

William G. Kennedy

Ph.D., Captain, USN (Ret.)

Curriculum Vitae

Current Position Research Assistant Professor & Senior Advisor
Center for Social Complexity
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personal website: <http://www.MLLab.com>

Education

Ph.D., Information Technology, George Mason University, 2003
M.S., Computer Science, Naval Post-Graduate School, 1973
B.S., Mathematics, U.S. Naval Academy, 1972

Research Positions

2008-present Research Assistant Professor, Krasnow Institute for Advanced Study,
George Mason University

2015-present Senior Advisor, Center for Social Complexity, George Mason University
2015 Naval Research Laboratory Summer Fellow through the Office of Naval
Research (ONR) Summer Faculty Research Program

2013-2014 Faculty Research Participation Program appointment, Johns Hopkins
University-Applied Physics Lab (APL)

2005-2008 National Research Council Associateship (postdoc) in the Navy Center
for Applied Research in Artificial Intelligence at the Naval Research
Laboratory, Washington, DC

2004-2008 External Research Professor, Krasnow Institute for Advanced
Study, George Mason University

1979-1980 GS-11 Computer Scientist, Naval Research Laboratory, Washington, DC

Research Grants As Principle Investigator (PI)

2016-2019 A Framework for Modeling Society Following a Nuclear WMD Event,
Defense Threat Reduction Agency (DTRA), HDTRA1-16-1-0043.

2016-2017 Subcontractor to Logistics Management Institute (LMI) of Mclean,
“Improving the Systems Engineering of Complex and Increasingly
Autonomous Systems through the Development of Advanced
Engineering, Language, Symbols, & Visualizations”, National
Aeronautics and Space Administration (NASA) contract:
NNH16CT04C.

Research Grants As Co-Principle Investigator (Co-PI)

2009-2012 MOD: Co-Evolution of Innovative Products by Purposive Agents and the
Growth of Technological Complexity, NSF Award ID: 0915657,
PI: Robert Axtell

Federal Civil Service

Retired, July 2005 (35+ total years of Federal service (includes active military service))
 Department of Energy (15 yrs, 1990-2005)
 Nuclear Regulatory Commission (10 yrs, 1980-1990)
 Naval Research Laboratory (1 yr, 1979-1980)
 Highest level: Senior Level-1 (SL-1) (temporary appointment, 1 yr)
 Highest permanent level: GS-15 step 10
 Graduate of Federal Executive Institute (FEI)'s 4-week residential program (1997)
 Personal Awards: DOE Bronze Medal, several Quality Step Increases & Special Act Awards, and numerous performance awards

Military Service

Navy Captain (service: 6yr active & 24yr in reserves) retired July 2002 (after 30 years)
 Commanded three Naval Reserve Units (SUBRON8, NUWC, CNO N87)
 Competitively selected at national level for paid billets for 12 years
 Active duty in the U.S. Submarine Service (Atlantic fleet) (1974-1978)
 Qualified Submarine Officer and authorized to operate nuclear power plant (1974-1978)
 Personal Awards: Legion of Merit, Meritorious Service Medal (2 awards),
 Navy Commendation Medal (3 awards), Navy Achievement Medal

Industry

Technical Leader (professional staff member), The BDM Corporation (1978-1979)
 Founder, Trivestments, Inc. (1980-1990) and Systems and Solutions, Ltd. (1981-2008)

Classes Taught as Adjunct Professor

Spring 2017: Computational Cognitive Modeling (PSYC-768/CSS-635)
 Spring 2016: Cognitive Foundations of Computational Social Science (CSS-635/PSYC-768)
 Spring 2015: Cognitive Foundations of CSS (CSS-635/PSYC-768)
 Spring 2014: Cognitive Foundations of CSS (CSS-635/PSYC-768)
 Spring 2013: Computational Cognitive Modeling (PSYC-768/CSS-635)
 Spring 2012: Cognitive Foundations of CSS (CSS-635/PSYC-768)
 Spring 2011: Cognitive Foundations of CSS (CSS-635/PSYC-768)
 Spring 2010: Cognitive Foundations of CSS (CSS-635/PSYC-768) (**developed syllabus**)
 Spring 2009: Computational Cognitive Modeling (PSYC-768/CSS-635) (**developed syllabus**)
 At sea 1977: College Math, Program for Afloat College Education (PACE), as adjunct for
 University of South Carolina (USC) (**developed syllabus**)
 At sea 1976: Introduction to Computer Science, PACE, as adjunct for USC (**developed syllabus**)

