

K. M. Carley August 17, 2009

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### **EDUCATION**

9/1978-6/1984 Ph.D. Harvard University. Sociology Thesis: Consensus Construction  
9/1974-6/1978 S.B. Massachusetts Institute of Technology. Political Science  
9/1974-6/1978 S.B. Massachusetts Institute of Technology. Economics

### **PROFESSIONAL EXPERIENCE**

#### ***REGULAR APPOINTMENTS***

8/2002- Professor of Computation, Organization and Society; Appointment in Institute for Software Research International, SCS; Courtesy appointments in SDS, Heinz, GSIA and EPP; Carnegie Mellon University. Pittsburgh, PA 15213  
9/1998- 7/2002 Professor of Sociology, Organizations, and IT; Appointments in SDS, Heinz, GSIA and EPP; Carnegie Mellon University. Pittsburgh, PA 15213  
9/1990-8/1998 Associate Professor of Sociology and Organizations; Carnegie Mellon University. Pittsburgh, PA 15213  
9/1984-8/1990 Assistant Professor of Sociology and Information Systems; Carnegie Mellon University. Pittsburgh, PA 15213

#### ***OTHER APPOINTMENTS AND POSITIONS***

8/1999-8/2000 Institute for Complex Engineered Systems (ICES) – CASOS Lab Director  
3/1999-8/1999 Institute for Complex Engineered Systems (ICES) – CASOS Thrust Leader  
9/1998- Center Director, Center for Computational Analysis of Social and Organizational Systems.  
<http://www.casos.cs.cmu.edu/>  
1/1997 Invited Professor, Universite' Leonardo DaVinci  
6/1992-9/1992 Research Faculty, Learning Research and Development Center (LRDC), U. of Pittsburgh. Pittsburgh, PA.  
6/1991-9/1991 Research Faculty, LRDC, U. of Pittsburgh. Pittsburgh, PA.  
6/1990-9/1990 Research Faculty, LRDC, U. of Pittsburgh. Pittsburgh, PA.  
6/1984-8/1984 RA for Prof. Bob Eccles, Harvard Business School. Cambridge, MA.  
12/1982-8/1984 Computer and Statistical Consultant, Harvard University. Cambridge, MA.  
1/1982-6/1982 Project Director Cambridge-Somerville Sociology Internship Program, Harvard University. Sociology. Cambridge, MA.  
9/1979-1/1982 TA for Sociology 156: (Intro. Statistics), Harvard University. Cambridge, MA.  
6/1980-10/1984 Software Development and System Management for Prof. James Davis, Harvard University. Sociology. Cambridge, MA.  
2/1979-5/1981 Instructor in Applied Mathematics, Lowell Institute. Cambridge, MA.  
6/1978-8/1978 Research Assistant Prof. Hayward Alker, MIT: Political Science. Cambridge, MA.  
2/1977-5/1978 Research Assistant Bloomfield and Alker, MIT: Political Science. Cambridge, MA.  
6/1975-10/1976 Research Assistant Prof. Bloomfield, MIT: Political Science. Cambridge, MA.

### **CONSULTING**

2005-2006 Global Info Tek, Inc.  
2005-2006 New York School of Medicine  
2005 DyNaTech  
2004-2007 HumRo

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<sup>1</sup> Toward the end of 2007 the Institute for Software Research International, a department in the School of Computer Science at Carnegie Mellon University changed its name to Institute for Software Research.

2003-2004	ALPHATECH (now BAE)
2003	Sandia
2002-2003	Booze Allen Hamilton
2002-2004	Nursing School, ASU
1998-2005	Aptima
3/2000	Merrill Lynch
10/1998-12/1998	Kaufmann Foundation
3-7/1997,2003-06	Charles River Analytics
6/1995,5/1998	Mellon Bank
5-7/1994,10-12/199	American Red Cross — Initial Response Crisis Management Training Seminar
5/1989-2/1990	Center for Strategic Decision Research — Org. Structure for R&D Funding
4/1987-10/1987	Thomson, Rhodes and Cowie, Pittsburgh, PA. — IS
6/1982-8/1984	School for English as a Foreign Language, Harvard University — IS
6/1983	Metametrics Corporation, Carlisle, MA. — Statistical Consultant
12/1981-8/1984	Harvard University — Programmer/Consultant

## INTERESTS

Kathleen M. Carley's research combines cognitive science, social networks and computer science to address complex social and organizational problems. Her specific research areas are dynamic network analysis, computational social and organization theory, adaptation and evolution, text mining, and the impact of telecommunication technologies and policy on communication, information diffusion, disease contagion and response within and among groups particularly in disaster or crisis situations. She and her lab have developed infrastructure tools for analyzing large scale dynamic networks and various multi-agent simulation systems. The infrastructure tools include ORA, a statistical toolkit for analyzing and visualizing multi-dimensional networks. ORA results are organized into reports that meet various needs such as the management report, the mental model report, and the intelligence report. Another tool is AutoMap, a text-mining system for extracting semantic networks from texts and then cross-classifying them using an organizational ontology into the underlying social, knowledge, resource and task networks. Her simulation models meld multi-agent technology with network dynamics and empirical data. Three of the large-scale multi-agent network models she and the CASOS group have developed in the counter-terrorism area are: BioWar a city-scale dynamic-network agent-based model for understanding the spread of disease and illness due to natural epidemics, chemical spills, and weaponized biological attacks; DyNet a model of the change in covert networks, naturally and in response to attacks, under varying levels of information uncertainty; and RTE a model for examining state failure and the escalation of conflict at the city, state, nation, and international as changes occur within and among red, blue, and green forces. Dr. Carley is the director of the center for Computational Analysis of Social and Organizational Systems (CASOS) which has over 25 members, both students and research staff. She is the founding co-editor with Al. Wallace of the journal Computational Organization Theory and has co-edited several books in the computational organizations and dynamic network area.

## BOOKS

- Kathleen M. Carley, et al., 2008, Behavioral Modeling and Simulation: From Individuals to Societies, Washington, DC: National Academy Press.
- Kathleen M. Carley, et al., 2006, Modeling Community Containment for Pandemic Influenza: A Letter Report, Washington, DC: National Academy Press.
- Sallie Keller-McNulty, Kirstie L. Bellman, Kathleen M. Carley, et al., 2006, Defense Modeling, Simulation, and Analysis: Meeting the Challenge, Washington, DC: National Academy Press.
- Zhiang Lin and Kathleen M. Carley, 2003, Designing Stress Resistant Organizations: Computational Theorizing and Crisis Applications, Boston, MA: Kluwer.
- Ronald Breiger, Kathleen M. Carley, and Philippa Pattison (Eds.). 2003. Dynamic Social Network Modeling and Analysis: Workshop Summary and Papers. Committee on Human Factors, Board on Behavioral, Cognitive, and Sensory Sciences. Washington, DC: National Academy Press.
- Michael J. Prietula, Kathleen M. Carley and Les Gasser (Eds.), 1998, Simulating Organizations: Computational Models of Institutions and Groups, Menlo Park, CA: AAAI Press / The MIT Press.
- Robert W. Lawler and Kathleen M. Carley, 1996, Advanced Qualitative Methods in the Study of Human Behavior: Case Study and Computing, Norwood, NJ: Ablex.
- Kathleen M. Carley and Michael J. Prietula (Eds.), 1994, Computational Organization Theory, Hillsdale, NJ:

Lawrence Erlbaum Associates.

David S. Kaufer and Kathleen M. Carley, 1993, *Communication at a Distance: The Effect of Print on Socio-Cultural Organization and Change*, Hillsdale, NJ: Lawrence Erlbaum Associates.

## MONOGRAPHS

- Kathleen M. Carley (panel member), 2006, *Defense Modeling, Simulation, and Analysis: Meeting the Challenge*, National Research Council, National Academy Press. Washington, D.C.
- Kathleen M. Carley (panel member), 1998, *Modeling Human and Organizational Behavior: Application to Military Simulations*, Final Report, Richard W. Pew and Anne S. Mavavor, editors. National Research Council, National Academy Press. Washington D.C., <http://www.nap.edu/readingroom/enter2.cgi?0309060966.html>.
- Kathleen M. Carley (panel member), 1997, *Representing Human Behavior in Military Simulations*, Interim Report, Richard W. Pew and Anne S. Mavavor, editors. National Research Council, National Academy Press. Washington D.C.

## ARTICLES: ORGANIZATIONAL THEORY

### REFEREED PUBLICATIONS

- Marcelo Cataldo, Jim D. Herbsleb, and Kathleen M. Carley, 2008, "Socio-Technical Congruence: A Framework for Assessing the Impact of Technical and Work Dependencies on Software Development Productivity," In *Proceedings of the 2nd International Symposium on Empirical Software Engineering and Measurement*, Kaiserslautern, Germany. ACM Distinguished Paper Award.
- Jacqueline Merrill, Michael Caldwell, Maxine L Rockoff, Kristine Gebbie, Kathleen M Carley, and Suzanne Bakken, 2008, "Findings from an organizational network analysis to support local public health management," *Journal of Public Urban Health*, Vol 85(4), 572-584. Available from: <http://www.springerlink.com/content/613k7446u8886452/>.
- Craig Schreiber and Kathleen M. Carley, 2008, "Dynamic Network Leadership: Leading for Learning Adaptability," pps. 291 – 332 in Mary Uhl-Bien and Russ Marion (eds.): *Complexity Leadership Part I: Conceptual Foundations*, Charlotte, NC: Information Age Publishing, Inc.
- Carter T. Butts and Kathleen M. Carley, 2007, "Structural Change and Homeostasis in Organizations: A Decision-Theoretic Approach", *Journal of Mathematical Sociology*, Vol 31(4), 295 - 321.
- Jacqueline Merrill, Suzanne Bakken, Maxine Rockoff, Kristine Gebbie, Kathleen M. Carley, 2006, "Description of a method to support public health information management: Organizational network analysis," *Journal of Biomedical Informatics*, Vol. 40 (4), 422 - 428.
- Il-Chul Moon and Kathleen M. Carley, 2006, "Estimating the near-term changes of an organization with simulations," *Proceeding of AAAI Fall Symposium*, pp 111-118, Arlington, VA, Oct 12-15, 2006.
- Zhiang Lin, Xia Zhao, Kiran Ismail and Kathleen M. Carley, 2006, "Organizational Design and Restructuring in Response to Crises: Lessons from Computational Modeling and Real World Cases," *Organizational Science*, 17, 598-618.
- Craig Schreiber and Kathleen M. Carley, 2006, "Leadership style as an enabler of organizational complex functioning," *E:CO Issue Vol. 8 No. 4*, 45 – 60. Reprinted in as ch. 12 in *Complex Systems Leadership Theory*, Hazy, J. K., Goldstein, J. A. & Lichtenstein, B. B. (Eds.) (eds.) Mansfield, MA: ISCE Publishers, p. 227 – 246.
- Kathleen M. Carley, 2006, "A Dynamic Network Approach to the Assessment of Terrorist Groups and The Impact of Alternative Courses of Action," In *Visualising Network Information*. Meeting Proceedings RTO-MP-IST-063. Neuilly-sur-Seine, France: RTO, 12 - 14. Available from: [http://www.vistg.net/documents/IST063\\_PreProceedings.pdf](http://www.vistg.net/documents/IST063_PreProceedings.pdf).
- Marcelo Cataldo, Patrick Wagstrom, James Herbsleb, and Kathleen M. Carley, 2006, "Identification of Coordination Requirements: Implications for the design of collaboration and awareness tools", *Computer Supported Cooperative Work*, Banff, Alberta, Canada, Best Papers of CSCW 2006, 353 - 362. Available from: <http://delivery.acm.org/10.1145/1190000/1180929/p353-cataldo.pdf?key1=1180929&key2=6491909811&coll=GUIDE&dl=GUIDE&CFID=34171964&CFTOKEN=77758590>. Best Paper CSCW 2006, Awarded by ACM SIGCHI.
- Yuqing Ren and Kathleen M. Carley, 2006, "The Contingent Effects of Transactive Memory: When Is It More Beneficial to Know What Others Know?," *Management Science*, Vol.52, No.5, 2006, 671-682.
- Michael Ashworth and Kathleen M. Carley, 2006, "Who you know vs. what you know: The impact of social position and knowledge on team performance," *Journal of Mathematical Sociology*, 30(1), 43-75.

