

CARTER TRIBLEY BUTTS

CONTACT INFORMATION:

- WORK:
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EDUCATION:

- Ph.D. in Sociology, Carnegie Mellon University, May 2002
“Spatial Models of Large-Scale Interpersonal Networks” (Kathleen M. Carley, Chair)
- M.S. in Sociology, Carnegie Mellon University, May 1998
“Canonical Labeling to Facilitate Graph Comparison” (Kathleen M. Carley, Chair)
- B.S. in Systems Theory (with distinction), Duke University, May 1996
- Diploma, Jordan High School, May 1992

CURRENT POSITION:

- Professor, Department of Sociology and Institute for Mathematical Behavioral Sciences, University of California – Irvine
- Professor (Courtesy), Department of Statistics, University of California – Irvine
- Professor (Courtesy), Department of Electrical Engineering and Computer Science, University of California – Irvine

CAMPUS AFFILIATIONS:

- Department of Sociology
- Department of Statistics
- Department of Electrical Engineering and Computer Science
- Institute for Mathematical Behavioral Sciences
- California Institute for Telecommunications and Information Technology (Calit2)
- Chemistry and Materials Physics Program (ChAMP)
- UCI Center for Networks and Relational Analysis
- UCI Center for Machine Learning and Intelligent Systems

- UCI Center for Emergency Response Technology
- UCI Center for Organizational Research

RESEARCH INTERESTS

- Mathematical Sociology
- Social and Biological Networks
- Computational and Applied Statistics
- Human Judgment and Decision Making
- Disasters

AWARDS AND HONORS:

- Best Methodological Poster Award for “Contending Parties: a Logistic Choice Analysis of Inter and Intra-group Blog Citation Dynamics in the 2004 US Presidential Election” (with Zack Almquist), 4th Annual Political Networks Conference, Ann Arbor, MI, 2011.
- Leo A. Goodman Award, ASA Section on Methodology, 2010
- James Coleman Paper Award for “Rational and Empirical Play in the Simple Hot Potato Game” (with David Rode), ASA Section on Rationality and Society, 2009
- Linton C. Freeman Award for Distinguished Scholarship, International Network for Social Network Analysis, 2008
- Best Paper Award for “Emergency Phase Networks During the World Trade Center Disaster” (with Miruna Petrescu-Prahova and Remy Cross), Third Joint US-Japan Conference on Mathematical Sociology, Sapporo, Japan, 2005
- Herbert A. Simon Dissertation Award for “Spatial Models of Large-Scale Interpersonal Networks,” Carnegie Mellon University, 2002
- Outstanding Working Paper Award for “Analyzing Life Course Patterns with the Interval Graph Approach” (with Joy Pixley), Cornell Careers Institute, 2002
- Outstanding Graduate Student Paper Award for “Analyzing Life Course Patterns with the Interval Graph Approach” (with Joy Pixley), ASA Section on Aging and the Life Course, 2001
- Three Rivers Network Certification and Award in Social Network Analysis, 1999
- Outstanding Graduate Student Paper Award for “A Bayesian Model of Panic in Belief,” ASA Section on Mathematical Sociology, 1999

GRANTS AND FELLOWSHIPS:

- Butts, Carter T. (PI) and Almquist, Zack W. (Co-PI). (3/2013–3/2014) “Doctoral Dissertation Research: Dynamic Network Models for the Scalable Analysis of Networks with Missing or Sampled Joint Edge/Vertex Evolution.” Grant #SES-1260798, NSF SBE, MMS. \$15,140.
- Anandkumar, Anima (PI) and Butts, Carter T. (Co-PI). (9/1/2013–8/30/2016) “BIG-DATA: Small: DA: DCM: Measurement and Learning in Large-Scale Social Networks.” Grant #IIS-1251267, NSF IIS. \$746,783.
- Lakon, Cynthia M. (PI); Butts, Carter T. (Co-Investigator); Hipp, John R. (Co-Investigator); Timberlake, David. (6/2012–5/2014). “Cascades of Network Structure and Function: Pathways to Adolescent Substance Use.” Grant #1R21DA031152-01A1, NIH NIDA. \$402,820

- Morris, Martina (PI); Butts, Carter T. (Co-Investigator); Steven M. Goodreau (Co-Investigator); Hunter, David (Co-Investigator); Bender-deMoll, Skye (Co-Investigator); and Krivitsky, Pavel (Co-Investigator). (5/2011–4/2016). “Statistical Methods for Network Epidemiology.” Grant #1R01HD068395-01, NIH NICHD. \$3,092,315.00.
- Butts, Carter T. (PI). (10/2010–9/2013). “Collaborative Research: Informal Online Communication in Extreme Events: Content, Dynamics, and Structure.” Grant #CMMI-1031853, NSF CMMI, Infrastructure Management and Extreme Events. \$404,948.00.
- Markopoulou, Athina (PI); Przulj, Natasa (Co-PI); and Butts, Carter T. (Co-PI). (10/2010–9/2014). “CDI-Type II: Topology and Function in Computer, Social and Biological Networks.” Grant #NSF OIA-1028394, Cyber-enabled Discovery and Innovation. \$2,152,181.00.
- Butts, Carter T. (PI); Hipp, John (Co-PI); Nagle, Nicholas N. (Co-PI). (10/2008-3/2014). “DHB: Large-scale Spatially Embedded Interpersonal Networks: Measurement, Modeling, and Dynamics.” Grant #BCS-0827027, NSF BCS, Human Social Dynamics. \$749,245.00.
- Smyth, Padhraic (PI); Butts, Carter T. (Co-PI); Eppstein, David (Co-PI); Goodrich, Michael T. (Co-PI); Handcock, Mark S. (Co-PI); Hunter, David R. (Co-PI); Mount, David (Co-PI). (5/2008–5/2013). “Scalable Methods for the Analysis of Network-based Data.” Award #N00014-08-1-1015, ONR. \$5,381,300.00.
- Mendonça, David (PI); Butts, Carter T. (Co-PI); Webb, Gary (Co-PI). (10/2006–9/2011). “AOC: Improvisation in Emergency Response: Linking Cognition, Behavior and Social Interaction.” Grant #CMS-0624257, NSF CMS, Human Social Dynamics. \$710,000.00.
- Butts, Carter T. (PI). (2/2006–7/2007). “SGER: Collaborative Research: Mapping and Analyzing Emergent Multiorganizational Networks in the Hurricane Katrina Response.” Grant #CHE-0555125, NSF CHE, Statistics and Simulations. (Awarded through HSD SGER.) \$69,372.00.
- Butts, Carter T. (PI). (1/2005–3/2005). “Modeling HIV and STD in Drug User and Social Networks.” Subaward 918197 of award 5 R01 DA012831-05, NIH. \$13,294.00.
 - Extension to 1/2006–5/2006, \$26,764.00.
 - Extension to 1/2007–5/2007. \$13,940.00
- Mehrotra, Sharad (PI); Butts, Carter T. (Co-PI); Eguchi, Ronald (Co-PI); Venkatasubramanian, Nalini (Co-PI); and Winslett, Marianne (Co-PI). (10/2003–9/2008). “Collaborative Research: Responding to the Unexpected.” Grant #IIS-0331707, NSF ITR. \$8,957,651.00.
- Carley, Kathleen M. (PI), and Butts, Carter T. (Co-PI). (4/2001). “Dissertation Improvement: Spatial Models of Large-Scale Interpersonal Networks.” Grant #SES-0100999, NSF SBE, Sociology. \$6,512.00.
- Butts, Carter T. (PI). (6/2000). “Monte Carlo Methods for Simulating Large-Scale Interpersonal Networks.” Research Proposal Award from the Center for Computational Analysis of Social and Organizational Systems, NSF IGERT “Integrated Graduate Education and Research Training in Computational Analysis of Social and Organizational Systems.” \$965.75.
- National Science Foundation Graduate Research Fellowship, 1997-2000

BOOKS:

- Butts, Carter T. (2014, expected). *Space and Structure: Methods and Models for Large-Scale Interpersonal Networks*. Springer, under contract.

ARTICLES AND PEER REVIEWED CONFERENCE PAPERS:

