissertation committees of Yang, Ho-Shun, Aparupa Das Gupta, Anthony Howell, Khatereh Khodavirdi, Bon Sang Koo, Margaret Lang, Daniel Lim, Jia Lin Liu, Xian Liu, Patrick Joseph McCarthy, Antonio Ramos, Felipe Santos, Michael Tzen, Xi Song, Ho-Shun Yang, Victor Ying, Paashi Mahdavi, Alex Whitworth, Lauren Peritz, Weikang Fan, Bronwyn Friscia, , Melissa Haller, Ji Yeon Hong, Elliot Kang, Laura Kim, Zsuzsanna Magyar, Adam Scherling, Kanghong Shao, Yifan Sun, Ayobami Laniyonu, Fiona Yeung, Biancheng Wang, Nan Ji, Ziyi Jiang, Natalia Lamberova, Candace McKeag, Kaixin Wang, Suoyi Yang, Diana Zhang, Xinyuan Zhang, Muhtasham Billah, Andrea Wang.

Supervised Doctoral Research (as Committee Member)

Amy Fire (Statistics)
Andrew Bray (Statistics)
Gary Evans (Statistics)

Masanao Yajima (Statistics)
Nikolay Laptev (Computer Science)
Phillip Wool (Management)
Antonio Ramos (Political Science)
Paasha Mahdavi (Political Science)
George Ofosu (Political Science)
Noah Silverman (Statistics)
Paashi Mahdavi (Political Science)
Leila Lackey (Institute of the Environment and Sustainability)
Benjamin Fletcher Jarvis (Sociology)
Amelia McNamara (Statistics)
Xi Song (Sociology)
Jeroen Ooms (Statistics)
Jiaying Gu (Statistics)
Misagh Falahi (Electrical Engineering)
James Molyneux (Statistics)
Terri Johnson (Statistics)
Jiaying Gu (Statistics)
George Ofosu (Political Science)
Zahra Razaee (Statistics)
Alex Chan-Golston (Biostatistics)
Hao Wang (Statistics)
Ruochen Jiang (Statistics)
John Dell'Italia (Psychology)
George Derpanopoulos (Political Science)
Zhixin Zhou (Statistics)
Yiling Chen (Statistics)
Junhyung Park (Statistics)
Tianyu Lin, (Biomathematics)
Xinzhou Ge (Statistics)
Carlos Cinelli (Statistics)
Zhanhao Peng (Statistics)

Editorial Service and Membership of Professional Societies

Fellow, Royal Statistical Society; Fellow: American Statistical Association, Member: Biometric Society, Institute of Mathematical Statistics, International Association for Mathematical Geology, American Sociological Association, Population Association of America

Coordinating Editor, Institute of Mathematical Statistics Monographs and Textbooks Series, 2022-2025

Associate Editor for Methodology, *Demography*, 2019-22 co-Editor, Springer-Verlag Series *Statistics for Social and Behavioral Sciences*, 2012-2014 Editor, Social Networks,

Journal of Statistical Software, 2013-2014. Associate Editor: *Annals of Applied Statistics*, 2009-2010.

Editor, Special Issue: *Journal of Statistical Software*, 2008

Associate Editor: *Journal of the American Statistical Association*, 2006-2008

Associate Editor: *Computational and Mathematical Organization Theory*, 2003-2009

Referee to the *Journal of the American Statistical Association*, *Biometrics*, *Biometrika*, *Theory and Decisions*, *Mathematical Geology*, *Journal of the American Medical Association*, *American Statistician*, *Environmental and Ecological Statistics*, *Journal of Accounting, Auditing, and Finance*, *Journal of Computational and Graphical Statistics*, *Environmental and Ecological Statistics*, and the NSF (Division of Mathematical Sciences, and others).

Conferences Organized

“Statistics on Networks Workshop,” National Academy of Sciences, September 26-27, 2005, Washington, D.C. A two-day interdisciplinary meeting on statistical theory for inference on network data. Co-organized with David Banks and The Committee on Applied and Theoretical Statistics of the National Academies.

“8th American Sociological Association Methodology Section Meeting,” Theme: *Simulation Models*, May 8-10, 2003, University of Washington, Seattle, Washington. The annual twoday meeting of sociological methodologists. This year it is held concurrently with the Simulation meeting. Co-organized with Guong Gao.