- Jana Diesner, Terrill Frantz, and Kathleen M. Carley, 2005, "Communication Networks from the Enron Email Corpus "It's Always About the People. Enron is no Different," *Computational and Mathematical Organization Theory*, 11(3), 201 – 228.
- Judith .A. Effken, Barbara B. Brewer, Anita Patil, Gerri S. Lamb, Joyce A. Verran, and Kathleen M. Carley, 2005, "Using OrgAhead, a computational modeling program, to improve patient care unit safety and quality outcomes," *International Journal of Medical Informatics*, 74, 7-8.  
<http://authors.elsevier.com/sd/article/S1386505605000183>
- Judith A. Effken, Barbara B. Brewer, Anita Patil, Gerri S. Lamb, Joyce A. Verran and Kathleen M. Carley, 2003, "Using computational modeling to transform nursing data into actionable information," *Journal of Biomedical Informatics*, 36(4-5), 351-361. Available online at [www.sciencedirect.com](http://www.sciencedirect.com).
- Kathleen M. Carley, 2003, "Computational Organizational Science and Organizational Engineering," *Simulation Modeling Practice and Theory*, 10 (5-7), p.253-269.
- Manju K. Ahuja, Dennis F. Galletta, and Kathleen M. Carley, 2003, "Individual Centrality and Performance in Virtual R&D Groups: An Empirical Study," *Management Science*, 49(1), p. 21-38, DOI: 10.1287/mnsc.49.1.21.12756.
- Maksim Tsvetov and Kathleen M. Carley, 2002, "Emergent Specializations in a Commodity Market: A Multi-Agent Model," *Journal of Computational and Mathematical Organization Theory*, 8: 221-234.
- Kathleen M. Carley, 2000, "Computational Analysis of Social and Organizational Systems," *Organizational Science*, 34(2): 4-10. It is published from Hakuto-Shobo Pub. Co., Tokyo Japan. ISSN 0286-9713, Printed in Japan (in Japanese).
- Pamela Hinds, Kathleen M. Carley, David Krackhardt, and Doug Wholey, 2000. "Choosing Workgroup Members: The Balance of Similarity, Competence, and Familiarity," *Organizational Behavior and Human Decision Making Processes*. 81(2):226-251.
- Ruth Cohen, Kathleen M. Carley, John R. Harrald and William A. Wallace, 2000, "Emotions in Crisis Management: An Analysis of Organizational Response to Two Natural Disasters." *International of Journal of Technology Management, Special Issue on Public Policy Engineering Management; Guest Editor G. Beroggi*. 19 (3/4/5): 313-335.
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- Michael Prietula and Kathleen M. Carley, 1999, "Exploring the Effects of Agent Trust and Benevolence in a Simulated Organizational Task," *Applied Artificial Intelligence*, 13(3): 321-338.
- Ruth Cohen, Laurie Waisel, Kathleen M. Carley and William A. Wallace, 1998, "The Pothole Lake Fire: An Analysis of Emotion in a Successful Emergency Response," *Safety Science*, 30: 183-207. Special Issue on The International Emergency Management Society Conference, Guest Editor G. Beroggi.
- Kathleen M. Carley, Michael J. Prietula and Zhiang Lin, 1998, "Design versus Cognition: The Interaction of Agent Cognition and Organizational Design on Organizational Performance," *Journal of Artificial Societies and Social Simulation*, 1(3):1-19. 30 June 1998 at <<http://www.soc.surrey.ac.uk/JASSS/>>, 1: paper 4.
- Kathleen M. Carley, 1998, "Organizational Adaptation," *Annals of Operations Research*. 75: 25-47.
- Kathleen M. Carley and Zhiang Lin, 1997, "A Theoretical Study of Organizational Performance under Information Distortion." *Management Science*. 43(7): 976-997.
- Zhiang Lin and Kathleen M. Carley, 1997, "Organizational Decision Making and Error in a Dynamic Task Environment," *Journal of Mathematical Sociology*, 22(2): 125-150.
- Zhiang Lin and Kathleen M. Carley, 1997, "Organizational Response: The Cost Performance Tradeoff," *Management Science*. 43(2): 217-234.
- Kathleen M. Carley and John Harrald, 1997, "Organizational Learning Under Fire: Theory and Practice," *American Behavioral Scientist*, 40(3): 310-332.
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- Kathleen M. Carley and David M. Svoboda, 1996, "Modeling Organizational Adaptation as a Simulated Annealing Process," *Sociological Methods and Research*, 25(1): 138-168.
- Mei Ye and Kathleen M. Carley, 1995, "Radar-Soar: Towards An Artificial Organization Composed of Intelligent Agents," *Journal of Mathematical Sociology*, 20(2-3): 219-246.
- Zhiang Lin and Kathleen M. Carley, 1995, "DYCORP: A Computational Framework for Examining Organizational Performance Under Dynamic Conditions," *Journal of Mathematical Sociology*, 20(2-3): 193-218.

- Kathleen M. Carley, 1995, "Computational and Mathematical Organization Theory: Perspective and Directions," *Computational and Mathematical Organization Theory*, 1(1): 39-56.
- Kathleen M. Carley and Zhiang Lin, 1995, "Organizational Designs Suited to High Performance Under Stress," *IEEE - Transactions on Systems Man and Cybernetics*, 25(1): 221-230.
- Kathleen M. Carley, 1994, "Sociology: Computational Organization Theory," *Social Science Computer Review*, 12(4): 611-624.
- Michael J. Prietula and Kathleen M. Carley, 1994, "Computational Organization Theory: Autonomous Agents and Emergent Behavior," *Journal of Organizational Computing*, 41(1): 41-83.
- Zhiang Lin and Kathleen M. Carley, 1993, "Proactive or Reactive: An Analysis of the Effect of Agent Style on Organizational Decision Making Performance," *International Journal of Intelligent Systems in Accounting, Finance and Management*, 2(4): 271-288.
- Kathleen M. Carley, 1992, "Organizational Learning and Personnel Turnover," *Organization Science*, 3(1): 20-46. Reprinted in *Organizational Learning*, edited by Michael D. Cohen and Lee S. Sproull, 1996, Thousand Oaks, CA: Sage.
- Kathleen M. Carley, 1991, "Designing Organizational Structures to Cope with Communication Breakdowns: A Simulation Model," *Industrial Crisis Quarterly*, 5: 19-57.

### ***CHAPTERS IN EDITED VOLUMES AND PROCEEDINGS***

- Carley, Kathleen M. & Frantz, Terrill L., 2009, "Modeling Organizational and Individual Decision Making." In Andrew P. Sage & William B. Rouse (Eds.), *Handbook of Systems Engineering and Management*, pp. 723-762. New York: Wiley.
- Frantz, Terrill L. & Carley, Kathleen M. (in press), "Computationally Modeling the Effect of Organizational Complexity on Post-merger Integration," In Cary L. Cooper and Sydney Finkelstein (Eds), *Advances in Mergers and Acquisitions*, Vol.8. Oxford, UK: JAI Press.
- Craig Schreiber and Kathleen M. Carley, 2007, "Agent Interactions in Construct: An Empirical Validation using Calibrated Grounding," 2007 BRIMS Conference Proceedings, Norfolk, VA, 07-BRIMS-054, Pp 1 - 6.
- Shawn A. Weil, Pacey Foster, Jared Freeman, Kathleen M. Carley, Jana Diesner, Terrill Frantz, Nancy J. Cooke, Steve Shope, and James Gorman, 2008, "Converging approaches to automated communications-based assessment of team situation awareness," *Macro-cognition in Teams*. Letsky, M., Warner, N., Fiore, S., & Smith, C., Editors. Ch. 16, 277-304, Ashgate: United Kingdom.
- Kathleen M. Carley, 2006, "Adattamento organizzativo e tecnologia: un modello computazionale," In V. Albino, N. Carbonara, I. Giannoccaro (Eds.) "Organizzazioni e Complessita'. Muoversi tra ordine e caos per affrontare il cambiamento," Franco Angeli, Milano. pp. 139-160.
- Jana Diesner and Kathleen M. Carley, 2005, "Exploration of Communication Networks from the Enron Email Corpus," *Proceedings of the Workshop on Link Analysis, Counterterrorism and Security, SIAM International Conference on Data Mining 2005*, pp. 3-14. Newport Beach, CA.
- Judith A. Effken, Barbara B. Brewer, Anite Patil, Gerri S. Lamb, Joyce A. Verran, and Kathleen M. Carley, 2004, "Using computational modeling to improve patient care unit safety and quality outcomes," In M. Fieschi et al., (Eds.), *Proceedings of MedInfo 2004*, Amsterdam: IOS Press, Received the AMIA Harriet Werley Award, Part 1, 726 - 730.
- Michael Ashworth and Kathleen M. Carley, 2004, "Toward Unified Organization Theory: Perspectives on the State of Computational Modeling," In *Proceedings of the NAACSOS 2004 Conference*, Pittsburgh, PA, Electronic Publication:  
[http://www.casos.cs.cmu.edu/events/conferences/2004/2004\\_proceedings/Ashworth\\_NAACSOS\\_2004Paper.pdf](http://www.casos.cs.cmu.edu/events/conferences/2004/2004_proceedings/Ashworth_NAACSOS_2004Paper.pdf).
- Robert Behrman and Kathleen M. Carley, 2004, "Social Network Influences on Strategic Choices," In *Proceedings of the NAACSOS 2004 Conference*, Pittsburgh, PA, Electronic Publication:  
[http://www.casos.cs.cmu.edu/events/conferences/2004/2004\\_proceedings/Behrman,Robert.pdf](http://www.casos.cs.cmu.edu/events/conferences/2004/2004_proceedings/Behrman,Robert.pdf).
- Craig Schreiber and Kathleen M. Carley, 2004, "Key Personnel: Identification and Assessment of Turnover Risk", In *Proceedings of the NAACSOS 2004 Conference*, Pittsburgh, PA, Electronic Publication:  
[http://www.casos.cs.cmu.edu/events/conferences/2004/2004\\_proceedings/Schreiber,Craig.pdf](http://www.casos.cs.cmu.edu/events/conferences/2004/2004_proceedings/Schreiber,Craig.pdf).
- Judith A. Effken, Barbara B. Brewer, Anita Patil, Gerri S. Lamb, Joyce A. Verran, and Kathleen M. Carley, 2003, "Using Computational Modeling to Study the Impact of Workplace Characteristics on Patient Safety Outcomes," In *Proceedings of the AMIA2003 Symposium: Biomedical and Health Informatics: From Foundations to Applications*, Electronic Publication:  
<http://www.casos.cs.cmu.edu/bios/carley/publications.php>.
- Matthew Dombroski, Paul Fischbeck and Kathleen M. Carley, 2003, "Estimating the Shape of Covert Networks" In