- Adam Boessen; John R. Hipp; Emily J. Smith; Carter T. Butts; Nicholas N. Nagle; and Zack W. Almquist. (2014). “Networks, Space, and Residents’ Perception of Cohesion” *American Journal of Community Psychology*, forthcoming.
- Almquist, Zack W. and Butts, Carter T. (2014). “Logistic Network Regression for Scalable Analysis of Networks with Joint Edge/Vertex Dynamics.” *Sociological Methodology*, forthcoming.
- Almquist, Zack W. and Butts, Carter T. (2014). “Predicting Regional Self-Identification from Spatial Network Models.” *Geographical Analysis*, forthcoming.
- Sutton, Jeannette; Spiro, Emma S.; Johnson, Britta; Fitzhugh, Sean; Gibson, Ben; and Butts, Carter T. (2014). “Warning Tweets: Serial Transmission of Warning Messages During a Disaster Event.” *Information, Communication, and Society*, forthcoming.
- Almquist, Zack W. and Butts, Carter T. (2013). “Dynamic Network Logistic Regression: A Logistic Choice Analysis of Inter and Intra-group Blog Citation Dynamics in the 2004 US Presidential Election.” *Political Analysis*, 21(4), 430-448.
- DuBois, Christopher; Butts, Carter T.; and Smyth, Padhraic. (2013). “Stochastic Block-modeling of Relational Event Dynamics.” *Proceedings of the 16th International Conference on Artificial Intelligence and Statistics*. (AISTATS).
- DuBois, Christopher; Butts, Carter T.; McFarland, Daniel; and Smyth, Padhraic. (2013). “Hierarchical Models for Relational Event Sequences.” *Journal of Mathematical Psychology*, 57(6), 297–309.
- Spiro, Emma S.; Acton, Ryan M.; and Butts, Carter T. (2013). “Extended Structures of Mediation: Re-examining Brokerage in Dynamic Networks.” *Social Networks*, 35, 130–143.
- Sutton, Jeannette; Spiro, Emma S.; Greczek, Matt; Johnson, Britta; Fitzhugh, Sean; and Butts, Carter T. (2013). “Tweeting the Spill: Online Informal Communications, Social Networks, and Conversational Microstructures during the Deepwater Horizon Oil Spill.” *International Journal of Information Systems for Crisis Response and Management*, 5(1), 58–76.
- Almquist, Zack W. and Butts, Carter T. (2012). “Point Process Models for Household Distributions within Small Areal Units.” *Demographic Research*, 26(12), 593–632.
- Butts, Carter T.; Acton, Ryan M.; and Marcum, Chris. (2012). “Interorganizational Collaboration in the Hurricane Katrina Response.” *Journal of Social Structure*, 13(1) 1–36.
- Butts, Carter T.; Acton, Ryan M.; Hipp, John R.; and Nagle, Nicholas N. (2012). “Geographical Variability and Network Structure.” *Social Networks*, 34(1), 82–100.
- Kurant, Maciej; Gjoka, Minas; Wang, Yan; Almquist, Zack W.; Butts, Carter T.; and Markopoulou, Athina. (2012). “Coarse-Grained Topology Estimation via Graph Sampling.” In *Proceedings of the ACM SIGCOMM Workshop on Online Social Networks (WOSN) ’12*.
- Marcum, Christopher S.; Bevc, Christine, and Butts, Carter T. (2012). “Mechanisms of Control in Emergent Interorganizational Networks.” *Policy Studies Journal*, 40(3):515–545.
- Spiro, Emma S.; Sutton, Jeannette; Fitzhugh, Sean; Greczek, Matt; Pierski, Nicole; and Butts, Carter T. (2012). “Rumoring During Extreme Events: A Case Study of Deepwater Horizon 2010.” In *Proceedings of the ACM Web Science 2012 Conference*. (WebSci12).
- Spiro, Emma S.; DuBois, Christopher; and Butts, Carter T. (2012). “Waiting for a Retweet:

Modeling Waiting Times in Information Propagation.” In *Proceedings of the NIPS 2012 Workshop on Social Media and Social Networks*.

- Sutton, Jeannette; Spiro, Emma S.; Greczek, Matt; Johnson, Britta; Fitzhugh, Sean; and Butts, Carter T. (2012). “Connected Communications: Network Structures of Official Communications in Disaster.” In *Proceedings of the 9th International Conference on Information Systems for Crisis Response and Management*. (ISCRAM).
- Butts, Carter T. (2011). “Bayesian Meta-Analysis of Social Network Data via Conditional Uniform Graph Quantiles.” *Sociological Methodology*, 41(1), 257–298.
- Butts, Carter T. (2011). “Bernoulli Graph Bounds for General Random Graphs.” *Sociological Methodology*, 41(1), 299–345.
- Foulds, James; Asuncion, Arthur; DuBois, Christopher; Butts, Carter T.; and Smyth, Padhraic. (2011). “A Dynamic Relational Infinite Feature Model for Longitudinal Social Networks.” *Proceedings of the 14th International Conference on Artificial Intelligence and Statistics*. (AISTATS).
- Gjoka, Minas; Butts, Carter T.; Kurant, Maciej; and Markopoulou, Athina. (2011). “Multi-graph Sampling of Online Social Networks.” *IEEE Journal on Selected Areas in Communications* (special issue on *Measurement of Internet Topologies*).
- Gjoka, Minas; Kurant, Maciej; Butts, Carter T.; and Markopoulou, Athina. (2011). “Practical Recommendations on Sampling OSN Users by Crawling the Social Graph.” *IEEE Journal on Selected Areas in Communications* (special issue on *Measurement of Internet Topologies*).
- Kurant, Maciej; Gjoka, Minas; Butts, Carter T.; and Markopoulou, Athina. (2011). “Walking on a Graph with a Magnifying Glass: Stratified Sampling via Weighted Random Walks.’’ *Proceedings of the 2011 International Conference on Measurement and Modeling of Computer Systems*. (ACM SIGMETRICS).
- Gjoka, Minas; Kurant, Maciej; Butts, Carter T.; and Markopoulou, Athina. (2010). “Walking in Facebook: A Case Study of Unbiased Sampling of OSNs.” *Proceedings of the 29th IEEE Conference on Computer Communications*. (IEEE INFOCOM).
- Mendonça, David; Webb, Gary; and Butts, Carter T. (2010). “L’Improvisation dans les Interventions d’Urgence : les Relations Entre Cognition, Comportement et Interactions Sociales” (in French; English title “Improvisation in Emergency Response: Linking Cognition, Behavior, and Social Interaction,” translators Cassia Blondelot and Marc Lenormand). *Tracés: Revue de Sciences Humaines*, 18, 69–86.
- Butts, Carter T. (2009). “Revisiting the Foundations of Network Analysis.” *Science*, 325, 414–416.
- Butts, Carter T. and Cross, B. Remy. (2009). “Change and External Events in Computer-Mediated Citation Networks: English Language Weblogs and the 2004 U.S. Electoral Cycle.” *Journal of Social Structure*, 10.
- Hilgeman, Christin and Butts, Carter T. (2009). “Women’s Employment and Fertility: a Welfare Regime Paradox.” *Social Science Research*, 38, 103–117.
- Butts, Carter T. (2008). “A Relational Event Framework for Social Action.” *Sociological Methodology*, 38(1), 155–200.
- Butts, Carter T. (2008). “network: a Package for Managing Relational Data in R.” *Journal of Statistical Software*, 24(2).

- Butts, Carter T. (2008). “Social Network Analysis with sna.” *Journal of Statistical Software*, 24(6).
- Butts, Carter T. (2008). “Social Networks: A Methodological Introduction.” *Asian Journal of Social Psychology*, 11(1), 13–41.
- Goodreau, Steven M.; Handcock, Mark S.; Hunter, David R.; Butts, Carter T.; and Morris, Martina. (2008). “A statnet Tutorial.” *Journal of Statistical Software*, 24(9).
- Handcock, Mark S.; Hunter, David R.; Butts, Carter T.; Goodreau, Steven M.; and Morris, Martina. (2008). “statnet: Software Tools for the Representation, Visualization, Analysis and Simulation of Network Data.” *Journal of Statistical Software*, 24(1).
- Hunter, David R.; Handcock, Mark S.; Butts, Carter T.; Goodreau, Steven M.; and Morris, Martina. (2008). “ergm: A Package to Fit, Simulate and Diagnose Exponential-Family Models for Networks.” *Journal of Statistical Software*, 24(3).
- Lind, Benjamin E.; Tirado, Miguel; Butts, Carter T.; and Petrescu-Prahova, Miruna. (2008). “Brokerage Roles in Disaster Response: Organizational Mediation in the Wake of Hurricane Katrina.” *International Journal of Emergency Management*, 5(1), 75–99.
- Petrescu-Prahova, Miruna and Butts, Carter T. (2008). “Emergent Coordinators in the World Trade Center Disaster.” *International Journal of Mass Emergencies and Disasters*, 28(3), 133–168
- Butts, Carter T. (2007). “Models for Generalized Location Systems.” *Sociological Methodology*, 37(1), 283–348.
- Butts, Carter T. (2007). “Permutation Models for Relational Data.” *Sociological Methodology*, 37(1), 257–281.
- Butts, Carter T. and Carley, Kathleen M. (2007). “Structural Change and Homeostasis in Organizations: A Decision-Theoretic Approach.” *Journal of Mathematical Sociology*, 31(4), 295–321.
- Butts, Carter T.; Petrescu-Prahova, Miruna; and Cross, B. Remy. (2007). “Responder Communication Networks in the World Trade Center Disaster: Implications for Modeling of Communication Within Emergency Settings.” *Journal of Mathematical Sociology*, 31(2), 121–147.
- Butts, Carter T. and Rode, David C. (2007). “Rational and Empirical Play in the Simple Hot Potato Game.” *Social Forces*, 85(4): 1787–1806.
- Butts, Carter T. (2006). “Exact Bounds for Degree Centralization.” *Social Networks*, 28(4), 283–296.
- Kalashnikov, Dmitri V.; Ma, Yiming; Mehrotra, Sharad; Hariharan, Ramaswamy; and Butts, Carter T. (2006). “Modeling and Querying Uncertain Spatial Information for Situational Awareness Applications.” Pages 131–138 in *Proceedings of the 14th Annual ACM International Symposium on Advances in Geographic Information Systems (ACM SIGIR)*. New York: ACM Press.
- Butts, Carter T. and Carley, Kathleen M. (2005). “Some Simple Algorithms for Structural Comparison.” *Computational and Mathematical Organization Theory*, 11(4), 291–305.
- Butts, Carter T. and Pixley, Joy E. (2004). “A Structural Approach to the Representation of Life History Data.” *Journal of Mathematical Sociology*, 28(2), 81–124.
- Mehrotra, Sharad; Butts, Carter T.; Kalashnikov, Dmitri V.; Venkatasubramanian, Nalini;

Altintas, K.; Hariharan, R.; Lee, Haimin; Ma, Yiming; Myers, Amnon; Wickramasuriya, Jehan; Eguchi, Ron; Huyck, Charles. (2004). “CAMAS: A Citizen Awareness System for Crisis Mitigation.” In *Proceedings of ACM SIGMOD International Conference on Management of Data (SIGMOD’04)*, publication and software demonstration, June 13-18, 2004.