Class Meetings Taught as Guest Lecturer)

Fall 2016: Introduction to Computational Social Science (CSS-600)
 Fall 2016: National University of Colombia at Medellín, combined classes of Public Policy Evaluation, Comparative Politics, and Public Policy Impact Evaluation
 Fall 2015 & 2014: Introduction to Computational Social Science (CSS-600)
 Fall 2013: Applied Anthropology (ANTH-440)
 Fall 2013: Introduction to Computational Social Science (CSS-600)
 Fall 2013: Topics in Computational Social Science (CSS-739)
 Fall 2012: Introduction to Computational Social Science (CSS-600)
 Fall 2012: Issues in Anthropology (ANTH-399)
 Fall 2011, 2010, 2009: Introduction to Computational Social Science (CSS-600)
 Fall 2008: Machine Learning (CS-782)

Academic Awards

Nominated for GMU Teaching Excellence Award, Oct. 2012.

Awarded the College of Humanities and Social Science Award for Scholarship for 2012, as part of the research faculty of the Center of Excellence in Neuroergonomics, Technology, and Cognition (CENTEC), Raja Parasuraman, PI.

Academic Service

Doctoral committee member for first 2 PhDs in Computational Social Science, 15 other in CSS, 2 in Neuroscience, 1 in Computational Sciences and Informatics, and 1 in Psychology-Human Factors and Applied Cognition (details below)

Committee chair for 6 completed and 2 in progress Masters of Arts in Independent Studies (MAIS) (details below)

Comprehensive Examination contributor and evaluator for the Department of Computational Social Science, George Mason University (2009-2015).

Editorial Services:

- Editorial Board member for Oxford University Press series on Cognitive Models and Architectures (2014-**present**)
- Publications Officer for the Computational Social Science Society of the Americas (CSSSA) 2013-**present**
- Special Issue editor of the Computational and Mathematical Organization Theory journal (CMOT) special issue on the best papers from BRiMS for 5 years: 2009-2013
- CMOT Area Editor journal 2012-**present**

Conference Leadership Services:

- For International Conference on Cognitive Modeling (ICCM):
 - Co-Chair **2017**, Tutorial Chair, 2016
- For the combined International Conference on Social Computing, Behavioral-Cultural Modeling, and Prediction+ Behavior Representation in Modeling and Simulation (SBP+BRiMS):
 - Local Arrangements Chair (2015 & 2016)
 - Program Committee Lead Chair & lead proceedings editor (2014)
 - Program Committee Co-Chair (2013)
- For the BRiMS Society:
 - Society Co-Chair and annual conference Co-Chair, 2013-2015
 - Program Chair for BRiMS (Behavioral Representation in Modeling and Simulation) Conference, 5 years: 2009-2013
- Organizing Committee for AAAI 2013 Fall Symposium “Integrated Cognition”

Science Fair judge for the Washington Academy of Science, Fairfax County Regional Science Fair, Thomas Jefferson High School for Science & Technology, George Langley HS, Marshal HS, and other public schools (2008-**present**)

AAAS STEM Volunteer for Fairfax County Public Schools in two 7-8th grade science teachers classes at Lake Braddock Secondary School (2011-2014) and Freedom Hill Elementary School STEM program (2014-**present**)

Program Committee/conference reviewer/meta-reviewer for: AAAI, AAMAS, BICA, BRiMS, CogSIMA, CogSci, CSSSA, EAPCogSci, ESSA, HRI, ICCM, IJCAI, MABS, SBP, SSC, & WSC

Journal reviewer for CMOT, IEEE Intelligent Systems, NeuroImaging, NeuroImage-Clinical, Psychophysiology, Cognitive Systems Review, AI Magazine, International African Conflict & Peacebuilding Review, International Journal of Industrial Ergonomics, and the Journal of Artificial Societies and Social Simulation (JASSS).