“Computational Modeling in the Social Sciences,” May 8-10, 2003. University of Washington, Seattle, Washington. A three-day meeting of researchers in computation and simulation modeling. The first session of the meeting is an introduction for novices to make the meeting more accessible to UW faculty and graduate students. Co-organized with Stephen Majeski.

“7th American Sociological Association Methodology Section Meeting,” Theme: *Modeling Dependency*, March 22-23, 2002, Princeton University, Princeton, New Jersey. The annual two-day meeting of sociological methodologists. Co-organized with Bruce Western.

“Recent Developments in Sampling Methods,” May 17, 1996. Leonard N. Stern School of Business. An international one-day symposium bringing together leading researchers in the sampling methods especially as applied to surveys.

“Missing Data in the Social Sciences,” September 8, 1995. Leonard N. Stern School of

Business. A regional one-day workshop co-sponsored by the American Statistical Association's Section on Social Statistics and made possible by a curricular interdisciplinary development challenge fund from New York University. Attendees: 130.

"Recent Developments in Time Series," August 25, 1995. Leonard N. Stern School of Business. An international one-day symposium bringing together leading researchers in the theory and practice of time series analysis. Attendees: 50

Professional Activities

Joint Spring Meeting of the IMS, ENAR and ASA, Tampa, FL, March 30-April 2, 2003. Organized and Chaired the ENAR and ASA Section on Health Policy Statistics session "The Measurement of Health Disparities", Co-organized with Karen J. Bandeen-Roche.

Meeting of the American Sociological Association Methodology Section, May 4-5, 2001, Minneapolis, MN. Organizer and Chair, session on "Social Network Modeling"

Meeting of the American Sociological Association Methodology Section, May 4-5, 2001, Minneapolis, MN. Organizer and Chair, session on "Social Network Modeling"

Joint Spring Meeting of the IMS, ENAR and ASA, Birmingham, AL, March 27, 1995. Organized and Chaired the IMS session "Estimation and Asymptotics for Spatial Data"

Joint Spring Meeting of the IMS, ENAR and ASA, Birmingham, AL, March 29, 1995. Chaired the IMS session "Nonparametric Regression"

University and Department Service

see Faculty Activities Reports for service since advancement to Step VI

CCPR Executive Committee, Member (2011–);
CCPR Director, Statistics Core Committee, Member (2011–);
UW: Statistics: Chair (2007–2009);
UW: Statistics: Computer Committee, Chair (2000–2005);
UW: Statistics: Mathematical Sciences Computing Center (MSCC) Oversight Committee, (2000–2005);
UW: Statistics: Seminar Co-organizer, (2005–);
UW: Statistics: Pedagogy Committee, Member (2002–2005);
UW: Statistics: Promotion Committee, Member (2002);
UW: Statistics: Applied Exam committee, Member (2002, 2003, 2004);
UW: Sociology: Methodology Curriculum Committee, Chair, (2001–);
UW: Sociology: Undergraduate Curriculum Committee, Member, (2001–);
UW: CSDE Statistics Core, Director (2002–2005);
UW: CSDE Executive Committee, Member (2002–);
UW: CSDE Computer Committee, Member, (2000–);
UW: Statistics: Faculty Senate Representative (2000–2002);
UW: CSSS Faculty Recruitment Committee, Chair, (2002–03);
UW: CSSS Faculty Recruitment Committee, (2001–);
UW: CSSS Executive Committee, Member, (2000–);
UW: CSSS Undergraduate Curriculum Committee, Chair, (2000–);
UW: CSSS Computer Committee, Chair, (2000–);
UW: CSSS Infrastructure Committee, Chair, (2000–);
UW: Search Committee Quantitative Landscape Ecology (2006);
UW: PhD Program in Urban Design and Planning, Core Faculty (2001–);
PSU Department Advisory Committee (1997–99);
PSU Computer Policy Committee, Chairman (1996–99);
PSU Graduate Student Admission Committee, Chairman (1996–99);
PRI Geographic Information Analysis Core (1996–99);
PRI Statistics Core (1996–99); PRI Statistics Core, Director (1999);
PSU Graduate Curriculum Review Committee (1997–99);
PSU Faculty Recruitment Committee (1998–99); PSU
Consulting Center Committee (1996–99).
NYU Seminar Organizer (1993–96); NYU Faculty Recruitment Committee (1993–96); NYU
Computing Advisory Committee (1995–96); NYU Doctoral Program Review Committee
(1994–96).