- Butts, Carter T. (2003). “Network Inference, Error, and Informant (In)Accuracy: A Bayesian Approach.” *Social Networks*, 25(2), 103–140.
- Butts, Carter T. and Hilgeman, Christin. (2003). “Inferring Potential Memetic Structure from Cross-Sectional Data: An Application to American Religious Beliefs.” *Journal of Memetics - Evolutionary Models of Information Transmission*, 7(2).
http://jom-emit.cfp.m.org/2003/vol7/butts_ct&hilgeman_c.html.
- Mehrotra, Sharad; Butts, Carter T.; Kalashnikov, Dmitri V.; Venkatasubramanian, Nalini; Rao, Ramesh; Chockalingam, Ganz; Eguchi, Ron; Adams, Beverly; and Huyck, Charles. (2003). “Project RESCUE: Challenges in Responding to the Unexpected.” *SPIE Journal of Electronic Imaging, Displays, and Medical Imaging*, 5304, 179-192.
- Miller, John H.; Butts, Carter T.; and Rode, David C. (2002). “Communication and Cooperation.” *Journal of Economic Behavior and Organization*, 47, 179–195.
- Butts, Carter T. (2001). “The Complexity of Social Networks: Theoretical and Empirical Findings.” *Social Networks*, 23(1), 31–71.
- Butts, Carter T. (2000). “An Axiomatic Approach to Network Complexity.” *Journal of Mathematical Sociology*, 24(4), 273–301.
- Anderson, Brigham S.; Butts, Carter T.; and Carley, Kathleen M. (1999). “The Interaction of Size and Density with Graph Level Indices.” *Social Networks*, 21(3), 239–267.
- Fararo, Thomas J. and Butts, Carter T. (1999). “Advances in Generative Structuralism: Structured Agency and Multilevel Dynamics.” *Journal of Mathematical Sociology*, 24(1), 1–65.
- Butts, Carter T. (1998). “A Bayesian Model of Panic in Belief.” *Computational and Mathematical Organization Theory*, 4(4), 373–404.
- Carley, Kathleen M. and Butts, Carter T. (1997). “An Algorithmic Approach to the Comparison of Partially Labeled Graphs.” In *Proceedings of the 1997 International Symposium on Command and Control Research and Technology*. June. Washington, D.C.

CHAPTERS AND OTHER PROCEEDINGS PAPERS:

- Almqvist, Zack W. and Butts, Carter T. (2014). “Bayesian Analysis of Dynamic Network Regression with Joint Edge/Vertex Dynamics.” In Ivan Jaliaskov and Xin-She Yang (Eds.), *Bayesian Inference in the Social and Natural Sciences*, forthcoming. John Wiley and Sons.
- Butts, Carter T. and Acton, Ryan M. (2011). “Spatial Modeling of Social Networks.” In Timothy Nyerges, Helen Couclelis, and Robert McMaster (Eds.), *The Sage Handbook of GIS and Society Research*, 222–250. SAGE Publications.
- Butts, Carter T. (2007). “Statistical Mechanical Models for Social Systems.” In Adrian Bejan and Gilbert W. Merks (eds.), *Constructal Theory of Social Dynamics*, 197–224. New York: Springer.
- Butts, Carter T. (2003). “Predictability of Large-scale Spatially Embedded Networks” In Ronald Breiger, Kathleen Carley, and Philippa Pattison (eds.), *Dynamic Social Network Modeling and Analysis: Workshop Summary and Papers*, 313-323. Washington, D.C.: National Academies Press.

- Butts, Carter T.; Reilly, Colman; Speh, Marcus; and Wang, Joseph. (1994). “WWW and the Globewide Network Academy.” In *Proceedings of the First International WWW Conference, 1994*. CERN, Switzerland.

BOOK REVIEWS AND INVITED COMMENT PAPERS:

- Butts, Carter T. (2007). Comment on Mark S. Handcock, Adrian E. Raftery, and Jeremy M. Tantrum, “Model-based Clustering for Social Networks.” *Journal of the Royal Statistical Society, Series A*, 170(2), 333.
- Butts, Carter T. (2007). Review of Carrington, Peter J.; Scott, John; and Wasserman, Stanley (eds.), *Models and Methods in Social Network Analysis*, Cambridge, Cambridge University Press. *Social Networks*, 29(4), 603–608.
- Butts, Carter T. (2001). Review of Gerald Jay Sussman and Jack Wisdom, *Structure and Interpretation of Classical Mechanics*, Cambridge, MA, MIT Press. *Computational and Mathematical Organization Theory*, 7(4), 319–342.

GENERAL AUDIENCE PUBLICATIONS:

- Sutton, Jeannette; Johnson, Britta; Spiro, Emma S.; and Butts, Carter T. (2013). “Tweeting What Matters: Information, Advisories, and Alerts Following the Boston Marathon Events.” Online Research Highlight. <http://www.heroicproject.org/>
- Sutton, Jeannette; Spiro, Emma S.; Johnson, Britta; Fitzhugh, Sean; and Butts, Carter T. (2013). “Tweeting Boston: The Influence of Microstructure in Broadcasting Messages through Twitter.” Online Research Highlight. <http://www.heroicproject.org/>
- Sutton, Jeannette; Spiro, Emma S.; Johnson, Britta; and Butts, Carter T. (2013). “Following the Bombing.” Online Research Highlight. <http://www.heroicproject.org/>
- Spiro, Emma S.; Sutton, Jeannette; Johnson, Britta; Fitzhugh, Sean; and Butts, Carter T. (2012). “Superstorm Sandy: Exploring the Twitter Response.” Online Research Highlight. <http://www.heroicproject.org/>
- Spiro, Emma S.; Sutton, Jeannette; Johnson, Britta; Fitzhugh, Sean; and Butts, Carter T. (2012). “HEROIC Team Explores Waldo Canyon Wildfire in Colorado.” Online Research Highlight. <http://www.heroicproject.org/>
- Mendonça, David; Butts, Carter T.; and Webb, Gary. (2007). “Learning from the Response to Two Extreme Events.” *Contingency Today*, June 4, 2007. <http://www.contingencytoday.com/online/article/Learning-from-the-Response-to-Two-Extreme-Events-/356>

SOFTWARE:

- Packages for the R Statistical Computing System:
 - Handcock, Mark S.; Hunter, David R.; Butts, Carter T.; and Morris, Martina M. (2005–Present). *ergm*: Exponential Random Graph Modeling of Network and Graph Data.
 - Butts, Carter T. (2001–2011). *metamatrix*: Metamatrix Analysis of Organizational Structure.
 - Butts, Carter T.; Handcock, Mark S.; Hunter, David R.; and Morris, Martina M. (2005–Present). *network*: Classes for Relational Data.
 - Butts, Carter T. (2005–2011). *netperm*: Permutation Models for Relational Data.
 - Butts, Carter T. (2004–2011). *nettheory*: Routines for Exploring Social Network Theory.

- Butts, Carter T. (2010–Present). `relevent`: Tools to Fit Relational Event Models.
- Butts, Carter T. (2000–Present). `sna`: Tools for Social Network Analysis.
- Handcock, Mark S.; Hunter, David R.; Butts, Carter T.; Goodreau, Steven M.; and Morris, Martina M. (2006–Present). `statnet`: Statistical Modeling of Network and Graph Data.
- Butts, Carter T. (2009–2011). `yacca`: Yet Another Canonical Correlation Analysis Package.
- Butts, Carter T. (2000–2002). `NETSTAT`: A General-purpose Library for the Analysis of Social and Organizational Network Data in the C Language.

WORKING PAPERS AND TECHNICAL REPORTS:

- Gjoka, Minas; Smith, Emma; and Butts, Carter T. (2013). “Estimating Clique Composition and Size Distributions from Sampled Network Data.” [arXiv:1308.3297](https://arxiv.org/abs/1308.3297).
- Kurant, Maciej; Butts, Carter T.; and Markopoulou, Athina. (2012). “Graph Size Estimation.” [arXiv:1210.0460](https://arxiv.org/abs/1210.0460).
- Kurant, Maciej; Gjoka, Minas; Wang, Yan; Almquist, Zack W.; Butts, Carter T.; and Markopoulou, Athina. (2011). “Coarse-Grained Topology Estimation via Graph Sampling.” [arXiv.org:cs.SI:1105.5488](https://arxiv.org/abs/cs/1105.5488).
- Almquist, Zack W. and Butts, Carter T. (2011). “Logistic Network Regression for Scalable Analysis of Networks with Joint Edge/Vertex Dynamics.” IMBS Technical Report MBS 11-03, University of California, Irvine.
- Butts, Carter T. (2010). “Bayesian Meta-Analysis of Social Network Data via Conditional Uniform Graph Quantiles.” IMBS Technical Report MBS 10-04, University of California, Irvine.
- Butts, Carter T. (2010). “Bernoulli Graph Bounds for General Random Graphs.” IMBS Technical Report MBS 10-07, University of California, Irvine.
- Butts, Carter T. (2010). “A Note on Generalized Edges.” IMBS Technical Report MBS 10-03, University of California, Irvine.
- Gjoka, Minas; Butts, Carter T.; Kurant, Maciej; and Markopoulou, Athina. (2010). “Multi-graph Sampling of Online Social Networks.” [arXiv.org:1008.2565v1](https://arxiv.org/abs/1008.2565v1).
- Gjoka, Minas; Kurant, Maciej; Butts, Carter T.; and Markopoulou, Athina. (2009). “A Walk in Facebook: Uniform Sampling of Users in Online Social Networks.” [arXiv.org:0906.0060](https://arxiv.org/abs/0906.0060).
- Butts, Carter T. (2006). “Cycle Census Statistics for Exponential Random Graph Models.” IMBS Technical Report MBS 06-05, University of California, Irvine.
- Butts, Carter T. (2006). “A Relational Event Model for Social Action, with Application to the World Trade Center Disaster.” IMBS Technical Report MBS 06-06, University of California, Irvine.
- Butts, Carter T. (2005). “Building Inferentially Tractable Models of Complex Social Systems: a Generalized Location Framework.” IMBS Technical Report MBS 05-08, University of California, Irvine.
- Butts, Carter T. (2005). “Permutation Models for Relational Data.” IMBS Technical Report MBS 05-02, University of California, Irvine.
- Butts, Carter T. and Petrescu-Prahova, Miruna. (2005). “Radio Communication Networks in the World Trade Center Disaster.” IMBS Technical Report MBS 05-04, University of

California, Irvine.