- Proceedings of the 8th International Command and Control Research and Technology Symposium. Conference held at the National Defense War College, Washington DC. Evidence Based Research, Track 3, Electronic Publication, [http://www.dodccrp.org/events/2003/8th\\_ICCRTS/pdf/040.pdf](http://www.dodccrp.org/events/2003/8th_ICCRTS/pdf/040.pdf), Vienna, VA.
- Kathleen M. Carley, Matthew Dombroski, Max Tsvetovat, Jeffrey Reminga, and Natasha Kamneva, 2003, "Destabilizing Dynamic Covert Networks" In Proceedings of the 8<sup>th</sup> International Command and Control Research and Technology Symposium. Conference held at the National Defense War College, Washington DC. Evidence Based Research, Track 3, Electronic Publication, [http://www.dodccrp.org/events/2003/8th\\_ICCRTS/pdf/021.pdf](http://www.dodccrp.org/events/2003/8th_ICCRTS/pdf/021.pdf), Vienna, VA.
- Robert Behrman and Kathleen M. Carley, 2003, "Modeling the Structure and Effectiveness of Intelligence Organizations: Dynamic Information Flow Simulation," In Proceedings of the 8<sup>th</sup> International Command and Control Research and Technology Symposium. Conference held at the National Defense War College, Washington DC. Evidence Based Research, Track 7, Electronic Publication, [http://www.dodccrp.org/events/2003/8th\\_ICCRTS/pdf/064.pdf](http://www.dodccrp.org/events/2003/8th_ICCRTS/pdf/064.pdf), Vienna, VA.
- Kathleen M. Carley, 2002, "Inhibiting Adaptation" In Proceedings of the 2002 Command and Control Research and Technology Symposium," Conference held in Naval Postgraduate School, Monterey, CA. Evidence Based Research, Track 3, Electronic Publication, [http://www.dodccrp.org/events/2002/CCRTS\\_Monterey/Tracks/pdf/023.PDF](http://www.dodccrp.org/events/2002/CCRTS_Monterey/Tracks/pdf/023.PDF), Vienna, VA.
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- Doug Wholey, Sara Kiesler and Kathleen M. Carley, "Learning Teamwork: Emergence of Communication and Structure in Novice Software Development Teams." Social and Decisions Sciences, Carnegie Mellon University.
- Kathleen M. Carley and David Krackhardt, "A Structural Perspective on Organizational Cognitions: Attributions of Power, Performance, and Attitudes." Working Paper, H.J. Heinz III School of Public Policy and Management, Carnegie Mellon University.

## RESEARCH SUPPORT

- 2008-2013 Kathleen Carley, PI, "A Structural Approach to the Incorporation of Cultural Knowledge in Adaptive Adversary Models," Office of Naval Research, N000140811186, \$7,500,000.
- 2008-2012 Kathleen Carley, PI, "Architecture to Support Socio-Cultural Modeling," Office of Naval Research, N000140811223, \$2,743,000.
- 2008-2011 Kathleen Carley PI, "Resilient Architectures for Integrated C2 in a Contested Cyber Environment," George Mason University, E2016762, \$262,583.
- 2008-2011 Kathleen Carley PI, "Massively Multiplayer Online Games (MMOG) - Social and Cultural Model Embedding Technologies," Office of Naval Research, \$300,000.
- 2008-2010 Kathleen Carley, PI, "Visualization of Belief Systems," Alion Science & Technology, 1193343, \$238,000.
- 2008-2009 Kathleen Carley, PI, "IRS," IRS, TIRNO08E00040, \$1,400,000.
- 2008-2008 Kathleen Carley, PI, "Sensemaking Technology for Adversary Tactics Estimation," Lockheed Martin, \$25,000.
- 2007-2012 Kathleen Carley, PI, "Improved Data Extraction and Assessment for Dynamic Network Analysis," ARI, W91WAW07C0063, \$1,068,890.
- 2007-2009 Kathleen Carley, PI, "Extension to BioDefense: A Social-Network Multi-Agent Model for City and Force Defense," ONR, Navy, N00014-07-1-0696, \$49,910.
- 2007-2009 Kathleen Carley, PI, "Geo-Spatial Enabled Dynamic Network Analysis Relation: Linkages of ORA & ARC-GIS & Development of Geospatial DNA Metrics," Army Research Office, W911NF0710317, \$135,006.
- 2007-2009 Kathleen Carley, PI, "Dynamic Network Analysis Application to Counter-Narcotic Investigations Related to Marijuana," Office of Naval Research, N00014-06-1-0104 (Mod#2), \$434,090.
- 2007-2008 Kathleen Carley, PI, "Determine Ability to Model Terrorist Networks Unit," Navy, \$585,000.
- 2007-2008 Kathleen Carley, PI, "ROE-Rules of Engagement," Office of Naval Research, N00014-06-1-0104, \$225,000.
- 2007-2008 Kathleen Carley, PI, "Communications and Networks Technology Collaborative Alliance," Army Research Lab (Telecordia), 20002504, \$225,000.
- 2007-2009 Kathleen Carley, PI, "DyNads: A Dynamic Network Analysis Decision Support Tool for Nurse Managers," University of Arizona, \$294,369.
- 2007-2008 Kathleen Carley, PI, "TAVI," West Virginia High Technology Consortium, WVHTCFTAVI071375, \$389,294.
- 2007-2008 Kathleen Carley, PI, "Context Sensitive DNA to Support Military Missions," ARL, W911NF0710060, \$100,000.
- 2007-2008 Kathleen Carley, PI, "SPAWAR," Naval Surface Warfare Center, N0016403D6623, \$574,643.
- 2007-2008 Kathleen Carley, PI, "Course of Action Analysis Using Integrated Micro and Macro Models of Adversarial Interaction and Activity (CAPES)," Air Force, FA8650-07-C-6769, \$70,000.

K. M. Carley August 17, 2009

2007-2008 Kathleen Carley, PI, "Comparison of Public Health Organizational Structures Using Dynamic Network Analysis," Columbia University, RW Johnson, 1641170, \$98,109.

2006-2008 Kathleen Carley, PI "Adaptive Model Based Adversarial Reasoning System (AMARS), Charles River Analytics, Air Force, SC060701, \$200,000.

2006-2007 Kathleen Carley, PI, "Dynamic Network Analysis Support for Evolution of Maritime Strategy," ONR, \$75,000.

2006-2007 Kathleen Carley, PI, "SNA for Communication Networks," ARL, Telecordia Technologies, \$120,000.

2006-2007 Kathleen Carley, "Group Dynamic Tool," HUMRRO, CIA, N181400, \$263,702.

2006-2007 Kathleen Carley, PI "Visualization of Belief Networks (VIBES)," Alion Science and Technology, Army, DAAD19-01C0065, \$125,000.

2006-2007 Kathleen Carley, PI "Agent Based Simulation Research," IRS, TIRNO06C00073, \$350,045.

2006-2008 Kathleen Carley, PI "Communications and Networks Technology Collaborative Alliance," Telecordia, Army, 20002504, \$250,000.

2006-2007 Kathleen Carley, PI "CUBRC," CRADEMS, 06806-01, \$90,500.

2006-2007 Kathleen Carley, PI "Dynamic Network Analysis in Support of Dynamic Cultural Preparation of the Environment," ONR (IDA), N00014-06-1-0772, \$67,725.

2006-2008 Kathleen Carley, PI, "Context Sensitive DNA to Support Military Missions," Army Research Laboratory, \$100,000.

2006-2008 Kathleen Carley, PI "MOAT Phase II, C2 Insight," CHISYSTEMS, DARPA, N0000610921, \$160,000.

2006-2008 Kathleen Carley, PI "Network Analysis and Computational Modeling for Combating Terrorist Threats DYNET MMVOIA/Quick Reaction Fund," ONR, N000140610921, \$350,000.

2006-2008 Kathleen Carley, PI "Advanced Decision Architecture (ADA) Collaborative Technology Alliance (CTA)," Alion Science and Technology, ARL, DAAD19-01-2-0009, \$232,207.

2005-2010 Kathleen Carley, PI "Computational Modeling of Cultural Dimensions in Adversary Organization (MURD)," George Mason University, Air Force, 600322GRGMASON with George Mason University), \$1,384,602

2005-2009 Kathleen Carley, PI "Dynamic Network Analysis Applications to Support Over Time Analysis and Identification of Covert Networks with Specific Application to the Assessment of Merchant Marine Traffic," ONR N00014-06-1-0104, \$675,900.

2005-2007 Kathleen Carley, PI "A Human-Centric Architecture for Net-Centric Operations (IMAGES Phase II)," ONR 0251-1185-NAVY (with Aptima), \$210,000.

2005-2006 Kathleen Carley, PI "BioDefense" ONR N00014-06-1-0252, \$171,548.

2005-2007 Kathleen Carley, PI "Collaboration: IOC: Modeling the Social Actor" NSF SES-0452487, \$168,702.

2005-2006 Kathleen Carley, PI "ACUMEN", DARPA, FA8650-05-C-7222 (with Aptima), \$145,000

2004-2006 Kathleen Carley, PI "Mass Casualty Model to Support MMRS Training and Analysis Requirements", DHS- Hampton Roads Planning District Commission EMW-2004-GR-0816 (with ODU), \$152,187.

2004-2006 Kathleen Carley, PI "NORM II: Networks in Organizational Risk Management-Phase II" NASA 0225-1160-APTIMA (with Aptima), \$200,000.

2004- 2005 Kathleen Carley, PI "OPERA", IRS A003840-EBR (with EBR), \$30,000.

2004- 2005 Kathleen Carley, PI "Support of CEBO", ARL 8032.000.04-MAAD (with SAIC), \$9,000.

2004- 2005 Kathleen Carley, PI "Universal Collaboration Environment", DOD 800504208-MAAD (with MAAD), \$81,082

2004-2005 Kathleen Carley, PI "Dynamics for Social Network Processes: Comparing Statistical Models with Intelligent Agents," National Science Foundation, DMS-0437239, \$80,001.

2004-2005 Kathleen Carley, PI "Visualizations for Sensor Processing and Analyzed Communications Exchanges: MOAT version 1," DARPA, 05003-01 (with CHI Systems), \$254,000.

2004-2005 Kathleen Carley, PI "A Human-Centric Architecture for Net-Centric Operations- Images phase 1," ONR 0251-1185 (with Aptima) , \$25,000.

2004 Kathleen Carley, PI "Social Network Support for Rolling Start Experiment of Decision Support Systems for Integrated Battle," ARL DAAD19-01-2-0009 (with MAAD), \$30,083.

2004-2005 Kathleen Carley, PI "Application of ORA to Army C3I," ARL, \$144,346.

2004-2005 Kathleen Carley, PI "Nemesis," DOD 0253-1128-APTIMA (with Aptima), \$60,000.

2003-2005 Kathleen Carley, PI “Automated Link Analysis for Data-Mining of Distributed Information (ALLADIN)” DARPA, SC035201-CHARRIVER (with Charles River Analytics), \$200,000.

2003-2004 Kathleen Carley, PI “Adaptation of Network Measures to Dynamic Gaming Environments,” DARPA N00014-02-1-0973, \$115,000.

2003-2004 Kathleen Carley, PI “Group Dynamic Tool”, CIA PO211-HUMRRO (with HumRRo), \$78,517.

2003-2005 Kathleen Carley, PI “CORES,” DARPA 0177-1132-APTIMA (with Aptima), \$249,206.

2003-2005 Kathleen Carley, PI “VISTA,” ARL (with Aptima), \$270,000.

2002-2006 Kathleen Carley, PI “MKIDS: Dynamic Network Analysis Under Uncertainty,” NSF (KDI) IIS-0218466-NSF, \$595,942.

2002-2006 Kathleen Carley, PI “Dynamic Network Analysis: Estimating Their Size, Shape and Potential Weaknesses,” ONR N0001140210973-NAVY, \$352,000.

2002-2004 Kathleen Carley, PI, “Modeling Distributed Denial of Service Attacks,” NSF ITR-0218466, \$223,032

2002-2003 Kathleen Carley, Eleanor Lewis, “Doctoral Dissertation Research: Talking the Talk – Isomorphism in Organizational Discourse,” NSF 0201706, \$2,250.

2001-2003 Kathleen Carley, Carter Butts, “Doctoral Dissertation Research: Spatial Models of Large-Scale Interpersonal Networks,” NSF 0100999, \$6,512.