Book reviewer for Oxford University Press, MIT Press, and Sage

PhD Committee Memberships (degrees awarded)

1. Thomas J. Dover (2016) *Implementing a Complex Social Simulation of the Violent Offending Process: The Promise of a Synthetic Offender* (CSS)
2. David P. Masad (2016) *Agents in Conflict: Comparative Agent-Based Modeling of international Crisis and Conflicts* (CSS)
3. Sergey V. Chernyak (2016) *Neural Signatures of Trust in Reciprocity* (Neuroscience)
4. Kimberly S. Goodyear (2016) *The Neural Basis of Advice Utilization During Human and Machine Agent Interactions* (Neuroscience)
5. Jose Manuel Magallanes (2015) *Climate Change and the Potential for Conflict and Extreme Migration in the Andes: A Computational Approach for Interdisciplinary Modeling and Anticipatory Policy Making* (CSS)
6. Ovi Chris Rouly (2015) *Towards Emergent Social Complexity* (CSS)
7. Bianica Pint (2014) *When People Rebel: A Computational Approach to the Study of Violent Collective Action* (CSS)
8. Maciej Latek (2011) *On Bounded Rationality in Multi-Agent Environments* (CSS)
9. Mark Rouleau (2011) *A Computational Theory of Endogenous Norm Emergence: The Normsim Agent-based Model in Mason* (Computational Social Science (CSS))

PhD Committees Member (CSS, in progress)

Brent Auble, Annetta, Burger, Gary Bogle, Shawn Bucholtz, Kevin Comer, Cheryl Hansen, John B. Nelson, & Karl Selke

Comprehensive and PhD Committee (Data Science, in progress)

John Leung (CDS)

Comprehensive and PhD Committee (Psychology-Applied Cognitions and Human Factors, in progress)

Stephanie Tuck

Master of Arts in Interdisciplinary Studies (MAIS) Committee Chair/Director

1. Marta Hansen (2017) *Positive Affect and Prospect Theory in Agent_Zero: A Model Extension* (CSS)
2. Craig Brown (2015) *Expressive Preference Falsification: Explaining Persistent Public Support for Social Security* (CSS)
3. Jessica Hughes (2014) *Reexamining Vowel Transmission and Diffusion In a Repeatable Modeling Environment: Advancing Computational Interpretation of Vowel Chain Shifts as an Approachable NetLogo Model with Simple Parameter Adjustments* (CSS)

MAIS Committee Member (awarded)

1. Brent D. Auble (2016) *Narrative Agents as a Reporting Mechanism for Agent-Based Models* (CSS)
2. Stefani Fournier (2015) *Strategic Options for Terrorist Network Disruption: Understanding the Structure and Complexity* (CSS)
3. Melanie Swartz (2015) *A Meso-Scale Model of Multi-Modal Transit and Commuter Decision-Making: An Agent-Based Model of Reston, VA*

MAIS Committee Member (in progress)

1. Eric Hansen (in progress) *An Agent-Based Model of British and Boer Small Arms and Tactics During the Second Anglo-Boer War*
2. Dale K. Brearcliffe (in progress) *Parallelization of Entity-Based Models in Computational Social Science*

Research Interests

Cognition and behavior at the individual, small group, and societal levels; building computational cognitive models of social cognition and social interactions; Theory of Mind; trust; cognitive robotics; human-robot interactions; robotic autonomy; and long-term learning using ACT-R, MASON, NetLogo, and Soar.

Current Research Projects

Research into modeling a population's response to a nuclear WMD event (as PI).

This 3-year basic research project with Andrew Crooks as Co-PI and two graduate research assistants began in the summer of 2016. The objective of this research is to develop an understanding of a population's response to a nuclear WMD event through research on individuals' responses to such an event and implementing the theories in a computer model. The model will show how an affected population might react to a WMD event in the first hour, day, and month, but not the recovery.

Specifications of autonomy (as PI): Team member on NASA contract (one base year with one optional year) is "Improving the Systems Engineering Complex and Increasingly Autonomous Systems through the Development of Advanced Engineering Language, Symbols, and Visualizations". The goal of the research is to create new language and visualization methods that will create a coherent and shared framework for the specification, design, development, management, and use of what are understandably exciting but still to a large degree unregulated new autonomous systems.