- Butts, Carter T.; Petrescu-Prahova, Miruna; and Cross, Remy. (2005). “Responder Communication Networks in the WTC Disaster: IT Implications.” RESCUE Research Highlights Volume, University of California, Irvine.
- Petrescu-Prahova, Miruna and Butts, Carter T. (2005). “Emergent Coordination in the World Trade Center Disaster.” IMBS Technical Report MBS 05-03, University of California, Irvine.
- Butts, Carter T. (2004). “Exact Bounds for Degree Centralization.” IMBS Technical Report MBS 04-08, University of California, Irvine.
- Butts, Carter T. and Leite, Fabio. (2004). “Bayesian Inference from Continuously Arriving Informant Reports, with Application to Crisis Response.” IMBS Technical Report MBS 04-08, University of California, Irvine.
- Butts, Carter T. and Hilgeman, Christin (2003). “Latent Algebraic Structure in American Religious Belief.” IMBS Technical Report MBS 03-05, University of California, Irvine.
- Butts, Carter T. (2002). “Predictability of Large-scale Spatially Embedded Networks.” IMBS Technical Report MBS 02-13, University of California, Irvine.
- Butts, Carter T. and Carley, Kathleen M. (2002). “Structural Change and Homeostasis in Organizations: A Decision-Theoretic Approach.” CASOS Working Paper, Carnegie Mellon University. (Also appears as IMBS Technical Report MBS 03-04, University of California, Irvine.)
- Butts, Carter T. (2001). “How Much Does Distance Tell Us?: Residual Information in Spatially Embedded Interpersonal Networks.” CASOS Working Paper, Carnegie Mellon University.
- Butts, Carter T. (2001). “Interregional Relations from Spatially Embedded Interpersonal Networks.” CASOS Working Paper, Carnegie Mellon University.
- Pixley, Joy E. and Butts, Carter T. (2001). “Analyzing Life Course Patterns with the Interval Graph Approach.” Bronfenbrenner Life Course Center Working Paper 01-10, Cornell University.
- Butts, Carter T. (2000). “Stochastic Models of Spatially Embedded Interpersonal Networks: Simulations from Tie Frequency Data.” CASOS Working Paper, Carnegie Mellon University.
- Anderson, Brigham S., Butts, Carter T., and Carley, Kathleen M. (1998). “The Interaction of Size and Density with Graph Level Measures.” ICES Research Report 88-05-98, Carnegie Mellon University.
- Butts, Carter T. (1998). “‘An Invisible and Insuperable Barrier’: Enculturation, Stratification, and Ritual Interaction.” ICES Research Report 88-01-98, Carnegie Mellon University.
- Butts, Carter T. (1998). “Generating Panic within Populations.” ICES Research Report 88-03-98, Carnegie Mellon University.
- Butts, Carter T. (1998). “Cluster Analysis of Unlabeled Structures.” ICES Research Report 88-04-98, Carnegie Mellon University.
- Butts, Carter T. and Carley, Kathleen M. (1998). “Canonical Labeling to Facilitate Graph Comparison.” ICES Research Report 88-06-98, Carnegie Mellon University.
- Miller, John H.; Butts, Carter T.; and Rode, David C. (1998). “Communication and

Cooperation.” Santa Fe Institute Working Paper, 98-04-37.

INVITED TALKS:

- Butts, Carter T. (10/2013). “Curved, Warped, and Lumpy: Some Initial Results from the American Social Fabric Project.” Invited Lecture, Sociology Colloquium, University of Chicago. Chicago, IL.
- Butts, Carter T. (6/2013). “Space, Heterogeneity, and Relational Dynamics.” Invited Talk, Fifth International Workshop on Social Network Analysis (ARS 2013). Rome, Italy.
- Butts, Carter T. (12/2012). “Challenges and Directions in Modeling Large-scale Networks.” Invited Talk, NIPS Workshop on Algorithmic and Statistical Approaches for Large Social Networks. Lake Tahoe, CA.
- Butts, Carter T. (12/2012). “The Aftermath of Disasters.” Invited Talk, Kavli/National Academy of Sciences US/Japan Frontiers of Science Conference. Irvine, CA.
- Butts, Carter T. (4/2012). “Social Fields In and From Spatially Embedded Networks.” Invited Talk, Quantifying Social Fields Workshop, University of California, Berkeley. Berkeley, CA.
- Butts, Carter T. (12/2011). “Parametrizing Order-Stable Exponential Family Random Graph Models.” Invited Talk, IASC-ARS Joint Taipei Symposium. Taipei, Taiwan.
- Butts, Carter T. (6/2011). “Dynamic Logit Models for Emergent Collaboration Networks.” Invited Talk, Third International Workshop on Social Network Analysis – Collaboration Networks and Knowledge Diffusion: Theory, Data, and Methods (ARS 2011). Naples, Italy.
- Butts, Carter T. (3/2011). “Detecting Structural Biases Across Networks: Bayesian Meta-Analysis of Social Network Data Using Reference Quantiles.” Invited Lecture, Computational Social Science Colloquium, University of Massachusetts, Amherst. Amherst, MA.
- Butts, Carter T. (1/2011). “Modeling Complex Social Interaction Within and Across Settings via Relational Events.” Invited Lecture, Workshop on Complex Networks: The Dynamics of Networks, Statistical and Applied Mathematical Sciences Institute. Research Triangle Park, NC.
- Butts, Carter T. (12/2010). “Social Networks, Coordination, and Resilience During Disasters: Some Basic Lessons.” Invited Lecture, UASI Shared Strategies for Homeland Security Workshop. Denver, CO.
- Butts, Carter T. (12/2010). “Bounding Complex Network Models with Bernoulli Graphs.” Invited Lecture, Workshop on Networks Across Disciplines, 2010 Neural Information Processing Systems Conference. Whistler, BC.
- Butts, Carter T. (6/2010). “Error, Missing Data, and Network Inference.” Invited Lecture, 2010 PIMS Summer School on Social Networks. Whistler, BC.
- Butts, Carter T. (5/2010). “Modeling Interaction Dynamics Using Relational Events.” Invited Lecture, MAPSS Series, Stanford University. Palo Alto CA.
- Butts, Carter T. (4/2010). “Statistical Models for Social Networks: Overview and Prospect.” Keynote Address, 29th Annual Workshop on Applied Statistics, Southern California Chapter of the American Statistical Association, RAND Corporation. Santa Monica, CA.
- Butts, Carter T. (4/2010). “Robustness in Emergency Response Networks: Basic Principles and New Directions.” Departmental Colloquium, Bush School of Government, Texas A&M

University. College Station, TX.

- Butts, Carter T. (4/2010). “Modeling Complex Interactions in a Disrupted Environment: Relational Events in the WTC Response.” Frontiers in Network Science Lecture Series, Penn State University. University Park, PA.
- Butts, Carter T. (3/2010). “Inferring Behavioral Mechanisms Using Cross-Sectional Network Models.” UCLA Social Network Workshop, UCLA. Los Angeles, CA.
- Butts, Carter T. (1/2010). “Modeling Action and Interaction in Complex Environments.” Marschak Colloquium, Anderson School of Management, UCLA. Los Angeles, CA.
- Butts, Carter T. (12/2009). “Dynamic Robustness in Emergent Communication Networks.” Program on Networked Governance Colloquium, Kennedy School of Government, Harvard University. Cambridge, MA.
- Butts, Carter T. (9/2009). “Geographic Variability and Network Structure.” Invited presentation, 2009 Northwestern Institute on Complex Systems (NICO) Complexity Conference. Northwestern University, Evanston, IL.
- Butts, Carter T. (7/2009). “Assessing Resilience in Networked Systems.” Invited panel presentation, Community and Regional Resilience Institute/Natural Hazards Center Resilience Research Workshop, Broomfield, CO.
- Butts, Carter T. (6/2009). “Merging Space and Structure: Modeling Spatially-Embedded Networks.” Invited presentation, “Capturing Context” Conference, Columbia University. New York, NY.
- Butts, Carter T. (3/2009). “The Importance of Simple Things.” Freeman Award Lecture, 29th Sunbelt Network Conference (INSNA), San Diego, CA.
- Butts, Carter T. (3/2009). “Coping with Disruption: Emergent Networks During Disasters.” Stern School of Business Colloquium, New York University. New York, NY.
- Butts, Carter T. (2/2009). “Ground Zero Personnel, Impacted Populations, and Emergent Networks: ‘Soft’ Infrastructure During Disasters.” Invited Panel Session, National Academy of Science Disaster Roundtable Workshop, “Cascading Disasters: How Disasters Unfold.” Irvine, CA.
- Butts, Carter T. (8/2008). “Modeling Reality Without Sacrificing Data: Inferentially Tractable Models for Complex Social Systems.” Keynote Address, “Challenges and Visions In the Social Sciences” Conference, Zurich, Switzerland.
- Butts, Carter T. (7/2008). “Parameterizing Exponential Family Models for Random Graphs: Current Methods and New Directions.” Invited presentation, “Formation and Function of Social Networks” Mini-Conference, 2008 SIAM Meeting, San Diego, CA.
- Butts, Carter T. (1/2008). “Is There a Viable Social Physics? Yes, No, and In Part.” Invited presentation, SFI Workshop “Is There A Physics of Society?” Santa Fe Institute, Santa Fe, NM.
- Butts, Carter T. (10/2007). “Network Structure In Spatial Contexts.” Department of Anthropology Colloquium, Stanford University. Palo Alto, CA.
- Butts, Carter T. (9/2007). “Social Networks In the Physical World.” Keynote Address, 2007 Workshop on Spatial and Geographical Structure (in conjunction with COSIT 2007). Mt. Edna, Victoria, Australia.
- Butts, Carter T. and Hilgeman, Christin. (9/2007). “Latent Structure in Religious Belief.”

Department of Psychology Colloquium, University of Melbourne. Melbourne, Victoria, Australia.