2001-2002 Kathleen Carley, Jim Garret and Louise Comfort, Co-PIs, “A Case-Study in Modeling Organizational Structure and Operation: The American Red Cross in Pennsylvania”, PITA, \$17,000

2001-2004 Kathleen Carley, Mike Wagner (University of Pittsburgh) Co-PIs, “Scalable Biosurveillance Systems,” DARPA f30602-01-2-0550, \$3,653,000

2000-2001 Kathleen Carley, senior investigator, Agency for Healthcare Research and Quality (AHRQ) task order to MPC Corporation (Bio Medical Security Institute), “Using Information Technology to Improve Clinical Preparedness for Bioterrorism,” part of large project between CMU and the University of Pittsburgh, \$1,020,652 (total) Contract No. 290-00-0009 \$90,012 (to CMU)

2000-2002 Kathleen Carley, William A. Wallace (RPI), Co-PIs, National Science Foundation, “Trust and the Information Consumer: Creating and Evaluating Trustworthy Information Products,” NSF ITR/IM IIS-0081219: \$229,714 (to CMU)

2000-2002 Kathleen Carley, Linda Argote, Richard Moreland (Pitt), John Levine (Pitt), Co-PIs, Army Research Labs, “Personnel Turnover and Team Performance,” ARL \$229,748 (to CMU)

2000-2001 Kathleen Carley, PI, “Surveillance and Vulnerability Assessment in Intelligent Spaces,” PITA, \$17,000

2000-2003 Kathleen Carley, PI, Office of Naval Research, “Constraint Based Team Transformation and Flexibility Analysis” under “Adaptive Architectures,” ONR N00014-97-1-0037, \$79,850

1999-2009 Kathleen Carley, PI, National Science Foundation, “Integrated Graduate Education and Research Training in Computational Analysis of Social and Organizational Systems (CASOS),” NSF IGERT 9972762, \$2,485,000.

1999-2007 Kathleen Carley, PI “IGERT: Formal Proposal: Multidisciplinary Training Program in Computational Analysis of Social and Organizational Systems,” NSF DGE-9972762, \$2,619,970.

1999-2002 Kathleen Carley, PI, National Science Foundation, “KDI: Co-evolution of Knowledge Networks and 21st Century Organizational Forms: Computational Modeling and Empirical Testing.” With UIUC — Nosh Contractor, Stan Wasserman, Stanford — Francois Bar, Ray Levitt, John Kunz, USC — Janet Fulk, Peter Monge. NSF KDI IIS-9980109, \$1,500,000.

1999-2000 Kathleen Carley, PI, “Information Security Assessment and Organizational Design,” PITA, \$60,068.75.

1999-2000 Kathleen Carley, PI, Office of Naval Research, “Design, Evaluation and Analysis Activity in Support of COMCARGRU-1,” ONR, \$97,260

1999-2000 Kathleen Carley, PI, Heinz School CMU, “Threatfinder tool for Security Game,” Heinz, \$5,000

1998-2003 Kathleen Carley, PI, “Measuring and Modeling Adaptive Architectures for Command and Control,” Office of Naval Research 1681.12.1140053, \$706,724

1989-1999 Kathleen Carley, PI, Heinz School CMU, “Threatfinder tool for Security Game,” Heinz, \$5,000

1998-1999 Kathleen Carley, PI, “Surveillance and Vulnerability Assessment in Intelligent Spaces,” PITA, \$50,000.

1998-2000 Kathleen Carley, PI, National Science Foundation, “The Dynamics of Cyberspace Examining and Modeling”, NSF CSS 9711548, \$47,086.

- 1997-1999 Paul Goodman, Kathleen Carley, Rangaraj Ramanujam, (Co-PIs) “The Role of Redundancy in Organizational Errors”, Citibank Behavioral Sciences Research Council., \$15,000.
- 1996-2004 Kathleen Carley, PI “Measuring and Modeling Adaptive Architectures for Command and Control,” NAVY (with Office of Naval Research), \$994,778.
- 1996-1999 Kathleen Carley, PI, Office of Naval Research, “Measuring C2 Adaptation,” ONR N00014-97-1-0037, \$357,683.
- 1996-1998 Kathleen Carley, PI, National Science Foundation, “Organizational Adaptation” NSF IRI 9633662, \$206,374.
- 1995-1998 Zhiang Lin, Kathleen Carley, and Chun Hui, (Co-PIs) “A Structural Analysis Of Organizational Decision Making Performance: With Applications To Selected Nuclear Power Plants” Earmarked Research Grant 1995-97, Research Grant Council of Hong Kong. HKUST533/95H. HK\$250,000 (=US\$35,000).
- 1995 Kathleen Carley, PI, Quick Response Grant from Natural Hazards Research and Applications Information Center — “Inter-organizational response to crisis and use of technology.” Faculty Investigator with Diana Gant apx. \$5000.
- 1993 Kathleen Carley, PI, Quick Response Grant from Natural Hazards Research and Applications Information Center — “Inter-organizational response to crisis”. Co-Principal Investigator with Jack Harrald (GWU) apx. \$5000.
- 1993-1996 Kathleen Carley, PI, ONR Grant N00014-93-1-0793 (UConn FRS 521676) “Adaptation of Organizational Structure to Task Environment” - CMU subcontract - \$268,950.
- 1993-2000 Kathleen Carley, Linda Argote, Mark Fichman, David Krackhardt, (Co-PIs) “Graduate Training Program in Groups, Technology and Organizational Effectiveness”, NSF GRT9354995, \$557,500
- 1993 Kathleen Carley, Sara Kiesler, Doug Wholey (Co-PIs) From NSF for research on “Learning Teamwork: Studies of Training in Software Development”. IRI-9216760 — \$285,768.
- 1991 Kathleen Carley, PI, Quick Response Grant from Natural Hazards Research and Applications Information Center — “Applied to Hurricane Andrew” — Co-Principal Investigator with Jack Harrald (GWU) approx. \$5000.
- 1991 Kathleen Carley and Mike Prietula, (Co-PIs), National Science Foundation, “Plural-Soar: Towards the Development of a Cognitively Motivated Theory of Organizations,” NSF IRI-9111804, \$141,611.
- 1990 Kathleen Carley, senior investigator, From ONR for research on “Hierarchies and Stress” — Alan Lesgold (PI) and John Levine at LRDC, University of Pittsburgh Senior Investigator \$450,000.
- 1987 Kathleen Carley, PI, National Science Foundation, “Frame Based Decision Making in a Distributed Decision Making Environment,” NSF SES 70-7005, \$80,000.
- 1986 Kathleen Carley, senior investigator, From ONR for research on “Applications of Concurrency Control Theory to Distributed Decision Making” - approx. \$10,000, investigator: Lehoczky and Sha (CO-PIs).
- 1986 Kathleen Carley, PI, National Science Foundation, “Knowledge Acquisition as a Social Phenomenon,” NSF IST-8607303, \$30,161.
- 1984-85 Kathleen Carley, PI. Center for the Design of Educational Computing “NETWORKER,” \$4,500
- 1986-88 Kathleen Carley, investigator, NSF for “Electronic Diffusion” part of EXPRES project , \$84,000 to Carley.
- 1985-90 Kathleen Carley, investigator, DARPA for “An Expert System for Doing Social Theory,” PI Allen Newell.
- 1984-85 Kathleen Carley, PI. Committee for Social Science Research on Computing “Expert Systems Research,” \$29,000.
- 1984-85 Kathleen Carley, PI. Mellon Foundation Program in Technology and Society for research on “Communication and Structure,” \$1500.
- 1984 Kathleen Carley, PI. Information and Technology Center at CMU for “Educational Software Development,” 2 SUN workstations — apx. \$50,000. Co-principal Investigator with Paul Anderson, Marc Kelner, and Lee Sproull.
- 1980 Kathleen Carley, PI. RIAS “Individual Choice Behavior, 2 Person 2 Choice games,” \$1000.
- 1979 Kathleen Carley, PI. RIAS “Mathematical Models of Organizational Behavior,” \$1500.

#### INVITED KEYNOTES AND PLENARY TALKS

- 7/2009 “Dynamic Network Analysis and Security” CISDA Computational Intelligence for Security and Defense Applications 2009, Ottawa, Ontario

- 6/2009 “Dynamic Network Analysis: New Capabilities and a Look into the Future.” Human Behavior-Computational Intelligence Modeling Conference 2009, Oak Ridge, Tennessee
- 4/2009 “Dynamic Network Analysis”, Social Networks and Multiagent Systems Symposium @ AISB, Edinburgh, Scotland.
- 10/2008 “Geo-Temporal Network Analysis,” USMA Network Science Conference, West Point, NY
- 9/2008 “Networks Through Space and Time,” Intra-Organizational Networks Conference (ION), Lexington, Kentucky
- 6/2008 “Organizational Modeling with Dynamic Network Analysis,” IBM Services Research Strategy Meeting, Hawthorne, New York.
- 5/2008 “Modeling and Simulation, State of the Art,” ONR Social, Cultural and Computational Science Workshop, Washington DC.
- 5/2008 “Dynamic Network Analysis to Support Counter-Narcotics Activities” 2008 National HIDTA Conference, Coronado, CA.
- 4/2008 “Advances and Challenges in Dynamic Network Analysis,” Analyzing the Impact of Emerging Societies on National Security, MORS, Chicago, IL
- 4/2008 “Vibes,” OneSaf, Orlando, FL.
- 3/2008 “Dynamic Network Analysis,” Exploring Creative Approaches to Intelligence Problems, Washington DC.
- 3/2008 “Dynamic Network and Geo-Spatial Representation,” International Workshop on Cultural Intelligence, London, UK.
- 3/2008 “Dynamic Network Analysis,” National Guard Counter Drug Conference, Washington DC.
- 1/2008 “Dynamic Network Analysis,” California Campaign Against Marijuana Planning Conference, Lake Tahoe, CA.
- 10/2007 “Dynamic Network Analysis: Harnessing Complexity,” International Conference on Complex Systems (ICCS-07), Boston, MA.
- 10/2007 “The promise and challenge of linking social and spatial networks,” Frontiers in Transportation Social Interaction, University of Amsterdam, The Netherlands.
- 9/2007 “Dynamic Network Analysis with ORA: Key Challenges,” DIMACS/DyDAn Workshop on Computational Methods for Dynamic Interaction Networks, Rutgers University, New Brunswick, NJ.
- 7/2007 “Network Dynamics: The Challenge of Enron and al Qaeda,” UK Social Network Conference, University of London, London UK.
- 6/2007 “Dynamic Network Analysis Applications for HPC,” DOD High Performance Computing Modernization Program's (HPCMP) User's Group Conference (UGC), Pittsburgh, PA.
- 4/2007 “Dynamic Network Analysis for Organizational Management,” Navigating Complexity: Doing more with less, 2007 Almaden Institute, IBM Almaden Research Center, San Jose, CA.
- 3/2007 “Dynamic Network Approaches to Counter-Terrorism,” Kilby Lecture at the GOMATech 07, Lake Buena Vista, FL.
- 2/2007 “Mapping Social Networks with Intelligent Agents,” STEP Conference on Improvised Online Communications Networks, MITRE Corporation, McLean, VA.
- 10/2006 “A Dynamic Network Approach to the Assessment of Terrorist Groups and The Impact of Alternative Courses of Action,” Visualising Network Information Workshop, Copenhagen, Denmark.
- 3/2006 “BioDefense through City Level Multi-Agent Modeling of Bio and Chemical Threats,” Spring Biosurveillance Workshop, Tucson, AZ.
- 11/2005 “Dynamic Network Analysis Approach to Adversarial Modeling,” AFOSR/Cultural Modeling Conference, San Antonio, TX.
- 6/2005 “Destabilizing Terrorist Network,” Defeat Network Enemy Roundtable, Pentagon, Washington D.C.
- 2/2005 “Simulation Tool for BioDefense: BioWar,” BioTech Conference, Evanston, IL.
- 11/2004 “An integrated approach to evaluating strategic interventions in terrorist networks,” Global War of Terrorism Tool Conference, MORS, US Naval War College Newport, Rhode Island.
- 9/2004 “Dynamic Network Analysis for Homeland Defense: Destabilizing Terror Networks,” DIMACS, Rutgers, The State University.
- 2/2004 “Capabilities and Limitations of Current Multi-Agent and Network Modeling,” Aptima, Modeling Emerging Asymmetric Threats Workshop, Washington DC.

