

CARTER T. BUTTS

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Carter T. Butts is currently Associate Professor in the Department of Sociology and Institute for Mathematical Behavioral Sciences at the University of California, Irvine, where he leads the Networks, Computation, and Social Dynamics Lab (<http://www.ncasd.org/>). Butts obtained his Ph.D. from the Department of Social and Decision Sciences at Carnegie Mellon University. He also holds an M.S. from Carnegie Mellon University, and a B.S. from Duke University. He currently serves as an area editor for the journal *Computational and Mathematical Organization Theory*, and serves on the editorial boards of the *Journal of Mathematical Sociology* and *Sociological Methodology*. He has served as a council member of the American Sociological Association's Section on Mathematical Sociology, and holds paper awards from the ASA's Sections on Mathematical Sociology, Rationality and Society, and Aging and the Life Course. He is a recipient of the Linton C. Freeman Award from the International Network for Social Network Analysis, and the Leo Goodman Award from the ASA Section on Methodology.

Butts' research involves the application of mathematical and computational techniques to theoretical and methodological problems within the areas of social network analysis, mathematical sociology, quantitative methodology, and human judgment and decision making. Currently, his work focuses on: the structure of spatially embedded large-scale interpersonal networks; models for network measurement and graph comparison; representation and modeling of intertemporal relational data; the properties of random graphs with complex dependence structure; and models for human behavior in strategic and emergency settings. Dr. Butts is also the author of a number of software tools for the analysis of relational data, and is a founding developer of the statnet suite of libraries for the R statistical computing system.

Professional Preparation:

- 1996 B.S., Duke University; Systems Theory
- 1998 M.S. Carnegie Mellon University; Sociology
- 2002 Ph.D., Carnegie Mellon University; Sociology

Appointments:

- 2007– Associate Professor, Department of Sociology and Institute for Mathematical Behavioral Sciences, University of California, Irvine
- 2002–2007 Assistant Professor, Department of Sociology and Institute for Mathematical Behavioral Sciences, University of California, Irvine

Selected Publications (out of 41):*Closely Related Publications:*

- Butts, Carter T. (2011, expected). *Space and Structure: Methods and Models for Large-Scale Interpersonal Networks*.
- 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*, forthcoming. SAGE Publications.

- Butts, Carter T. (2009). Revisiting the Foundations of Network Analysis. *Science* 325: 414–416.
- 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.
- Kalashnikov, Dmitri V.; Ma, Yiming; Mehrotra, Sharad; Hariharan, Ramaswamy; and Butts, Carter T. (2006). Modeling and Querying Uncertain Spatial Information for Situational Awareness Applications. Pp. 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. (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*, pp. 313–323. Washington, D.C.: National Academies Press.

Additional Publications:

- 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(3).
- Butts, Carter T. (2008). A Relational Event Framework for Social Action. *Sociological Methodology* 38(1): 155–200.
- Butts, Carter T. (2008). Social Networks: A Methodological Introduction. *Asian Journal of Social Psychology* 11(1): 13–41.
- 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).
- 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.
- 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. (2006). Exact Bounds for Degree Centralization. *Social Networks* 28(4): 283–296.

Synergistic Activities:

- Currently serve as area editor for *Computational and Mathematical Organization Theory* (computation and networks area), and serve on the editorial boards of the *Journal of Mathematical Sociology*, and *Sociological Methodology*.
- Lead developer of the sna, network, and relevant libraries for network analysis in the R statistical computing platform, and co-author of the statnet software suite.
- Served on the Council of the American Sociological Association's Section on Mathematical Sociology, 2000–2001 and 2005–2007. Currently serve on the board of the International Network for Social Network Analysis
- Serve on the Division Council for the California Institute for Telecommunications and Information Technology (Calit2), 2005–.