- Butts, Carter T. (8/2007). “Advancing Mathematical Sociology: Opportunities and Open Problems.” ASA Section on Mathematical Sociology Invited Panel Session, “The Future of Mathematical Sociology.” ASA Meeting, New York, NY.
- Butts, Carter T. (7/2007). “Improvisation in Disaster Response.” Invited Panelist, 32nd Annual Hazards Research and Applications Workshop, Boulder, CO.
- Butts, Carter T. (8/2006). “Error and Missingness in Social Network Data: Problems and Palliatives.” ASA Section on Methodology Invited Panel Session, “Methods for Social Network Analysis.” ASA Meeting, Montreal, Quebec.
- Butts, Carter T. (5/2006). “Dynamic Communication Networks During Extreme Events: an Intertemporal Analysis of Radio Communication During the World Trade Center Disaster.” Invited Conference Presentation, NetSci International Conference and Workshop on Network Science. Bloomington, IN.
- Butts, Carter T. (5/2006). “Likelihood-based Network Comparison Using Permutation Models.” Invited Workshop Tutorial, NetSci International Conference and Workshop on Network Science. Bloomington, IN.
- Butts, Carter T. (5/2006). “Modeling Communication Dynamics During Extreme Events: The Case of the World Trade Center Disaster.” “Age of Networks” Speaker Series, Center for Advanced Study, University of Illinois at Urbana-Champaign. Champaign, IL.
- Butts, Carter T. (4/2006). “Statistical Mechanical Models for Social Systems with Complex Dependence Structures.” International Workshop on Constructal Theory of Social Dynamics, Duke University. Durham, NC.
- Butts, Carter T. (12/2005). “Extreme Networking: Communication and Coordination Networks During the WTC Disaster.” Organizational Behavior Seminar Series, Graduate School of Business, Stanford University. Palo Alto, CA.
- Butts, Carter T. (11/2005). “Social Networks: Introduction and Prospect.” Keynote Address, EII-NICTA Workshop on Large-Scale Network Analysis, National Information and Communications Technology Australia. Sydney, New South Wales, Australia.
- Butts, Carter T. (11/2005). “Exponential Family Models for Assignment Systems.” Department of Psychology Colloquium, University of Melbourne. Melbourne, Victoria, Australia.
- Butts, Carter T. (8/2005). “Building Inferentially Tractable Models for Complex Social Systems: a Generalized Location Framework.” ASA Section on Mathematical Sociology Invited Paper Session, “Mathematical Sociology Today: Current State and Prospects.” ASA Meeting, Philadelphia, PA.
- Butts, Carter T. (12/2004). “Social Networks and the Small World.” Japanese/American Beckman Frontiers of Science Conference (National Academy of Sciences/Japanese Society for Promotion of Science). Irvine, CA.
- Butts, Carter T. (10/2004). “Beyond QAP: Parametric Permutation Models for Relational Data.” Quantitative Methods for Social Science Colloquium, University of California at Santa Barbara. Santa Barbara, CA.
- Butts, Carter T. (10/2004). “Physical Distance and the Structure of Large-Scale Interpersonal Networks.” Geography Department Colloquium, University of California at Santa

Barbara. Santa Barbara, CA.

- Butts, Carter T. (11/2002). “Predictability of Large-scale Spatially Embedded Networks.” Panel on Dynamic Social Network Modeling and Analysis, National Academy of Sciences. Washington, D.C.
- Butts, Carter T. (12/2001). “The Enduring Problem of Error in Network Data, and Some Thoughts on What to Do About It.” Center for Statistics and the Social Sciences Colloquium, University of Washington. Seattle, WA.
- Butts, Carter T. (4/2001). “Empirical Play in the Hot Potato Game.” Janus Game Theory Group, Department of Sociology, Cornell University. Ithaca, NY.
- Butts, Carter T. (11/2000). “Stochastic Models of Spatially Embedded Interpersonal Networks: Simulations from Tie Frequency Data.” Mathematical Behavioral Sciences Colloquium, University of California at Irvine. Irvine, CA.

CONFERENCE PRESENTATIONS:

- Almquist, Zack W. and Butts, Carter T. (8/2013). “Dynamic Network Logistic-Regression: A Dynamic Logistic Choice Analysis of DNC and RNC Blog Citation Networks in the 2004 US Presidential Election.” ASA Meeting, New York, NY.
- Butts, Carter T. (8/2013). “Baseline Mixture Models for Social Networks.” ASA Meeting, New York, NY.
- Gibson, Charles; Spiro, Emma S.; Fitzhugh, Sean; and Butts, Carter T. (8/2013). “Estimating Active User Population Dynamics in Online Social Networks.” ASA Meeting, New York, NY.
- Spiro, Emma S. and Butts, Carter T. (8/2013). “When Bad Things Happen to Good People: Online Communication Dynamics During Natural Hazard Events.” ASA Meeting, New York, NY.
- Sutton, Jeannette; Spiro, Emma S.; Johnson, Britta; Fitzhugh, Sean; Gibson, Charles; and Butts, Carter T. (8/2013). “Warning Tweets: Serial Transmission of Warning Messages during a Disaster Event.” ASA Meeting, New York, NY.
- Sutton, Jeannette; Butts, Carter T.; Spiro, Emma S.; Johnson, Britta; Fitzhugh, Sean; and Gibson, Ben. (7/2013). “HEROIC Project Update: Hazards, Emergency Response, and Online Informal Communications.” 2013 Natural Hazards Research and Applications Workshop, Broomfield, CO.
- Almquist, Zack W.; Spiro, Emma S.; and Butts, Carter T. (5/2013). “Missing Data Methods for Dynamic Network Logistic-Regression.” 33rd Sunbelt Network Conference (INSNA), Hamburg, Germany.
- Fitzhugh, Sean; Gibson, Ben; and Butts, Carter T. (5/2013). “Extended Brokerage Structures in Organizational Networks: a Model-Driven Approach.” 33rd Sunbelt Network Conference (INSNA), Hamburg, Germany.
- Gibson, Ben; Spiro, Emma S.; Fitzhugh, Sean; and Butts, Carter T. (5/2013). “Estimating Active User Population Dynamics in Online Social Networks.” 33rd Sunbelt Network Conference (INSNA), Hamburg, Germany.
- Spiro, Emma and Butts, Carter T. (5/2013). “Degree Dynamics: Spikes and Decay in Attention Relationships.” 33rd Sunbelt Network Conference (INSNA), Hamburg, Germany.
- Smith, Emma; Almquist, Zack W.; Boessen, Adam; Butts, Carter T.; Hipp, John R.; and

- Nagle, Nicholas N. (5/2013). "Social Cohesion across Demographics and Space." 33rd Sunbelt Network Conference (INSNA), Hamburg, Germany.
- Boessen, Adam; Hipp, John R.; Butts, Carter T.; Nagle, Nicholas N.; Almquist, Zack W.; Marcum, Christopher S.; and Acton, Ryan M. (11/2012). "Neighborhoods and Space: Situating Residents Networks." American Society of Criminology Annual Meeting, Chicago, IL.
 - Almquist, Zack W. and Butts, Carter T. (8/2012). "Logistic Network Regression for Scalable Analysis of Networks with Joint Edge/Vertex Dynamics." ASA Meeting, Denver, CO.
 - Almquist, Zack W.; Spiro, Emma S.; and Butts, Carter T. (8/2012). "Dynamic Network Logistic Regression with Missing Data, with an Application to a Dynamic US Governmental Emergency Management-related Friend/Follower Network on Twitter." 2012 Joint Japan/North America Mathematical Sociology Conference, Denver, CO.
 - Butts, Carter T. (8/2012). "Spectral Analysis of Feedback Centrality Indices." 2012 Joint Japan/North America Mathematical Sociology Conference, Denver, CO.
 - Fitzhugh, Sean; Butts, Carter T.; Kurant, Maciej; Gjoka, Minas; and Markopoulou, Athina. (8/2012). "The Enumeration Problem: Link-Trace Methods for Enumeration of Vertex Sets." ASA Meeting, Denver CO.
 - Spiro, Emma S.; Sutton, Jeannette; Johnson, Britta; Fitzhugh, Sean; and Butts, Carter T. (8/2012). "Diffusion of Innovation Among Government Organizations: Asymmetric Effects of Organizational Lineage on Social Media Adoption." 2012 Joint Japan/North America Mathematical Sociology Conference, Denver, CO.
 - Sutton, Jeannette; Butts, Carter T.; Spiro, Emma S.; Fitzhugh, Sean; and Johnson, Britta. (7/2012). "HEROIC: Hazards, Emergency Response, and Online Informal Communications." 2012 Natural Hazards Research and Applications Workshop, Broomfield, CO.
 - Spiro, Emma S.; Sutton, Jeannette; and Butts, Carter T. (6/2012). "Shifting Attention: The Effect of External Stimuli on Social Ties Among Emergency Management Organizations." Political Networks Conference, Boulder, CO.
 - Fitzhugh, Sean; Butts, Carter T.; Kurant, Maciej; Gjoka, Minas; and Markopoulou, Athina. (6/2012). "The Enumeration Problem: An Illustration with Political Activist Networks." Political Networks Conference, Boulder, CO.
 - Johnson, Britta; Sutton, Jeannette; Spiro, Emma S.; Fitzhugh, Sean; and Butts, Carter T. (6/2012). "Technology Lineage and Adoption: Diffusion of Microblog Technologies Among Government Organizations." Political Networks Conference, Boulder, CO.
 - Almquist, Zack W. and Butts, Carter T. (5/2012). "Point Process Models for Household Distributions within Small Areal Units." Poster presentation at The 2012 Annual Meeting of the Population Association of America, San Francisco, CA.
 - Almquist, Zack W. and Butts, Carter T. (3/2012). "Evolving Context: Evidence from Temporal Change in Organizational Collaboration over the Course of the 2005 Katrina Disaster." 2012 Pacific Sociological Association Meeting, San Diego, CA.
 - Almquist, Zack W. and Butts, Carter T. (3/2012). "Network Diffusion and the Effects of Geographic Heterogeneity within Human Populations." 32nd Sunbelt Network Conference (INSNA), Redondo Beach, CA.
 - Butts, Carter T. (3/2012). "Approximate Sampling for Binary Discrete Exponential Families, with Fixed Execution Time and Quality Guarantees." 32nd Sunbelt Network Confer-

ence (INSNA), Redondo Beach, CA.