- 11/2003 “Modeling Covert Networks,” UES Workshop, “Culture and Personality in Models of Adversarial Decision-Making,” Washington, DC.
- 10/2003 “Network and multi-agent based approached,” Aptima, Modeling Emerging Asymmetric Threats Workshop, Washington, DC.
- 3/2003 “Destabilizing Covert Networks”, Stonecipher Symposium 2003 on Homeland Security, Tennessee, <http://www.tntech.edu/stonecipher/>
- 10/2002 “Simulating Society: The Tension Between Transparency and Veridicality”, Keynote, Agents 2002, Chicago, IL.
- 3/2002 “Computational Organization Science: The systemic analysis of social complexity”, Plenary, Naval Post Graduate School, Monterey, CA
- 1/2002 “Destabilizing Networks” Society for Computer Simulation, VWSIM, San Antonio, TX
- 5/2002 “Dynamic Network Analysis” National Academy of Science Presentation
- 5/2001 “Organizational Adaptation in a Changing Environment” Keynote, Japanese Society for Artificial Intelligence (JSAI 2001). Matsue City, Shimane Japan
- 5/2001 “On the Evolution of Networks”, Plenary, JSAI 2001 International Workshop on Agent-based Approaches in Economic and Social Complex Systems (AESCS 2001) Matsue City, Shimane Japan.
- 1/2001 “Implications of Complexity Research for Organizational Change” Keynote, NSF Design, Service and Manufacturing Grantees and Research Conference, Tampa, FL
- 11/2000 “Organizations as Intelligent Complex Adaptive Systems” Plenary, IBERAMIA 2000, Sao Paulo, Brazil
- 10/2000 “Computational Social Science: Agents, Interaction and Dynamics”, Agents 2000, Keynote, University of Chicago, Chicago IL
- 5/2000 “Complexity and Society”, Plenary, NECSI, Nashua NH
- 7/1999 “Opening up the Black Box: Organizational Design as Dynamic Networks.” PEW Workshop
- 7/1998 “Adaptive Organizations and Emergent Forms” Plenary, Third International Conference on Multi-Agent Systems, Cite des Sciences - La Villette, Paris, France
- 7/1990 “Changing Information Technologies,” Keynote address IFPS Meeting. Pittsburgh, PA.

#### INVITED TALKS

- 4/2009 “Information & Belief Diffusion Through Social Networks: Empirically Grounded Simulation,” Studying Society in a Digital World Conference, Princeton, New Jersey.
- 3/2009 “Dynamic Network Analysis”, Dynamic Networks Workshop, Venice Italy.
- 12/2008 “Dynamic Network Analysis: From Words to Spatio-Temporal Network Analytics,” Pennsylvania State University, State College, PA.
- 12/2008 “Dynamic Networks Analysis in the Security Domain,” European Conference on Intelligence Security Informatics 2008, Copenhagen, Denmark.
- 10/2008 “Provision of Services and Information to the TaxPayer: A Computational Reasoning Approach,” INFORMS, Washington D.C.
- 10/2008 “DNA-Hard Problems,” Centra Tech., Washington D.C.
- 9/2008 “Networks and Trails,” Oakridge National Labs, Knoxville, TN
- 5/2008 “Modeling and Simulation: State of the Art,” Social-Cultural Workshop 2008, Washington D.C.
- 2/2008 “Identification of Human and Organizational Strengths and Vulnerabilities in C3I Structures that Enable or Inhibit Dynamic Decision Making,” CTA ARL Meeting, Boulder, CO.
- 1/2008 “State of Computer Modeling of the Adversary.” Defense Science Board Adversary Modeling Meeting, Washington D.C.
- 12/2007 “Trails and Networks: Analytics for Counter Terrorism,” Lawrence Livermore National Laboratory, Livermore, CA.
- 11/2007 “Model Exemplar: Social Network Analysis,” Strategic Multi-layer Assessment Work Shop, SOCOM, Tampa, FL.
- 10/2007 “BioWar: Validation and Forecasts related to Pandemic Influenza,” International Conference on Complex Systems (ICCS-07), Boston, MA.
- 6/2007 “Managing and Disrupting Dynamic Networks,” Director's Special Colloquium Talk, Argonne National Laboratory, Argonne, IL.
- 6/2007 “BioWar: Assessing the Impact of Pandemic Influenza on Cities using Multi-agent Network Models,” The MORSS (Military Operations Research Society Symposium), U.S. Naval Academy, Annapolis, MD.

- 4/2007 "Predicting Networks," USMA Network Science Meeting, West Point, NY
- 3/2007 "Adversary Behavioral Modeling: Available Tools and Applications for the Warfighter," Montgomery, AL, Maxwell AFB
- 2/2007 "Assessing Terror Networks," Computer Science, Syracuse University, Syracuse, NY.
- 12/2006 "Adversarial Reasoning with Networks," Maritime Strategy Options Workshop, Naval War College, Newport, RI.
- 11/2006 "Modeling Terrorist Groups as Dynamic Networks," INFORMS Conference 2006, Pittsburgh, PA.
- 11/2006 "Merchant Marine Analysis Using Dynamic Network Techniques," Naval Research Lab.
- 10/2006 "Dynamic Network Approach to the Assessment of Terrorist Groups and the Impact of Alternative Courses of Action, NATO Conference, Copenhagen, Denmark.
- 10/2006 "Multi-agent Systems and Networks," Modeling Social Dynamics Workshop, National Science Foundation, Washington D.C.
- 10/2006 "Comparative Models," Terrorism Cell Modeling Conference, Centra Tech, Washington D.C.
- 6/2006 "Understanding Taxpayer Behavior and Assessing Potential IRS Interventions using Multi-Agent Simulations," 2006 IRS Research Conference, Georgetown University Law Sch, Washington, DC.
- 6/2006 "Defeat Enemy Network" Roundtable, Pentagon ARL.
- 6/2006 "Modeling IED Activity," NSF Countering IEDs Workshop, Washington D.C.
- 5/2006 "Dynamic Network Analysis for the Warfighter," Network Science Workshop, Washington D.C.
- 5/2006 "Dynamic Network Analysis Applications in Counter-Terrorism," Emory University, Atlanta, GA.
- 4/2006 "Social Network Analysis (SNA), a powerful social science assessment tool," Pentagon.
- 4/2006 "Blockmaps: Advanced visualization technology for exploring large social networks," International Network for Social Network Analysis, Sunbelt XXVI, Vancouver, British Columbia, Canada.
- 4/2006 "Social Network Data, Given Error: Evidence for the Construction of Confidence Intervals Around Network Measures," International Network for Social Network Analysis, Sunbelt XXVI, Vancouver, British Columbia, Canada.
- 2/2006 "Dynamic Social Network Modeling," Cultural Preparation of the Environment at the Schafer Corporation; Arlington, VA.
- 4/2006 "Beyond Social Networks: A Dynamic Network Analysis Approach Applied to Counter Terrorism", Bruce H. Mayhew Memorial Lecture; Columbia, SC.
- 4/2006 "Dynamic Network Analysis: A Computational Approach to Counter Terrorism Analyses," UIC.
- 4/2006 "Visualizing and Assessing Strengths and Vulnerabilities in C3I Structures," CTAC 06, Helping Soldiers with Soldiers, University of Maryland, MD
- 3/2006 "Social Network Analysis in Counter-Insurgency," Department of Behavioral Sciences & Leadership, USMA, West Point, NY.
- 2/2006 "Counter-terrorism applications of Dynamic Network Analysis," U.S. Army Research Laboratory-Human Research & Engineering Directorate, APG, MD.
- 2/2006 "Counter-terrorism applications of Dynamic Network Analysis," Seminar at Baltimore-HRDT, Military
- 11/2005 "Dynamic Network Analysis Applied to Counter Terrorism," Northwestern University
- 10/2005 "Dynamic and Large Scale Networks in Complex Settings," CAS Lecture, UIUC
- 10/2005 "Dynamic Network Analysis Applied to Counter Terrorism," Dept. of Computer Science, Distinguished Lecture series, UIUC
- 4/2005 "Destabilizing Terrorist Networks," Understanding Terrorist Network Organizations, Naval Post Graduate School, Monterey, CA
- 1/2005 "Comp. Modeling of Organizational Processes," National Academies Board Meeting, California.
- 1/2005 "Dynamic Network Analysis," Yahoo Meeting, San Francisco, CA.
- 1/2005 "Computational Modeling of Organizational Processes," Columbia School of Nursing, New York, NY.
- 9/2004 "Advances in Tools for Dynamic Network Analysis", MKIDS Conference, Ft. Meade, MD.
- 7/2004 "Dynamic Network Analysis", Center for Army Analysis
- 6/2004 "Estimating Vulnerabilities in Large Covert Networks", 2004 CCRTS Evidence Based Research Conference.
- 5/2004 "A Structural Basis for Assessing Organizational Performance and Vulnerability", NYU Stern School of Business, NY.
- 3/2004 "BioWar," Bio Security Center, Washington, DC.

- 1/2004 "An integrated approach to evaluating strategic interventions in terrorist networks", Global War on Terrorism Tool Conference, MORS, US Naval War College Newport, Rhode Island.
- 9/21/03 "Counter terrorism modeling," PACOM HI, Camp Smith, HI
- 5/2003 "Dynamic Network Analysis and Anti-terrorism", Distinguished Lecture Series, Office of Naval Research
- 4/2003 "Assessing Destabilization Strategies", AFRL/HE Speaker Series 2003, Dayton, OH
- 3/2003 "Inhibiting and Abetting Emergence in Complex Socio-Technical Systems" STIET Seminar, University of Michigan
- 1/2003 "Multi-Agent Modeling for Bio-Defense" Society for Simulation and Modeling," VWSIM, Orlando, FL.
- 1/2003 "BioWar" Sandia National Labs, Albuquerque, NM
- 1/2003 "Inhibiting Adaptation in Dynamic Networks" Sandia National Labs, Albuquerque, NM
- 12/2002 "Modeling Covert Networks" National Research Council Round Table on, Washington, DC.
- 11/2002 "Dynamic Network Analysis" National Research Council Workshop on Social Network Modeling and Analysis, Washington DC.
- 9/2002 "Cognitive Mapping" Academy of Management, Denver, CO.
- 9/2002 "Conflict Management" Academy of Management, Denver, CO.
- 3/2002 "Adaptive Teams: A Knowledge Network Approach" Naval Post Graduate School, Monterey, CA
- 3/2002 "Adaptive Organizations: A Knowledge Network Approach" Wharton, Philadelphia, PA
- 2/2002 "Encouraging Destabilization" SAIC, McLean VA
- 2/2002 "Controlling Network Change: Stopping Adaptation and Encouraging Destabilization" INSNA Sunbelt Social Network Conference, New Orleans LA
- 2/2002 "Adaptive Organizations: Linking Networks and Knowledge" MIT Economic Sociology Seminar
- 2/2002 "Designing Adaptive Technology Enhanced Teams" Information Sciences and Technology Distinguished Lecture Series, Penn State, College Station, PA
- 1/2002 "Destabilizing Networks" Society for Computer Simulation, VWSIM, San Antonio, TX
- 1/2002 "Destabilization of Networks Related to Terrorism" SAIC, McLean VA
- 1/2002 "Designing Adaptive Organizations" Rensselaer Polytechnic Institute. Troy, NY.
- 12/2001 "De/Stabilizing Dynamic Networks" The Cambridge Colloquium on Complexity and Social Networks (CCCSN), Harvard University
- 10/2001 "Computational Organization Science: A New Frontier" National Academy of Science, Sackler Colloquium on Adaptive Agents, Beckman Center, Irvine, CA
- 9/2001 "Impediments to Adaptation: A Social-knowledge Network Perspective" Defeating Emergence Workshop, SAIC, Washington DC
- 5/2001 "The CASOS Approach" Japanese Organizational Science Workshop, Tokyo Japan
- 3/2001 "Organizations as Complex Systems" Biocomplexity Conference, Beaufort, NC
- 2/2001 "Network Based Knowledge Management and Organizational Change", University of Arizona, Tucson, AZ.
- 2/2001 "Organizations as Intelligent Complex Adaptive Systems" Arizona State University
- 11/2000 "Computational Organizational Models" Tutorial, International Joint Conference IBERAMIA 2000, Sao Paulo Brazil
- 10/2000 "Organizational Change: A Knowledge Interaction Perspective" Marschak Colloquium, UCLA, Los Angeles, CA
- 9/2000 "Managing Change: An Interaction Knowledge Perspective", Conference on Complexity and Public Policy, Rand, Washington DC
- 8/2000 "Organizational Adaptation and ORGAHEAD", NATO Workshop, Naval Center for Applied Research in Artificial Intelligence, Ft. Meade, VA
- 8/2000 "The Value of Agent Based Models for Organizational Science", Academy of Management, Toronto, Canada
- 8/2000 "Quantitative Methods for Applying Complexity Theory to Organizations: Simulation Based Approaches", Academy of Management, Toronto, Canada
- 6/2000 "Team Analysis", Aptima, Boston MA
- 5/2000 "Constraint Based Adaptation in Organizations", NECSI, Nashua, NH
- 5/2000 "ORGAHEAD and architecture Design and Analysis", Jacobia Meeting, George Mason University, Washington, DC.