Advancing the Understanding of Human Trust (2010-present): Developing computational cognitive models of human intuition and trust of other agents, human or advisory systems. This work began in collaboration with the Air Force Research Laboratory and the George Mason University's Center of Excellence in Neuroergonomics, Technology, and Cognition (CENTEC). Products include a paper on implicit learning and the organization of a symposium on "beyond rational" cognitive modeling at the International Conference on Cognitive Modeling (ICCM 2012) and a paper at ICCM 2010 on the interaction between the fast and slow cognitive processes. Recent activities include a collaborative effort with AFRL to model intuitive decision-making and Krasnow fMRI experiments on trust (NSF supported). Current activities include building a cognitive model of behavioral trust in advice from human, avatar, and computer advisors with individual differences to replicate human subject data.

Applying Agent-Based Modeling to Policy in Social Welfare (2014-present):

Developing models to evaluate policy options for reducing social worker stress. Integrating a Systems Dynamics model of stress within agent-based models of individuals providing in-home care to older adults. The work has produced a paper presented at BRiMS-2015, a presentation based on abstract presented at GSA-2015, a journal article on the methodology, and a book chapter.

Recent Research Projects

NSF Project on Social Impacts of Climate Change (2015-2016):

Aiding the project management in the final stages of this 3+year project. The team has developed agent-based models of the population's migration in Canada over the last 100 years using four different sources of weather data (800AD-1300AD, last 150 years, and optimistic and pessimistic projections for the next 100 years).

Human Supervision of the Military's Semi-Autonomous Robots (2015-2016): At the Warfighter Human System Integration Laboratory starting in the summer of 2015, contributed to policy discussions on use of autonomous machines and man-machine systems. Developed an expert system monitoring and advising the experimenter on changing the cognitive workload for the Naval Research Lab's experimental operator interface (SCOUT) for controlling multiple unmanned aerial vehicles (UAVs). This work resulted in a paper submitted to the AAAI Fall Symposium on Self-Confidence in Autonomous Systems.

Enhancing the agent cognition in computational social science (Oct 2013-Dec 2014): Modeling human social cognition and decision-making concerning migration based on economic, violence, political issues, and social influences. This agent-based, social simulation project was done in MASON for the Air Force Research Lab and featured the application of survey data integration and synthesis, inter-agent communication, and statistically driven decision trees used by millions of agents. Paper on the methodology was presented at BRiMS-2015.

Enhanced the agent cognition in computational social science (2008-2013): Successfully led, as senior member, a 5-year, multi-disciplinary team developing agent-based models of societal conflict, humanitarian assistance, and disaster relief in East Africa. Developed cognitively plausible models of household decision-making for pastoralists and agriculturists using a rule-based cognitive architecture. This Mason-Yale MURI (Multidiscipline University Research Initiative) was sponsored by ONR and produced many publications and presentations as the lead author.

Developed and applied experimental data on human judgments of tasks taking "just a moment" (2008-2011). Measured student performing a task involving walking to develop a model of how long it takes to perform a task involving walking. Then had students evaluate videos of someone leaving to perform the same task as to whether the person took too long, too short, or about the right amount of time. The results were incorporated into a robot that knew the difference between the actual performance and human perception of the time to perform the task (humans underestimate times starting at about 1 minute in length). Journal article on social robotics published in 2011.

"Like-Me" Simulations at a Robotic Theory of Mind (2005-2008). Modeled human and chimpanzee social behavior based on reasoning about another agent's decision-making using a "like-me" based simulation. Journal article published in 2009. Developed a cognitive model that maintains a model of other team members' decision-making to improve its own and the team's performance. Paper published and recognized as best in track at AAAI 2008. Built on the Naval Research Laboratory's experience in static spatial perspective taking, added the ability to model another agent's movement so that a robot would covertly approach the other mobile agent. Paper published and recognized as best in track at AAAI 2007.

Research Publications

Dissertation

Kennedy, W.G. (2002) *Long-Term Learning in Soar and its Application to the Utility Problem*, Doctoral Dissertation, School of Information Technology and Engineering, George Mason University.

Edited Books

1. Kennedy, W.G., Argawal, N., and Yang, S.J. (Eds.) (2014) *Social Computing, Behavioral-Cultural Modeling and Prediction: 6th International Conference, SPB 2014*, Washington, DC, April 1-4, 2014, Proceedings. LNCS 8393. Springer-Verlag: Berlin.
2. Greenberg, A.M., Kennedy, W.G., and Bos, N.D. (Eds.) (2013) *Social Computing, Behavioral-Cultural Modeling and Prediction: 6th International Conference, SPB 2013*, Washington, DC, April 2-5, 2013, Proceedings. LNCS 7812. Springer-Verlag: Berlin.
3. Kennedy, W.G., and Gibson, F.L. (1972) *1972 Luck Bag: The Annual Publication of The Brigade of Midshipmen*, United States Naval Academy, Annapolis, Maryland. Taylor Publishing: Dallas.