- Fitzhugh, Sean; Butts, Carter T.; Kurant, Maciej; Gjoka, Minas; and Markopoulou, Athina. (3/2012). “Link-Trace Methods for Enumeration of Vertex Sets.” 32nd Sunbelt Conference (INSNA), Redondo Beach, CA.
- Johnson, Britta; Sutton, Jeannette; Spiro, Emma S.; Fitzhugh, Sean; and Butts, Carter T. (3/2012). “Disruptive Diffusion: Adoption of Microblog Technologies Among Urban Organizations.” 32nd Sunbelt Network Conference (INSNA), Redondo Beach, CA.
- Hipp, John R.; Butts, Carter T.; Acton, Ryan M.; Nagle, Nicholas N.; Boessen, Adam; Marcum, Christopher S.; and Almquist, Zack W. (3/2012). “Spatial Networks and the Perception of Neighborhood.” 32nd Sunbelt Network Conference (INSNA), Redondo Beach, CA.
- Boessen, Adam; Hipp, John R.; Butts, Carter T.; Acton, Ryan M.; Nagle, Nicholas N.; Marcum, Christopher S.; and Almquist, Zack W. (3/2012). “If Theres a Crime in Your Neighborhood, Who you Gonna Call?” 32nd Sunbelt Network Conference (INSNA), Redondo Beach, CA.
- Spiro, Emma S.; Sutton, Jeannette; Fitzhugh, Sean; and Butts, Carter T. (3/2012). “A Microstructure Topology for Hyperedge Communication Events.” 32nd Sunbelt Network Conference (INSNA), Redondo Beach, CA.
- Sutton, Jeannette; Spiro, Emma S.; Johnson, Britta; Greczek, Matt; Fitzhugh, Sean; and Butts, Carter T. (3/2012). “Connected Communications: Network Structures of Official Communications in Disaster.” 32nd Sunbelt Network Conference (INSNA), Redondo Beach, CA.
- Valluvan, Ragupathyraj; Almquist, Zack W.; Butts, Carter T.; and Anandkumar, Anima. (3/2012). “Vertex Set Prediction of Dynamic Networks Using Semi-parametric Latent Tree Models.” 32nd Sunbelt Network Conference(INSNA), Redondo Beach, CA.
- Butts, Carter T. and Pixley, Joy E. (8/2011). “The Ties That Bound: Within-Couple Heterogeneity as an Upper Bound On Between-Group Inequality.” ASA Meeting, Las Vegas, NV.
- Fitzhugh, Sean M.; Butts, Carter T.; Pixley, Joy E. (8/2011). “Shared Spells: How Co-participation Limits Differences. Between Life Histories.” ASA Meeting, Las Vegas, NV.
- Spiro, Emma S.; Almquist, Zack W.; and Butts, Carter T. (8/2011). “Maintaining Ties from Coast to Coast: Selective Mixing Between Universities on Facebook.” ASA Meeting, Las Vegas, NV.
- Spiro, Emma S.; Butts, Carter T.; Sutton, Jeannette; Greczek, Matt; Fitzhugh, Sean M.; and Pierski, Nicole M. (7/2011). “Informal Online Communication in the Deepwater Horizon Disaster.” Poster presentation, 2011 Natural Hazards Research and Applications Workshop, Broomfield, CO.
- Butts, Carter T. and Almquist, Zack W. (6/2011). “Modeling the Dynamics of Emergent Networks: Collaboration and Mass Convergence in the Hurricane Katrina Disaster.” 4th Annual Political Networks Conference, Ann Arbor, MI.
- Almquist, Zack W. and Butts, Carter T. (6/2011). “Contending Parties: a Logistic Choice Analysis of Inter and Intra-group Blog Citation Dynamics in the 2004 US Presidential Election.” Poster presentation, 4th Annual Political Networks Conference, Ann Arbor, MI.
- Fitzhugh, Sean M.; Butts, Carter T.; and Pixley, Joy E. (6/2011). “A Cross-National

Comparison of the Effects of Military and Political Participation on Life Histories.” Poster presentation, 4th Annual Political Networks Conference, Ann Arbor, MI.

- Pierski, Nicole M. and Butts, Carter T. (6/2011). “Semantic Networks in the Political Blogosphere.” 4th Annual Political Networks Conference, Ann Arbor, MI.
- Spiro, Emma S.; Sutton, Jeannette; Greczek, Matt; and Butts, Carter T. (6/2011). “Rumoring During Extreme Events: Deepwater Horizon 2010.” Poster presentation, 4th Annual Political Networks Conference, Ann Arbor, MI.
- Almquist, Zack W. and Butts, Carter T. (2/2011). “Contending Parties: a Logistic Choice Analysis of Inter- and Intra-group Blog Citation Dynamics in the 2004 US Presidential Election.” 31st Sunbelt Network Conference (INSNA), St. Pete’s Beach, FL.
- Butts, Carter T. (2/2011). “A Technique for Analyzing ERGM Behavior Using Bernoulli Graphs.” 31st Sunbelt Network Conference (INSNA), St. Pete’s Beach, FL.
- Fitzhugh, Sean M.; Butts, Carter T.; and Pixley, Joy E. (2/2011). “A Network Approach to Pattern Discovery in Spell Data.” 31st Sunbelt Network Conference (INSNA), St. Pete’s Beach, FL.
- Hipp, John R.; Butts, Carter T.; Nagle, Nicholas N.; Acton, Ryan M.; Boessen, Adam; and Marcum, Christopher. (2/2011). “Homophily and Propinquity in Social Ties, and the Consequences for Neighborhood Cohesion.” 31st Sunbelt Network Conference (INSNA), St. Pete’s Beach, FL.
- Kurant, Maciej; Gjoka, Minas; Butts, Carter T.; and Markopoulou, Athina. (2/2011). “Link-Trace Sampling for Social Networks: Advances and Applications.” 31st Sunbelt Network Conference (INSNA), St. Pete’s Beach, FL.
- Pierski, Nicole M.; DuBois, Christopher; Butts, Carter T.; and McFarland, Dan. (2/2011). “Comparative Analysis of Classroom Interactions Using Relational Event Models.” 31st Sunbelt Network Conference (INSNA), St. Pete’s Beach, FL.
- Spiro, Emma S.; Acton Ryan M.; Sutton, Jeannette; Greczek, Matt; and Butts, Carter T. (2/2011). “Rumoring in Informal Online Communication Networks.” 31st Sunbelt Network Conference (INSNA), St. Pete’s Beach, FL.
- Butts, Carter T. (8/2010). “Bayesian Meta-Analysis of Social Network Data via Conditional Uniform Graph Quantiles.” ASA Meeting, Atlanta, GA.
- Fitzhugh, Sean and Butts, Carter T. (8/2010). “Effects of Individual and Group-level Properties on the Robustness of Emergency-phase Communication Networks.” ASA Meeting, Atlanta, GA.
- Spiro, Emma S.; Acton, Ryan M.; and Butts, Carter T. (8/2010). “Extended Structures of Mediation: Re-examining Brokerage in Dynamic Networks.” ASA Meeting, Atlanta GA.
- Butts, Carter T.; Mendonça, David; Webb, Gary; Jasny, Lorien; Marcum, Christopher S.; Fitzhugh, Sean; Cirik, Ali A.; and Elsasser, Shaun. (7/2010). “Key Findings from the Improvisation in Emergency Response Project: Linking Cognition, Behavior, and Social Interaction.” 2010 Annual Hazards Research and Application Workshop, Broomfield, CO.
- Acton, Ryan M.; Spiro, Emma S.; and Butts, Carter T. (7/2010). “Change and External Events in Online Networks.” 30th Sunbelt Network Conference (INSNA), Riva del Garda, Italy.
- Almquist, Zack W. and Butts, Carter T. (7/2010). “Predicting Regional Self-Identification from Spatial Network Models.” 30th Sunbelt Network Conference (INSNA), Riva del

Garda, Italy.

- Butts, Carter T. (7/2010). “A Perfect Sampling Method for Random Graph Models.” 30th Sunbelt Network Conference (INSNA), Riva del Garda, Italy.
- Fitzhugh, Sean and Butts, Carter T. (7/2010). “Effects of Individual and Group-level Properties on the Robustness of Emergency-phase Communication Networks.” 30th Sunbelt Network Conference (INSNA), Riva del Garda, Italy.
- Spiro, Emma S.; Acton, Ryan M.; and Butts, Carter T. (7/2010). “Extended Structures of Mediation: Re-examining Brokerage in Dynamic Networks.” 30th Sunbelt Network Conference (INSNA), Riva del Garda, Italy.
- Butts, Carter T. (8/2009). “A Behavioral Micro-foundation for Cross-sectional Network Models.” ASA Meeting, San Francisco, CA.
- Marcum, Christopher S.; Bevc, Christine A.; and Butts, Carter T. (8/2009). “Mechanisms of Control in Emergent Interorganizational Networks.” ASA Meeting, San Francisco, CA.
- Jasny, Lorien; Marcum, Christopher S.; and Butts, Carter T. (3/2009). “Relating Events to Structure: Evidence from the World Trade Center Police Reports.” 29th Sunbelt Network Conference (INSNA), San Diego, CA.
- Butts, Carter T. and Acton, Ryan M. (8/2008). “Spatial Analysis of Social Networks.” ASA Meeting, Boston, MA.
- Butts, Carter T. (6/2008). “On Having Something In Common: Latent Two-Mode Models for Social Networks.” Networks in Political Science Conference, Cambridge, MA.
- Butts, Carter T. (5/2008). “Latent Focus Models for Network Structure.” Fourth Joint Japan-North America Mathematical Sociology Conference, Redondo Beach, CA.
- Butts, Carter T. (1/2008). “Graph Theoretic Convexity.” 28th Sunbelt Network Conference (INSNA), St. Petersburg, FL.
- Pixley, Joy E. and Butts, Carter T. (11/2007). “Comparing Patterns of Life Course Events.” Annual Meeting of the Gerontological Society of America, San Francisco, CA.
- Butts, Carter T. “A Relational Event Model for Social Action.” (8/2007). ASA Meeting, New York, NY.
- Acton, Ryan M. and Butts, Carter T. (8/2007). “Patterns of Possession and Change: Material Culture in the American Home, 1972–2003.” ASA Meeting, New York, NY.
- Lind, Ben E.; Tirado, Miguel; Butts, Carter T.; and Petrescu-Prahova, Miruna G. (8/2007). “Brokerage Roles in Disaster Response: Organizational Mediation in the Wake of Hurricane Katrina.” ASA Meeting, New York, NY.
- Butts, Carter T. (7/2007). “Likelihood-based Inference for Cycle Structure Bias in Cognitive Models of Social Interaction.” 40th Annual Meeting of the Society for Mathematical Psychology, Irvine, CA.
- Butts, Carter T. “Network Inference from Unstructured Sources.” (5/2007). 27th Sunbelt Network Conference (INSNA), Corfu, Greece.
- Butts, Carter T.; Contractor, Noshir; Acton, Ryan; Harper, Steven; Auvil, Loretta; Petrescu-Prahova, Miruna; Lind, Ben; and Don, Andy. “Mapping and Analyzing Emergent Multi-Organizational Networks in the Hurricane Katrina Response.” (9/2006). Human Social Dynamics Principal Investigator Meeting (NSF), Washington, DC.
- Butts, Carter T. “Cycle Census Statistics for Exponential Random Graph Models.” (8/2006).