- 11/1999 "Culture as Knowledge Level Dynamics" Toward a Sociology of Culture and Cognition, Sociology Conference, Rutgers University
- 10/1999 "Agents Plus: New directions in modeling social and organizational systems" Agent Simulation Workshop, University of Chicago
- 8/1999 American Sociological Association – Didactic Seminar – Computational Analysis
- 7/1999 "Opening up the Black Box: Organizational Design as Dynamic Networks" The Pew Center on Global Climate Change 1999 Workshop on the Economics and Integrated Assessment of Climate Change, Washington D.C.
- 5/1999 "Organizational Adaptation and the Digital Economy" Digital Economy Conference, Washington D.C.
- 5/1999 "Computational Models of Change in Institutions", CIS-HDGC, CMU, Pittsburgh, PA
- 5/1999 "Organizations in the Next Millennium" GSIA 50<sup>th</sup> Anniversary, Pittsburgh, PA
- 4/1999 "On the Evolution of Social and Organizational Networks" Networks and Governance Series, Columbia University, New York, NY.
- 4/1999 "Computational Analysis of Teams." Human Centered Design Environment Workshop, Wintergreen, VA.
- 2/1999 "Computational Organizational Science" NSF CSS workshop, CA
- 12/1998 "Entrepreneur Profiles." Kaufman Foundation, Kansas City, Kansas
- 12/1998 "To Learn is Human, To Learn and Learn is Social." Complex Systems Seminar, University of Michigan, Ann Arbor, MI.
- 12/1998 "Learning in an Uncertain Environment." RPI, Troy, NY
- 10/1998 "A Computational Organization Theory Perspective on Modeling Organizations." Human Factors Society Conference, Chicago, IL
- 6/1998 "Examining Adaptation and Flexibility in Command and Control Architectures." Army After Next, Xerox Document University
- 6/1998 "Learning Within and Among Organizations", Organizational Learning Conference, CMU, Pittsburgh, PA
- 5/1998 "Organizational Perspective." NRC report at Computer Generated Forces conference, Orlando, FL.
- 4/1998 "Organizational Adaptation: Learning and the Changing Environment." Anderson School, UCLA, Los Angeles, CA.
- 1/1998 "Socio-Cognitive Dynamics: Learning in an Uncertain Environment." Dept. of Sociology, Cornell, University, Ithaca, NY.
- 1/1998 "The Risk of Adaptation." Workshop on "The potential of computer simulation in the social sciences" University of Surrey, Guildford, UK.
- 11/1997 "Modeling Organizations" Workshop on Cognitive Models in the Design and Operation of Complex System, CHI Systems, Baltimore, MD
- 10/1997 "Dynamic Organizations: Organizational Adaptation in a Changing Environment," INFORMS, Dallas, TX
- 8/1997 "Organizational Adaptation and Cognition," Cognitive Science Conference, Stanford Univ.
- 8/1997 "The Knowledge Gap" Conference on Interactions-Based Models in the Social Sciences." Santa Fe Institute, Santa Fe, NM.
- 6/1997 "Adaptive Organizations: The Clash of the Learning Levels" HKUST, Hong Kong
- 4/1997 "Organizational Adaptation," University of Kansas, KA.
- 4/1997 "Computational Organization Theory," NSF ITO Workshop
- 3/1997 "Measuring C2 Structure" A2C2 Workshop, Williamsburg, VA
- 10/1996 "Intelligent Agents and Strategic Adaptation," ITESM, Monterrey Mexico
- 10/1996 "Modeling Intelligent Agents and Organizations," NRC - Committee on Human Behavior and Military Simulation
- 10/1996 "Organizational Annealing," Columbia University, NY.
- 8/1996 "Culture and Text Analysis," American Sociological Association Mtgs. New York, NY.
- 8/1996 "Organizational Adaptation: A Simulated Annealing Perspective," Santa Fe Institute, Santa Fe, NM.
- 5/1996 "Computational Organization Theory and Information Systems" INFORMS - CWC on Information Systems
- 2/1996 "Can Organizations Learn if They Restructure?" Cornell University, Johnson School of Business, NY.

- 2/1996 "Computer Aided Textual Analysis" Case Western University  
1/1996 "The Basis of Socialness" Special Conference in the Social Sciences, Columbia University  
1/1996 "Complexity and Organizations" Informs Winter Conference, Complexity Panel, Aspen, CO.  
8/1995 "Computational Sociology," American Sociological Association Mtgs. Washington D.C.  
4/1995 "Advances in Computational Organization Theory," INFORMS  
4/1995 "The Evolution of Organizational Forms" UCLA, Los Angeles, CA  
8/1994 "VDT and Organizational Models," SantaFe Institute - Workshop on Computational Organization Theory  
11/1993 "Organizational Shifts," George Mason University, C3I, Washington D.C.  
10/1993 "MECA Applications," Annenberg School for Communication, Philadelphia, PA  
10/1993 "Strategies for Communication," Annenberg School for Communication, Philadelphia, PA with David Kaufer  
9/1993 "Artificial Organizations" Cyert Conference, CMU, Pittsburgh, PA  
6/1993 "Organizational Designs Suited to High Performance Under Stress" Symposium on Command and Control, Washington D.C.  
6/1993 "Random Graphs: Three Applications" Classification Society of North America, Annual Meeting, Pittsburgh, PA.  
5/1993 "Artificial Social Intelligence," Invited Panel. 1993 Conference on Computing for the Social Sciences, National Center for Supercomputing Applications, University of Illinois at Urbana-Champaign  
3/1993 "Next Time We Get Organized" Hurricane Conference Miami with Jack Harrald  
12/1992 "MECA," International Congress on Computer Tools in the Social and Behavioral Sciences in Amsterdam, The Netherlands.  
12/1992 "Organizational Learning," Gronighen, The Netherlands.  
11/1992 "Comparing Approaches for Near Optimal Solutions in a Distributed Decision Making Environment," ORSA/TIMS, San Francisco, CA.  
10/1992 "Training and Organizational Performance" Dept. of Sociology, University of Iowa, Iowa City, IA.  
3/1992 "Co-evolution of Self and Society," Heinz Carnegie Mellon University, Pittsburgh, PA.  
3/1992 "Simulating Society," University of Pittsburgh, Pittsburgh, PA.  
3/1992 "Society, Culture and Technology: Toward an Integrated Theory of the Role of Communication in Social Change," Taft Lecture Series, University of Cincinnati, Cincinnati, Ohio.  
3/1992 "Emergence of Scientific Fields," Sociology Colloquium, University of Cincinnati, Cincinnati, Ohio.  
11/1991 "Analysis of Qualitative Data," Society for the Scientific Study of Religion, Panel on Methods, Pittsburgh, PA.  
10/1991 "Getting the Job Done," Clarkson University. Potsdam, NY. with Sara Kiesler  
8/1991 "Coevolution of Structure and Culture: A Socio-Cognitive Approach," Conference on Small Group Behavior. Cincinnati, OH.  
8/1991 "Examining Socio-Cultural Change Through Language," New Hampshire 1991 Theory Survey — Boundaries and Units. Enfield, NH.  
5/1991 "Organizational Design and Performance," Conference on Mathematical Organizations Theory. Nashville, TN.  
2/1991 "Social and Cultural Evolution: A Cognitive Basis for Social Change," Northwestern University. Chicago, IL.  
1/1991 "Coordination for Effective Crisis Performance When Training Matters," Rensselaer Polytechnic Institute. Troy, NY.  
9/1990 "The Organizational Structures Most Responsive to Crises," National Research Council Research Workshop on Organizational Issues in US Nuclear Policy. Oakland, CA.  
8/1990 "Computer Analysis of Qualitative Data," Didactic Seminar. American Sociological Association Meetings. Washington D.C.  
7/1990 "Multi-Agent Soar," Special conference on AI and Organization Theory. CCSOM. Amsterdam, The Netherlands.  
3/1990 "Coordinating for Success: An Examination of Organizational Learning and Performance," GSIA Carnegie Mellon University, Pittsburgh, PA.  
8/1989 "Computer Analysis of Qualitative Data," Didactic Seminar. American Sociological Association Meetings. San Francisco, CA.

- 6/1989 "Organizational Learning and Personnel Turnover." NSF sponsored conference on Organizational Learning: Carnegie Mellon University, Pittsburgh, PA.
- 5/1989 "Group Stability: A Socio-Cognitive Approach," Social Relations Dept. University of California Irvine, Irvine, CA.
- 5/1989 "Simulation and Social Theory," Sociology Dept. University of California Riverside, Riverside, CA.
- 5/1989 "Predicting Interaction Using Simulation: The Tailor Shop Case," USCB Social Network Seminar. University of California Santa Barbara, Santa Barbara, CA.
- 4/1989 "The Impact of Electronic Mail on the Scientific Community: The Diffusion of Soar," McLuhan Program in Culture and Technology and the Faculty of Library and Information Science seminar series University of Toronto, Toronto, Canada.
- 4/1988 "The Social Sciences at CMU," HandSS Program for Margaret Morrison Alumnae.
- 2/1988 "Electronic Mail and the Diffusion of Scientific Information," Xerox Parc. Palo Alto, CA.
- 12/1987 "Crisis Management and the Garbage Can Model of Organizational Choice," Red Cross and Washington Operations Research Management Science Council. MITRE Corporation, Washington D.C.
- 11/1987 "Constructuralism: Relating Social to Cognitive Structure," Sociology Dept. Colloquium. Cornell University. Ithaca, NY.
- 5/1987 "Producing Social Stability and Consensus," Sociology Dept. Colloquium. University of California Los Angeles. Los Angeles, CA.
- 5/1987 "Constructuralism: Combining Social and Cognitive Networks," Social Relations Dept. Colloquium. University of California Irvine. Irvine, CA.
- 4/1987 "Producing Social Stability," Sociology Dept. Colloquium. University of South Carolina. Columbia, SC.
- 11/1986 National Research Council, Committee on Human Factors, Workshop on Distributed Decision Making. Washington D.C.
- 3/1986 "Separating the Effect of Structure and Interaction," Stanford Business School. Stanford, CA.
- 5/1985 "Social Groups and Computer Mail," Network Seminar. Harvard University. Cambridge, MA.
- 1/1984 "Garbage Can Efficiency - A Simulation," Joint Naval Workshop on Organizations. Monterey, CA.
- 4/1984 "Relating Social Structure to Cognitive Conceptions," Social Networks Group. Harvard University. Cambridge, MA.
- 6/1977 "The Burro Problem in the Grand Canyon, A System Dynamics Model," National Park Service, Department of the Interior. Grand Canyon National Park, AZ.
- 10/1976 "CASCON: A Users Guide," MIT, Political Science. Cambridge, MA.
- 10/1975 "CASCON: A Users Guide," MIT, Political Science. Cambridge, MA.