Book Chapter

1. Wolf-Branigin, M., Kennedy, W., Ihara, E., & Tompkins, C. (2017 in press) *Applying Complexity Science to Social Programme Evaluation*. In *The Handbook of Research Methods in Complexity Science & Application*, E. Mitleton-Kelly, A. Paraskevas, & C. Day (Eds.) London: Edward Elgar.
2. Kennedy, W.G., Cotla, C.R., Gulden, T., Coletti, M, and Cioffi-Revilla, C. (2014) *Towards Validating a Model of Households and Societies of East Africa*. *Advances in Computational Social Science: The Fourth World Congress*, Chapter 20, pp 315-328, S.H. Chen, I. Terano, H. Yamamoto, C.C. Tai (Eds.) Springer.
3. Kennedy, W.G. (2012) *Long-Term Learning in Soar*. In *Encyclopedia of the Sciences of Learning*, Part 12, pp 2074-2075. Norbert M. Seel (Ed.) 1st Edition 2012. ISBN 978-1-4419-1427-9. Springer.
4. Kennedy, W.G. (2011) *Modelling Human Behavior in Agent-Based Models*. *Agent-Based Models of Geographical Systems*, Part 2, pp 167-179. M. Batty, A. Heppenstall, and A. Crooks (Eds.) Springer.

Peer Reviewed Journal Articles

1. Juvina, I., Collins, M., Arue, O., Kennedy, W., DeVisser, E., DeMelo, C. (under review 2017) *Toward a Unified Theory of Learned Trust in Interpersonal and Human-Machine Interactions*. Submitted to *IEEE Transactions on Interactive Intelligent Systems*.
2. Colletti, M., Hultquits, C., Kennedy, W.G., Cervone, G. (2017 in press) *Validating Safecast data by comparisons to a U. S. Department of Energy Fukushima Prefecture aerial survey*. *Journal of Environmental Radioactivity*.
3. Kennedy, W.G., Ihara, E.S., Tompkins, C.J., Wolf-Branigin, M.E. (2015) *Computational Modeling of Caregiver Stress*. *Journal of Policy Studies and Complex Systems* 2(1), pp 31-44.

4. Skoggard, I. and Kennedy, W.G. (2013) An Interdisciplinary Approach to Agent-Based Modeling of Conflict in Eastern Africa. *Practicing Anthropology* **35**(1), pp 29-33.
5. Andrei, A. and Kennedy, W.G. (2013) Agent-Based Models and Ethnography: Combining Qualitative and Computational Techniques with Complexity Theory. *Practicing Anthropology* **35**(1), pp 14-18. (*best paper incentive award: MITRE.*)
6. Kennedy, W.G. and Trafton, J.G. (2011) How long is a moment: The perception and reality of task-related absences. *International Journal of Social Robotics* **3**(3), pp 243-252. Springer.
7. Kennedy, W.G., Bugajska, M.D., Harrison, A.M., & Trafton, J.G. (2009). "Like-Me" Simulation as an Effective and Cognitively Plausible Basis for Social Robotics. *International Journal of Social Robotics* **1**, pp 181-194. Springer.
8. Kennedy, W.G., and Trafton, J.G. (2007). Long-Term Symbolic Learning. *Cognitive Systems Research* **8**(3), pp 237-247. Elsevier.