ASA Meeting, Montreal, Quebec.

- Petrescu-Prahova, Miruna and Butts, Carter T. “Emergent Coordinators in the World Trade Center Disaster.” (8/2006). ASA Meeting, Montreal, Quebec.
- Butts, Carter T.; Acton, Ryan M.; Cross, B. Remy; Jasny, Lorien; Lind, Ben; Petrescu-Prahova, Miruna; Bevc, Christine; Liu, Sophia; and Tierney, Kathleen. (7/2006). “Inter- and Intra-organizational Networks in the World Trade Center and Hurricane Katrina Disasters.” 31st Annual Hazards Research and Applications Workshop, Boulder, CO.
- Acton, Ryan M. and Butts, Carter T. “Implication Structures and Household Artifacts: Analyzing the Changing Patterns of Ownership and Possession in the American Home, 1980–2003.” (4/2006). 26th Sunbelt Network Conference (INSNA), Vancouver, BC.
- Bevc, Christine; Butts, Carter T.; Liu, Sophia; and Tierney, Kathleen. “Predictors of Dyadic Interaction in Emergent Multiorganizational Networks Following the World Trade Center Attacks.” (4/2006). 26th Sunbelt Network Conference (INSNA), Vancouver, BC.
- Butts, Carter T. “Curved Exponential Family Parameterizations for Spatial Network Models.” (4/2006). 26th Sunbelt Network Conference (INSNA), Vancouver, BC.
- Petrescu-Prahova, Miruna and Butts, Carter T. “Network Inference with Missing Data: A Performance Comparison of Existing Models.” (4/2006). 26th Sunbelt Network Conference (INSNA), Vancouver, BC.
- Reich, Leah and Butts, Carter T. “Structural Properties of Power-Relevant Relations.” (4/2006). 26th Sunbelt Network Conference (INSNA), Vancouver, BC.
- Butts, Carter T. and Petrescu-Prahova, Miruna. “Radio Communication Networks in the World Trade Center Disaster.” (8/2005). ASA Meeting, Philadelphia, PA.
- Butts, Carter T.; Petrescu-Prahova, Miruna; and Cross, Remy. “Emergency Phase Networks During the World Trade Center Disaster.” (6/2005). Third Joint US-Japan Conference on Mathematical Sociology, Sapporo, Japan.
- Butts, Carter T.; Petrescu-Prahova, Miruna; and Cross, Remy. “Responder Communication Networks During the World Trade Center Disaster.” (2/2005). 25th Sunbelt Network Conference (INSNA), Redondo Beach, CA.
- Cross, Remy, and Butts, Carter T. “Blogging For Votes: An Examination of the Interaction Between Weblogs and the Electoral Process” (2/2005). 25th Sunbelt Network Conference (INSNA), Redondo Beach, CA.
- Butts, Carter T. and Leite, Fabio. “Bayesian Inference from Continuously Arriving Informant Reports, with Application to Crisis Response.” (8/2004). ASA Meeting, San Francisco, CA.
- Butts, Carter T. “An Exponential Family of Permutation Models for Network Comparison.” (7/2004). IMBS Symposium, “Current Research on Network Comparison,” Irvine, CA.
- Butts, Carter T. “Latent Structure in Multiplex Relations.” (6/2004). NAACSOS Conference, Pittsburgh PA.
- Lawson, Gabriel C. and Butts, Carter T. “Information Transmission Through Human Informants: Simulation.” (6/2004). NAACSOS Conference, Pittsburgh PA.
- Mehrotra, Sharad; Butts, Carter T.; Kalashnikov, Dmitri V.; Venkatasubramanian, Nalini; Altintas, K.; Hariharan, R.; Lee, Haimin; Ma, Yiming; Myers, Amnon; Wickramasuriya, Jehan; Eguchi, Ron; Huyck, Charles. 2004. “CAMAS: A Citizen Awareness System for

- Crisis Mitigation.” (6/2004). SIGMOD 2004, June 13–18, Paris, France.
- Butts, Carter T. “An Exponential Family of Permutation Models for the Comparison of Adjacency Structures.” (5/2004). 24th Sunbelt Network Conference (INSNA), Portoroz, Slovenia.
 - Butts, Carter T. and Hilgeman, Christin. “Latent Algebraic Structure in American Religious Belief, 1988-1998.” (8/2003). ASA Meeting, Atlanta, GA.
 - Butts, Carter T. “Network Inference and Error Estimation with Structurally Dependent Error Rates, Missing Data, and Covariates.” (6/2003). NAACSOS Conference (formerly CASOS), Pittsburgh, PA.
 - Butts, Carter T. “Network Inference and Accuracy Estimation with Covariates, Configurally Dependent Errors, and Non-ignorably Missing Data.” (2/2003). 23rd Sunbelt Network Conference (INSNA), Cancun, Mexico.
 - Pixley, Joy E. and Butts, Carter T. “Analyzing Life Course Patterns with the Interval Graph Approach.” (2/2003). 21st Sunbelt Network Conference (INSNA), Cancun, Mexico.
 - Butts, Carter T. (8/2002). “Network Inference, Error, and Informant Accuracy” Mathematical and Statistical Issues in Network Analysis Miniconference, Institute for Mathematical Behavioral Sciences, UC Irvine, Irvine, CA.
 - Butts, Carter T. (8/2002). “Some Properties of Spatially Embedded Interpersonal Networks” Group Processes Miniconference, Chicago, IL.
 - Butts, Carter T. and Carley, Kathleen M. (8/2002). “Structural Change and Homeostasis in Organizations: A Decision-Theoretic Approach” ASA Meeting, Chicago, IL.
 - Butts, Carter T. and Pixley, Joy E. (6/2002). “A Structural Approach to the Representation of Life History Data” CASOS Conference (formerly CMOT), Pittsburgh, PA.
 - Butts, Carter T. (2/2002). “Predicting the Spatial Structure of Large-Scale Interpersonal Networks by Means of Extrapolative Simulation” 22nd Sunbelt Network Conference (INSNA), New Orleans, LA.
 - Butts, Carter T. (8/2001). “How Much Does distance Tell Us?: Residual Information in Spatially-Embedded Interpersonal Networks.” ASA Meeting, Anaheim, CA.
 - Butts, Carter T., and Rode, David C. (8/2001). “Empirical Play in the Hot Potato Game.” ASA Meeting, Anaheim, CA.
 - Butts, Carter T. (7/2001). “Interregional Relations from Spatially-Embedded Interpersonal Networks.” CASOS Conference (formerly CMOT), Pittsburgh, PA.
 - Butts, Carter T. (8/2000). “Network Inference, Error, and Informant (In)Accuracy: A Bayesian Approach.” ASA Meeting, Washington, D.C.
 - Butts, Carter T., and Carley, Kathleen M. (7/2000). “Multivariate Analysis of Unlabeled Structures.” CASOS Conference (formerly CMOT), Pittsburgh, PA.
 - Butts, Carter T. (6/2000). “Stochastic Models of Spatially Embedded Interpersonal Networks: Simulations from Tie Frequency Data.” First Joint US-Japan Conference on Mathematical Sociology, Honolulu, HI.
 - Butts, Carter T., and Carley, Kathleen M. (4/2000). “Cluster Analysis of Labeled and Unlabeled Structures.” 20th Sunbelt Network Conference (INSNA), Vancouver, BC.
 - Butts, Carter T., and Carley, Kathleen M. (7/1999). “Spatial Models of Network Formation.” ASA Meeting, Chicago, IL.