## CONFERENCE PRESENTATIONS

- 2009 Focus2010
- 2008 Second World Conference on Social Simulation
- 2008 National HIDTA Conference
- 2007 INFORMS Conference
- 2007 AMIA 2007 Annual Symposium
- 2007 Huntsville Simulation Conference (HSC)
- 2007 AAMAS (Autonomous Agents and Multiagent Systems)
- 2007 European Accounting Association Conference, Lisbon
- 2007 BRIMS
- 2006,2008 MORS
- 2006, 2007 STEP
- 2005 AFOSR/Cultural Modeling
- 2005, 2008 SIAM
- 2003,2004 MKIDS Conference
- 2004,2005 TACC-DARPA/IXO Workshop
- 2003-04,07 NAACSOS
- 2003 IMA Conference
- 2003 ORGSIM Workshop
- 2003 8<sup>th</sup> International Command Symposium

2003	Institute for Mathematics Workshop
2002	Arrowhead
2001	NSF Design, Service and Manufacturing Grantees and Research Conference
2000	IBERAMIA
2000-2003	CASOS
1999,2000	PITA Symposium
1999,00,02	Agents
1998	Human Factors Society
1998	AAAI Fall Symposium Series
1986,96,97,99-03,05,09	Academy of Management
1996	Infirms Winter Conference
1996-05	A2C2 meetings
1993-04,07	International Symposium on Command & Control Research and Technology (CCRTS) (was C3I)
1997	Cognitive Science
1985,87-01	American Sociological Association Meeting
1985-94,96-97,99-00,02-09	Sunbelt International Social Network Conference
1995	Association for Information Systems
1990	Hawaii International Conference on System Sciences
1990	Public Choice Meetings
1990	American Anthropological Association Meetings
1989-90	4S
1989	International Conf. on Industrial and Crisis Management
1989	Midwestern Sociological Society Meetings
1987-88	Eastern Sociological Association Meeting
1984,88-89,91-94	ORSA/TIMS
1995-97,06,08	INFORMS
1986s,f,87s,88f,89f,90s,92su	Soar Workshop
1985	International Conf. on Artificial Intelligence and Learning
1979	Social Psychology Conference
1990-00	Computational and Mathematical Organization Theory Workshop

### SHORT COURSES AND EXECUTIVE EDUCATION

7/2009	“Socio-technical systems as networks: Representation and analysis,” DRDC Center for Security Science, Ottawa,CA
6/2009	“Networks and Simulation,” CASOS Summer Institute
6/2008	“Networks and Simulation,” CASOS Summer Institute
5/2008	“Dynamic Network Analysis,” USMA
6/2007	“Networks and Simulation,” CASOS Summer Institute
4/2007	“Dynamic Network Analysis,” CIA
4/2007	“Dynamic Network Analysis,” NDIC
3/2007	“Dynamic Network Analysis,” CIA
8/2006	“Dynamic Network Analysis,” Army Research Labs
6/2006	“Networks and Simulation,” CASOS Summer Institute
9/2005	“Dynamic Network Analysis,” Aerospace Corporation
6/2005	“Networks and Simulation,” CASOS Summer Institute
11/2004	“Organizational Security,” University of Pittsburgh
6/2004	“Networks and Simulation,” CASOS Summer Institute
1/2003	“Dynamic Network Analysis,” Sandia National Labs
6/2003	“Networks and Simulation,” CASOS Summer Institute
5/2002	“E-government: A Security Perspective,” Korean Executive IT Policy Program
6/2002	“Networks and Simulation,” CASOS Summer Institute
11/2001	“Computational Modeling for Organizations,” CIO Institute
6/2001	“Networks and Simulation,” CASOS Summer Institute
11/2000	“Computational Organizational Models,” Tutorial, Int. Joint Conference IBERAMIA 2000, Sao Paulo Brazil
7/2000	“Acquiring Tacit Knowledge,” CIO Institute
6/2000	“Networks and Simulation,” CASOS Summer Institute

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- 4/2000 “Computational Social Science,” INSNA Sunbelt Meeting  
4/2000 “Networks and Information Security,” Merrill Lynch  
4/2000 “Dynamic Organizations: Organizational Adaptation in a Changing Environment” CIO Institute  
8/1999 “Computational Social Science,” Didactic Seminar. American Sociological Association. San Francisco, CA.  
1/1997 “Network Based Text Analysis,” Universite' Leonardo DaVinci  
2/1996 “Computer Aided Textual Analysis” Case Western University  
8/1990 “Computer Analysis of Qualitative Data,” Didactic Seminar. American Sociological Assoc. Washington D.C.  
8/1989 “Computer Analysis of Qualitative Data,” Didactic Seminar. American Sociological Assoc. San Francisco, CA.

## EDITORIAL ACTIVITIES

- 1999- Field Methods — Editorial Board  
1999-07 Journal of Social Structure — Editorial Board  
1998-00 Journal of Cognitive Systems — Editorial Board  
1997- Journal of Artificial Societies and Social Simulation — Editorial Board  
1995- Computational and Mathematical Organization Theory — Founding Co-Editor  
1997-1999 Structural Analysis: A Journal of Theory and Applied Research — Editorial Board  
1996-1999 Organization Science — Special Issue on Complexity — Guest Co-Editor  
1995-1999 Management Science — Associate Editor  
1995-1998 Sociological Methodology — Editorial Board  
1994-1996 The Journal of Mathematical Sociology — Editorial Board  
1994-1997 International Journal of Intelligent Systems in Accounting, Finance and Management — Editorial Board  
1994-1998 Sociological Methods and Research — Editorial Board  
1994-1996 Sociological Methods and Research — Guest Editor for special issue on AI and Sociology  
1994-1996 The Journal of Mathematical Sociology — Guest Editor, special issue on Computational Org. Theory  
1993 International Journal of Intelligent Systems in Accounting, Finance and Management — Guest Co-Editor for special issue on Mathematical and Computational Models of Organizations: Models and Characteristics of Agent Behavior  
1989-94 Information and Decision Technologies — Associate Editor

## REVIEW ACTIVITIES

- |  |   |
|--|---|
| Academy of Management Review   | NSF   |
| Accounting, Management and Information Technologies                                | Operations Research   |
| Administrative Science Quarterly   | Organization Science  |
| Air Force  | Organizational Behavior and Human Decision Processes          |
| American Journal of Sociology  | Office of Naval Research                                      |
| American Sociological Review   | Poetics   |
| American Sociologist   | Science   |
| Applied Behavioral Science Review  | Social Forces   |
| Computational & Mathematical Organization Theory                                   | Social Psychology Quarterly                                   |
| Idaho Science Board  | Sociological Methodology                                      |
| IEEE Engineering Management  | Sociological Methods and Research                             |
| IEEE Systems Man and Cybernetics   | Social Networks   |
| Industrial and Corporate Change  | Sociological Perspectives                                     |
| Information and Decision Technologies  | Stanford University Internal Grants                           |
| International Journal of Intelligent Systems in Accounting, Finance and Management | Structural Analysis: A Journal of Theory and Applied Research |
| Journal of Artificial Societies and Social Simulation                              | Technology Studies  |
| Management Science   | The Journal of Mathematical Sociology                         |
| NATO   |   |

## PROFESSIONAL ACTIVITIES

- 2008-2009 NRC Committee for “Applications of Social Network Analysis for Building Community Disaster Resilience: A Workshop
- 2007-2008 Defense Science Board, Task Force Member
- 2007-2008 GIST, Stratcom, Task Force Member
- 2005-2006 NRC Panel Member; Modeling and Simulation for Defense Transformation
- 2005-2006 NRC Panel member; Organizational Models: From Individuals to Societies
- 2005-2006 NRC Panel member; Defense Modeling and Simulation
- 2002-2004 Founding President of the North American Association of Computational Social and Organizational Systems
- 2002 Panel member for SAIC group on terrorism, Project MacDuff.
- 2001 Panel member for Threat Anticipation Workshop, DTRA Advanced Systems and Concepts Office
- 2001 Panel member for Defeating Emergence Workshop, SAIC
- 2001 NSF Workshop on Converging Technology (NBIC) for Improving Human Performance
- 1999-2005 Organizer of Annual CASOS Summer Institute
- 1999-2002 Annual Conference Co-organizer of CASOS Conference (formerly CMOT)
- 1999-2000 ICMAS Program Committee for ICMAS 2000
- 1999-2000 President of the Mathematical Sociology Section of the American Sociological Association
- 1998-1999 President Elect of the Mathematical Sociology Section of the American Sociological Association
- 1997-1998 Panel member for NAS/NRC special meeting on Population
- 1996-1998 Member NSF Advisory Panel for Sociology
- 1996-1998 Member of the NAS/NRC Committee on Human Behavior and Military Simulation
- 1996-1997 NSF ITO Steering Committee
- 1996 Workshop Organizer and Presenter — CCOR Workshop on Modeling Organizations
- 1996 Co-organizer Festschrift for Harrison White
- 1990-2000 Co-organizer of Social Network Seminar Series (3 Rivers Network), Carnegie Mellon University and University of Pittsburgh
- 1990-2000 Co-organizer of Bi-Weekly Groups and Organizations Seminar (GO), Carnegie Mellon University and University of Pittsburgh
- 1993-1999 Conference Co-Organizer — Annual Computational and Mathematical Organizations Theory Workshop (INFORMS [ORSA/TIMS])
- 1991-1993 Conference Co-Organizer — Annual Mathematical Organizations Theory Workshop (ORSA/TIMS)
- 1995-1996 Member of the Nominations Committee for the American Sociological Association Meeting
- 1994-1995 Member of the Membership Committee for the Occupations and Organizations Section for the American Sociological Association
- 1994-1995 President of the Sociology and Computers Section of the American Sociological Association
- 1993-1994 President elect of the Sociology and Computers Section of the American Sociological Association
- 1993-1994 Board member for the AAAS/ABA National Conference
- 1993-1994 Newsletter Editor for ORSA/TIMS college on organizations
- 1993-1994 Session Organizer — Social Cognition and Networks — International Network for Social Network Analysis
- 1993-1993 Conference Co-Organizer — Textual Analysis Workshop
- 1991-1992 Conference Co-Organizer — Advances in Social Theory
- 1991-1992 Conference Organizer — Group Processes Conference (ASA)
- 1991-1992 Session Co-Organizer — Scientific Networks — Sunbelt International Social Network Conference
- 1991 Steering Committee for “International Consortium on Network Research” — CMU Representative
- 1990-1991 Conference Organization Committee — New Hampshire 1991 Theory Survey — Boundaries and Units
- 2/1991 Session Chair — Networks in Science — Sunbelt International Social Network Conference
- 1990-1991 Organizer — Section on Micro-computing: Computer-Assisted Research — American Sociological Association Meeting
- 9/1990 National Research Council, Committee on Contributions of Behavioral and Social Science to the Prevention of Nuclear War. Workshop on Organizational Issues in U.S. Nuclear Forces, Oakland, CA.