Journal Articles, editorial, non-peer reviewed

1. Kennedy, W.G., St. Amant, R. Reitter, D. (2015) Behavioral representation in Modeling and Simulation: introduction to CMOT special issue—BRiMS 2013. *Journal of Computational and Mathematical Organization Theory* **22**(1), pp 1-3. Springer. DOI 10.1007/s10588-015-9194-9
2. Best, B.E., Kennedy, W.G., St. Amant, R. (2015) Behavioral representation in Modeling and Simulation: introduction to CMOT special issue—BRiMS 2012. *Journal of Computational and Mathematical Organization Theory* **21**(3), pp 243-246. Springer. DOI 10.1007/s10588-015-9183-z
3. Kennedy, W.G. (2015) editorial preface to special section of JASSS that included four articles selected from the 2013 annual meeting of the Computational Social Science Society of the Americas. *Journal of Artificial Societies and Social Simulation* **18**(2).
4. Ritter, F.E., Kennedy, W.G., and Best, B.E. (2013). The best papers from BRiMS 2011: models of users and teams interacting. *Journal of Computational and Mathematical Organization Theory* **19**(3), pp 283-287. Springer.
5. Kennedy, W.G., Ritter, F.E., and Best, B.E. (2011). Behavioral representation in modeling and simulation: Introduction to CMOT special issue-BRiMS 2010. *Journal of Computational and Mathematical Organization Theory* **17**(3), pp 225-228. Springer.
6. Kennedy, W.G., Ritter, F.E., and Best, B.E. (2010). Behavioral representation in modeling and simulation: Introduction to CMOT special issue-BRiMS 2009. *Journal of Computational and Mathematical Organization Theory* **16**(3), pp 217-219. Springer.

Invited Presentations

- Kennedy, W.G. "U.S. Energy, the Big Picture", NRL Post-Doctorial Symposium Lecture at the Naval Research Laboratory, Washington, DC, June 20, 2007.
- Kennedy, W.G. "Survey of OECD Members on the Use of Computers in Control Rooms of Nuclear Power Plants", keynote paper presented by Dr. J. Roe, USNRC, at the International Conference on Man-Machine Interface in the Nuclear Industry organized by the IAEA, Tokyo, JP, 15-19 February 1988.

Refereed Conference Papers

1. Briggs, T.W., Jr., Kennedy, W.G. (2016) Active Shooter: An Agent-Based Model of Unarmed Resistance. *Proceedings of the 2016 Winter Simulation Conference (WSC)*. T.M.K Roeder, P.I. Frazier, R. Szechtman, E.Zhou, T. Huschka, and S.E. Chick, eds. Arlington, VA. (11-14 Dec 2016).
2. Cioffi-Revilla, C., Rogers, J.D., Schopf, P., Luke, S., Bassett, J., Hailegiorgis, A., Kennedy, W.G., Revay, P., Mulkerin, M., Shaffer, M., Wei, E. (2016) MASON NorthLands: A Geospatial Agent-Based Model of Coupled Human- Artificial-Natural Systems in Boreal and Arctic Regions. Annual Meeting of the Computational Social Science Society of the Americas, Santa Fe, NM. (17-20 Nov 2016)
3. Kennedy, W.G. (2016) Intuitive Decision-Making Revisited: A Heuristic and the Feeling of Recognition. Two-page paper presented as a poster at the International Conference on Cognitive Modeling (ICCM), pp 254-255, State College, PA. (6-9 Aug 2016)
4. Nelson, J.B., Kennedy, W.G., Krueger, F. (2016) Exploratory Models of Trust with Empirically-Inferred Decision Trees. In Social, Cultural, and Behavioral Modeling, proceedings of the 2016 SBP-BRiMS conference. Washington, DC. (28 June – 1 July 2016).
5. Kennedy, W.G., Sibley, C., Coyne, J. (2015) Self-Confidence of Autonomous Systems in a Military Environment. Association for the Advancement of Artificial Intelligence (AAAI) Fall Symposium 2015. Washington, DC. (12-14 Nov 2015).
6. Cioffi-Revilla, C., Rogers, J.D., Schopf, P., Luke, S., Bassett, J. Hailegiorgis, A., Kennedy, W., Froncek, P., Mulkerin, M., Shaffer, M., Wei, E., MASON NorthLands: A Geospatial Agent-Based Model of Coupled Human-Artificial-Natural Systems in Boreal and Arctic Regions. Proceedings of the Social Simulation Conference (SSC2015), Eleventh Conference of the European Social Simulation Association (ESSA), Groningen, The Netherlands. (14-18 Sep 2015).
7. Ihara, E.S., Kennedy, W.G., Tompkins, C.J. Wolf-Branigin, M.E. (2015) Long-Term Dementia Care: Modeling the Decision Process. Behavior Representation in Modeling and Simulation Conference 2015 (BRiMS). Washington, DC. (31 Mar.-3 Apr. 2015).
8. Nelson, J.B., Kennedy, W.G., Greenberg, A.M. (2015) Agents and Decision Trees from Microdata. Behavior Representation in Modeling and Simulation Conference 2015 (BRiMS). Washington, DC. (31 Mar.-3 Apr. 2015).
9. Kennedy, W.G., and Harrison, J.F., (2013) Towards Representing Disasters in Computational Social Simulations. Computational Social Science Society of the Americas annual meeting. Santa Fe. (22-25 Aug 2013)
10. Kennedy, W.G., and Krueger, F. (2013) Towards Modeling Trust Behavior. *Proceedings of the 12th International Conference on Cognitive Modeling (ICCM 2013)*. Ottawa. (11-14 July 2013)
11. Kennedy, W.G., and Krueger, F. (2013) Building a Cognitive Model of Trust Within ACT-R. Proceedings of the AAAI Spring Symposium 2013. Stanford, CA. (25-27 March 2013)
12. Kennedy, W.G., Cotla, C.R., Gulden, T., Coletti, M, and Cioffi-Revilla, C. (2012) Towards Validating a Model of Households and Societies of East Africa. Proceedings of the 4th World Congress on Social Simulation (WCSS2012) pp 1-6. Taipei. (4-7 September 2012)