- Butts, Carter T. (2/1999). “The Complexity of Social Networks: Theoretical and Empirical Findings.” 19th Sunbelt Network Conference (INSNA), Charleston, SC.
- Butts, Carter T. (8/1998). “Generating Panic in Populations.” ASA Meeting, San Francisco, CA.
- Butts, Carter T., and Carley, Kathleen M. (5/1998). “Visualization of Unlabeled Structures Using Existing Technologies.” 18th Sunbelt Network Conference (INSNA), Sitges, Spain.
- Muhlberger, Peter, and Butts, Carter T. (4/1998). “An Experiment in Deliberative Democracy: Politics Shaping Citizens.” Midwest Political Science Association Meeting, Chicago IL. (Presented by Peter Muhlberger)
- Carley, Kathleen M., and Butts, Carter T. (8/1997). “An Algorithmic Approach to the Comparison of Partially Labeled Graphs.” ASA Meeting, Toronto, Canada. (Presented by Kathleen Carley)
- Butts, Carter T. (5/1997). “A Bayesian Model of Panic in Belief.” CMOT Workshop, San Diego, CA.
- Carley, Kathleen M., and Butts, Carter T. (3/1997). “Measuring C2 Structure.” A2C2 Workshop, Williamsburg, VA. (Presented by Kathleen Carley)
- Butts, Carter T.; Reilly, Colman; Speh, Marcus; and Wang, Joseph. (5/1994). “WWW and the Globewide Network Academy.” First International WWW Conference, CERN, Geneva, Switzerland. (Presented by Marcus Speh)

TEACHING EXPERIENCE:

- POSITIONS:
 - Member, Program in Chemistry and Materials Physics (ChaMP), University of California – Irvine, 2013–Present
 - Professor, Department of Sociology, University of California – Irvine, 2012–Present
 - Associate Professor, Department of Sociology, University of California – Irvine, 2007–2012
 - Associate Professor (Courtesy), Department of Statistics, University of California – Irvine, 2011–Present
 - Assistant Professor, Department of Sociology, University of California – Irvine, 2002–2007
 - Teaching Assistant, CASOS Summer Workshop, Carnegie Mellon University, 2001
 - Teaching Assistant, CASOS Summer Workshop, Carnegie Mellon University, 2000
 - Teaching Assistant, IS201, “Structured Analysis and Design,” Department of Social and Decision Sciences, Carnegie Mellon University, 1997
 - Teaching Assistant, IS200, “Data Structures,” Department of Social and Decision Sciences, Carnegie Mellon University, 1996
- COURSES TAUGHT:
 - Analysis of Social Network Data
 - Business Decisions
 - Computational Methods
 - Informant Accuracy – Methods and Findings
 - Issues in Crisis Response
 - Network Theory

- Networks and Information Transmission
- Networks and Organizations
- Social Networks
- Professional Development
- DOCTORAL COMMITTEE CHAIR:
 - Emma Spiro (Ph.D. Fall 2013)
 - Zack Almquist (Ph.D. Spring 2013)
 - Lorien Jasny (Ph.D. Spring 2012)
 - Ryan Acton (Ph.D. Summer 2010)
 - Miruna Petrescu-Prahova (Ph.D. Spring 2009)
 - Christin Hilgeman (Ph.D. Spring 2007)

RESEARCH EXPERIENCE:

- Professor, Department of Sociology, University of California – Irvine, 2012–Present
- Professor (Courtesy), Department of Statistics, University of California – Irvine, 2012–Present
- Professor (Courtesy), Department of Electrical Engineering and Computer Science, University of California – Irvine, 2013–Present
- Associate Professor (Courtesy), Department of Statistics, University of California – Irvine, 2011–2012
- Associate Professor, Department of Sociology, University of California – Irvine, 2007–2012
- Associate Professor (Courtesy), Department of Statistics, University of California – Irvine, 2011–2012
- Assistant Professor, Department of Sociology, University of California – Irvine, 2002–2007
- Research Assistant for Kathleen M. Carley, Department of Social and Decision Sciences, Carnegie Mellon University, 2000-2002
- Research Assistant for Kathleen M. Carley, Department of Social and Decision Sciences, Carnegie Mellon University, Summer 1997

SERVICE:

- DISCIPLINE
 - Board of Directors, International Network for Social Network Analysis (INSNA), 2011–Present
 - Linton C. Freeman Award Committee Chair, INSNA, 2014
 - Leo Goodman Award Committee Chair, ASA Section on Methodology, 2012
 - Organizer, ASA Section and Regular Sessions on Mathematical Sociology, 2012
 - Chair, Section Naming Committee, ASA Section on Rationality and Society, 2011–2012
 - Organizer, Session on Network Methodology at the Third International ARS Workshop on Social Network Analysis - Collaboration Networks and Knowledge Diffusion: Theory, Data, and Methods, 6/2011, Naples, Italy.
 - Organizer and Lecturer, *statnet* Workshop at the Third International ARS Workshop on Social Network Analysis - Collaboration Networks and Knowledge Diffusion: Theory, Data, and Methods, 6/2011, Naples, Italy.
 - Organizer and Lecturer, *statnet* Workshop at the Political Networks Conference,

6/2011, Ann Arbor, MA.

- Organizer and Lecturer, *statnet* Workshop at the International Sunbelt Social Networks Conference, 2/2011, St. Pete's Beach, FL.
- Graduate Student Paper Award Committee, ASA Section on Rationality and Society, 2010.
- Organizer, ASA Section on Rationality and Society session on "Theories of Choice: New Perspectives and Applications," ASA Annual Meeting, 2010.
- Organizer and Lecturer, *statnet* Workshop at the Political Networks Conference, 6/2010, Durham, NC.
- Co-Organizer and Lecturer, *statnet* and *sna* Workshops at the Networks in Political Science Conference, 6/2009, Cambridge, MA.
- Organizing Committee, National Academy of Sciences US-France Frontiers of Science Conference, 2008
- Co-Organizer, Fourth Japan-North America Mathematical Sociology Conference, 2008
- Organizer and Lecturer, *statnet* and *sna* Workshops at the Networks in Political Science Conference, 6/2008, Cambridge, MA.
- Section Awards Committee, ASA Section on Mathematical Sociology, 2006
- Discussant, NSF Workshop on Modeling Social Dynamics, Washington, DC, 2006
- Council Member, ASA Section on Mathematical Sociology, 2005–2006
- Co-Organizer and Lecturer, *statnet* Workshop (held in conjunction with the 26th International Sunbelt Social Network Conference), 2006–2010.
- Guest Speaker, UCSB Workshop on GIS and Population Science, 2005, 2006
- NSF Proposal Reviewer
- Co-Organizer, 25th International Sunbelt Social Network Conference, 2005
- Session Presider, "Communication" and "Statistical Models," 25th Sunbelt Network Conference (INSNA), Redondo Beach, CA, 2005
- Session Chair, "Social Networks," Japanese/American Beckman Frontiers of Science Conference (National Academy of Sciences/Japanese Society for Promotion of Science), Irvine, CA, 2004
- Session Chair, "Social Networks," Japanese/American Beckman Frontiers of Science Conference (National Academy of Sciences/Japanese Society for Promotion of Science), Irvine, CA, 2004
- Session Presider, Workshop on Networks and the Population Dynamics of Disease Transmission, Institute for Mathematics and Its Applications, University of Minnesota, Minneapolis, MN, 2003
- Discussant and Presider, "Mathematical Sociology," Regular Session on Mathematical Sociology, ASA Meeting, Chicago, IL, 2002
- Student Council Member, ASA Section on Mathematical Sociology, 2000–2001
- Session Presider, "Interfirm Relations," Regular Session on Economic Sociology, ASA Meeting, Anaheim, CA, 2001
- Session Organizer, "Roundtables on Mathematical Sociology," ASA Meeting, Washington, D.C., 2000
- Session Presider, "New Analytical Approaches," 20th Sunbelt Network Conference (INSNA), Vancouver, B.C., 2000

- UNIVERSITY

- University of California Cancer Research Coordinating Committee, 2013–Present
- Executive Committee Member, Institute for Mathematical Behavioral Sciences, 2009–Present
- Division Council Member, California Institute for Telecommunications and Information Technology, 2005–Present
- Organizer, UCI Social Network Research Group, 2003–Present
- Participating Faculty, UCI Chemistry and Materials Physics Program 2013–Present.
- Co-organizer, IMBS Conference on “Behavior In and On Networks,” Irvine, CA, 2011.
- External promotion reviewer (UC Campus), 2010
- Calit2/Emulex Graduate Fellows Committee, 2006
- Calit2 Nicholas Prize Committee, 2005
- Organizer, IMBS Symposium, “Current Research on Network Comparison,” Irvine, CA, 2004

- DEPARTMENT

- Strategic Planning Committee Chair, Department of Sociology 2012-2013
- Graduate Education Committee, Department of Sociology, 2004–2005, 2007–2012
- Merit Review Committee, 2002, 2004, 2006, 2007, 2008, 2009, 2010, 2011, 2012
- Departmental Space Committee, 2010-2011
- Co-Organizer, Introduction to Social Network Analysis Workshop, 2003–2008
- Faculty Recruitment Committee, 2006
- Undergraduate Education Committee, Department of Sociology, 2003–2004
- Faculty Computing Committee, Department of Sociology, 2003
- Graduate Education Committee Student Representative, Department of Social and Decision Sciences, 1997-2000
- Graduate Curriculum Restructuring Committee, Department of Social and Decision Sciences, 1998-1999

EDITORIAL ACTIVITIES:

- Area Editor for Computation and Social Networks, *Computational and Mathematical Organization Theory*, 2003–Present.
- Editorial Board, *Journal of Mathematical Sociology*, 2007–Present.
- Editorial Board, *Sociological Methodology*, 2009–Present.
- Editorial Board, *Structure and Dynamics*, 2005–Present.

REFEREE ACTIVITIES:

- *American Journal of Sociology*
- *Applied Statistics*
- *Artificial Life*
- *Computational and Mathematical Organization Theory*
- *Economics of Governance*
- *Games and Economic Behavior*
- *Journal of Economic Behavior and Organization*

- *Journal of Mathematical Sociology*
- *Journal of the Royal Economic Society*
- *Journal of Social Structure*
- *Management Science*
- *Organization Science*
- *Rationality and Society*
- *Social Forces*
- *Social Networks*
- *Social Problems*
- *Social Psychology Quarterly*
- *Sociological Forum*

OTHER REVIEWER ACTIVITIES:

- National Science Foundation proposal reviewer
- Reviewer for Brandes, U. and Erlebach, T. (Eds.) 2005. *Network Analysis: Methodological Foundations* Berlin: Springer.

PROFESSIONAL MEMBERSHIPS:

- American Association for the Advancement of Science
- American Sociological Association
- International Network for Social Network Analysis
- Sigma Xi
- Society for Anthropological Sciences
- Society for Mathematical Psychology
- Three Rivers Network

ADDITIONAL ACTIVITIES:

- Apis Beowulf Project; Designed and implemented a Beowulf parallel processing system for scientific computing (w/ John Miller), 1999-2000