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- 1989-1990 Organizer — Regular Session. Social Networks: Advances in Methodology — American Sociological Association Meeting
- 1989-1990 Organizer — Regular Session. Social Networks: Network Dynamics and Organizations — American Sociological Association Meeting
- 1989-1990 Program Committee — Microcomputing Section — American Sociological Association
- 1986 National Research Council, Committee on Human Factors, Workshop on Distributed Decision Making. Challenger. Washington D.C.
- 7/1989-6/1990 Board of Trustees of the Operations Research Society of America/Social Sciences Applications Special Interest Group

### **PROFESSIONAL MEMBERSHIPS**

- 2006- ACM
- 2006- IEEE
- 2005- Defense Modeling, Simulation and Analysis Committee Member, National Academies
- 2005-2007 Organizational Modeling, Committee Member, National Academies
- 2003- North American Association for Computational Social and Organizational Systems (NAACSOS)
- 1998- Academy of Management
- 1994- INFORMS [ORSA/TIMS]
- 1993- AAAS
- 1989-1990 ORSA Social Sciences Applications — Special Interest Group
- 1988- Sigma XI
- 1987-1990 Eastern Sociological Association
- 1985- International Network for Social Networks Analysis
- 1980- American Sociological Association

### **HONORS AND PROFESSIONAL RECOGNITION**

- 2007-2008 Task Force Member for Defense Science Board: Human Behavioral Modeling
- 2007-2008 Member of the GIST Panel on Adversary Modeling
- 2006-2008 Member of the NAS/NRC Committee on Behavioral Modeling and Simulation: From Individuals to Societies
- 2006 Member of the NAS/NRC Committee on Modeling Community Containment for Pandemic Influenza: A Letter Report
- 2005-2006 Member of the NAS/NRC Committee on Modeling and Simulation for Defense Transformation
- 2005-2006 Member of the NAS/NRC Committee on Defense Modeling and Simulation
- 2002-2004 President of the North American Association of Computational Social and Organizational Systems
- 2001 Lifetime Achievement Award from the Sociology and Computers Section of the ASA
- 1999-2000 President for ASA Mathematical Sociology Section
- 1998-1999 President Elect for ASA Mathematical Sociology Section
- 1996-1998 Member NSF Advisory Panel for Sociology
- 1996-1998 Member of the NAS/NRC Committee on Human Behavior and Military Simulation
- 1996-1997 Member NSF ITO Steering Committee
- 1994-1995 President for ASA Micro-computing Section (renamed Computers and Sociology)
- 1993-1994 President Elect for ASA Micro-computing Section (renamed Computers and Sociology)
- 1993-1994 Elected as Newsletter Editor for TIMS College on Organizations.
- 1993-1994 Elected to the Council of the SSCA.
- 1992-1993 Elected to the Council of the ASA Micro-computing Section
- 1990 Invited by the American Sociological Association to present a didactic seminar at the annual meetings. “Computer Analysis of Qualitative Data”. ASA meetings: Washington DC.
- 1989 Invited by the American Sociological Association to present a didactic seminar at the annual meetings. “Computer Analysis of Qualitative Data”. ASA meetings: San Francisco, CA.
- 1989 Certificate from the Social Sciences Applications Special Interest Group of the Operations Research Society of America for “Innovative Management Theory and Its Applications”.
- 1982-1983 Alternate for Graduate School of Arts and Sciences merit fellowship - Harvard University.
- 1982 CUE Guide Citation for teaching Sociology 156.
- 1981-1982 Nominated by Harvard University Sociology Department for Graduate School Arts and Sciences merit fellowship. Class Rank 1.

K. M. Carley August 17, 2009

1980 CUE Guide Citation for teaching Sociology 156.  
1978 American Assoc. of University Women National Fellowship graduate study at MIT, Polit. Science

## **THESES SUPERVISION**

### ***CARNEGIE MELLON UNIVERSITY: PH.D. THESIS — ADVISOR***

3/2009- Terrill Frantz  
3/2008- Marcus Louie (EPP)  
2/2008-5/2009 Victoria Yuhas-Hill (EPP)  
3/2008-5/2009 Patrick Wagstrom (ISR and EPP)  
3/2008-5/2009 Ian McCulloh (ISR)  
11/2007-8/2008 Il-Chul Moon (ISR)  
1/2007-1/2008 Marcelo Cataldo (ISR) with Jim Herbsleb  
5/2006-5/2007 Mike Ashworth (ISRI)  
1/2006-1/2007 Edo Airoidi (ISRI) with Steve Feinberg  
6/2005-9/2006 Craig Schreiber (ISRI)  
8/2004-10/2006 Alex Yahja (ISRI)  
10/2004-6/2005 John Graham (ISRI)  
7/2004-6/2005 Maksim Tsvetovat (ISRI)  
1/2000-5/2008 Ju-Sung Lee (Social and Decision Sciences)  
8/2001-8/2003 Li-Chiou Chen (Engineering and Public Policy)  
1/2000-5/2003 Eleanor Lewis (Social and Decision Sciences) NSF Dissertation Award, Simon Award  
6/2000-5/2002 Carter Butts (Social and Decision Sciences) NSF Dissertation Award, Simon Award  
1/2000-8/2001 Bonnie Brinton Anderson (H.J. Heinz III School of Public Policy and Management)  
9/1997-12/2000 Lille Caroline Springall-Gautier (Graduate School of Industrial Administration)  
10/1998-5/1999 David Kaplan (H.J. Heinz III School of Public Policy and Management)  
2/1997-12/1999 Tiziana Casciaro (Social and Decision Sciences)  
5/1996- 5/1999 Brian Butler (Graduate School of Industrial Administration)  
9/1995-12/1998 Vanessa Hill (Graduate School of Industrial Administration)  
6/1995- 5/1998 Diana Gant (Social and Decision Sciences)  
5/1997-5/1998 Sumit Chowdhury (H.J. Heinz III School of Public Policy and Management)  
1/1995-12/1997 Dean Behrens (Social and Decision Sciences) NSF Dissertation Award  
9/1990-5/1994 Zhiang Lin (H.J. Heinz III School of Public Policy and Management)

### ***CARNEGIE MELLON UNIVERSITY: PH.D. THESIS — COMMITTEE MEMBER***

3/2005- Peter Simon (Civil and Environmental Engineering)  
1/2005-5/2007 Carol Frieze (SCS)  
1/2005-5/2006 Brad Malin (ISRI)  
5/1998-5/2001 Neil Strachen (Engineering and Public Policy)  
8/1996-6/2000 Rangaraj Ramanujam (Graduate School of Industrial Administration)  
12/1997-5/1999 Hisashi Yamagata (H.J. Heinz III School of Public Policy and Management)  
5/1997-10/1998 Dan Teitelbaum (Engineering and Public Policy)  
11/1997 Kung-Jen Tu (School of Architecture)  
9/1994-12/1996 Faison Gibson (Graduate School of Industrial Administration)  
9/1994-5/1995 William Wescott (Engineering and Public Policy)  
8/1989-5/1990 Michael Palmquist (English)  
5/1989-12/1990 Bing Wang (H.J. Heinz III School of Public Policy and Management)  
5/1988-5/1990 Paul Zahray (Engineering and Public Policy)  
5/1986-5/1989 Stuart Shapiro (History)

### ***NON CMU: PH.D. THESIS — COMMITTEE MEMBER***

5/2007-9/2009 Tom Haase (University of Pittsburgh, GSPIA)  
8/2007-12/2008 Alexei Sharpanskykh (Vrije Universiteit Amsterdam, Artificial Intelligence, Amsterdam)  
5/2005- Jerry Kane (Emory University, Goizueta Business School)  
8/2006-8/2007 Hueng Sam Park (University of Pittsburgh, Sociology)  
9/2006-6/2007 Mark Hoogendoorn (Vrije Universiteit, Artificial Intelligence, Amsterdam)

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9/2004-12/2006 Charles Lebedz (Boston College, Business)  
5/2005-5/2006 Tom Clancy (The University of Iowa College of Nursing)  
9/2002-1/2004 James Hazy (The George Washington University)  
9/1998-5/2002 Casey Rowe (University of Pittsburgh, Accounting - Katz,)  
11/2003 Kayo Fujimoto (University of Pittsburgh, Sociology)  
10/1998-8/2001 Kari (Kelton) Chopra (RPI, Decision Sciences and Engineering Systems)  
9/1999-8/2000 Sucheta Nadkarni (University of Kansas, Business)  
4/1998-5/1999 Junalux Chalidabhongse (Stanford Univ., Engineering-Economic Systems and Operations Research)  
11/1993-5/1996 Manju Ahuja (University of Pittsburgh, Joseph M. Katz Graduate School of Business)  
8/1989-8/1991 Neda Saburi (American University, Washington D.C., Sociology)

***CARNEGIE MELLON UNIVERSITY: CURRENT PRE-PH.D. THESIS SUPERVISION***

9/2009- Yi Chnag (Greg) (ISR)  
9/2009- Geoffrey Morgan (ISR)  
9/2008- Jesse St. Charles (ISR)  
9/2007- Peter Landwehr (ISR)  
9/2007- Jamie Olson (ISR)  
9/2006- Brian Hirshman (ISR)  
9/2006- Jana Diesner (ISR)  
9/2005- Virginia Bedford (ISR)  
9/2004- George Davis (ISR)  
9/2003- Rob Behrman (EPP)

***CARNEGIE MELLON UNIVERSITY: MASTERS THESES — ADVISOR***

9/1998-5/2000 Marcelo Cataldo — (INI)

***CARNEGIE MELLON UNIVERSITY: MASTERS – NO THESIS***

5/2009 Ian McCulloh  
5/2008 Jana Diesner  
5/2008 Terrill Frantz  
5/2008 Brian Hirshman  
5/2007 Michael Ashworth  
5/2007 Marcelo Cataldo  
5/2007 George Davis  
5/2007 Il-Chul Moon  
5/2007 Patrick Wagstrom

***CARNEGIE MELLON UNIVERSITY: UNDERGRADUATE HONORS THESES — ADVISOR***

6/1998-5/1999 Don Hoag — Organizational Change and Personnel Mobility (topic) (Heinz)  
8/1993-5/1994 Seth Halvaksz — Organizations of Soar Agents (topic) (SDS)  
6/1992-12/1992 Constantine Papageorgiou — Radar Soar (topic) (CS)  
5/1990-5/1991 Nicholas Louitt — Software Engineering Teams (topic) (SDS)  
5/1990-5/1991 Thomas Dale — Robots in Science Fiction (topic) (SDS)  
9/1987-5/1988 Eric Gold — Diffusion and Organizational Structure (SDS)  
9/1987-5/1988 Shep Bostin — CompuSpace - Expert System for Emergency Room Planning (SDS)  
9/1986-5/1987 Joseph Stone — EXNET Expert system for entering societal description (SDS)  
9/1986-5/1987 Frank Venturella — Cognitive Structure in Political Debates (SDS)  
9/1985-5/1986 Mary Gaylord — Structure of programming and technical writing.— Unfinished (SDS)  
9/1985-5/1986 Jennifer Kubitz — Transition to Andrew and education at CMU (topic) (SDS)  
9/1985-5/1986 Joanne Power — “Knowledge Acquisition and Social Interaction Patterns” (SDS)

K. M. Carley August 17, 2009

***NON CMU: PRE-PH.D. THESIS SUPERVISION***

1/2001-3/2001 Jana Diesner — Germany  
1/2000-8/2000 Luigi Proserpio — Italy  
8/1994-12/1997 Harko Verhagen (The Netherlands) Equivalent of Masters Thesis.  
9/1982-6/1983 Scott Sangster — Proposition 2 and 1/2. Harvard University (Advisor)  
9/1983-6/1984 Pam Puzzinias — Modeling the impact of voter registration on voting behavior. Harvard University (Reader)  
9/1981-6/1982 Jeff Leit — The effects of TV viewing. Harvard University (Reader)

**NON CMU COLLABORATORS (LAST 4 YEARS)**

Alex Levis, GMU  
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Steve Borgatti, University of Kentucky  
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Travis Bauer, Sandia  
Walter Warwick, Alion Science  
Graduated and current graduate students.