13. Kennedy, W.G., Cotla, C.R., Gulden, T., Coletti, M, and Cioffi-Revilla, C. (2012) Validation of a Household Model of the Societies of East Africa. Proceedings of the 4th International Conference on Applied Human Factors and Ergonomics and 2nd International Conference on Cross-Cultural Decision Making (HSCB) pp 6612-6621. San Francisco. (21-25 July 2012)
14. Kennedy, W.G. and Patterson, R.E. (2012) Modeling Intuitive Decision Making in ACT-R. In N. Rußwinkel, U. Drewitz, & H. van Rijn (Eds.) *Proceedings of the 11th International Conference on Cognitive Modeling (ICCM 2012)*, pp 1-6. Berlin. (12-15 April 2012)
15. Kennedy, W.G., Ritter, F.E, Lebiere, C., Juvina, I., Oltramari, A., Gratch, J. and Young, R.M. (2012) ICCM Symposium on Cognitive Modeling of Processes “Beyond Rational”. In N. Rußwinkel, U. Drewitz, & H. van Rijn (Eds.) *Proceedings of the 11th International Conference on Cognitive Modeling (ICCM 2012)*, pp 55-58. Berlin. (12-15 April 2012)
16. Kennedy, W.G. (2011) The Roots of Trust: Cognition Beyond Rational. In A.V. Samsonovich & K.R. Johannsdottir (Eds.) *Biologically Inspired Cognitive Architectures 2011*, pp 188-193. IOS Press.
17. Kennedy, W.G. and Bassett, J.K., (2011) Implementing a "Fast and Frugal" Cognitive Model within a Computational Social Simulation. Second Annual Meeting of the Computational Social Science Society of the Americas, Santa Fe, NM. (9-12 Oct. 2011)
18. Rouly, O.C., and Kennedy, W.G., (2011) Sexually differentiated philopatry and dispersal: A demonstration of the Baldwin effect and genetic drift. Second Annual Meeting of the Computational Social Science Society of the Americas, Santa Fe, NM. (9-12 Oct. 2011)
19. Tsvetovat, M., Guerrero, O., and Kennedy, W.G., (2011) Evolving Social Structure: From Neurons to Networks with Agent-Based Models. Second Annual Meeting of the Computational Social Science Society of the Americas, Santa Fe, NM. (9-12 Oct. 2011)
20. Kennedy, W.G. (2010) Towards Understanding Trust Through Computational Cognitive Modeling. In A.V. Samsonovich, K.R. Johannsdottir, A. Chella, & B. Goertzel (Eds.) *Biologically Inspired Cognitive Architectures 2010*, pg 78. IOS Press.
21. Kennedy, W.G., Hailegiorgis, A.B., Rouleau, M., Bassett, J.K., Coletti, M., Balan, G.C., Gulden, T., and Cioffi-Revilla, C. (2010) MASON HerderLand: Modeling the Origins of Conflict in East Africa. Proceedings of the First Annual Conference of the Computational Social Science Society (CSSS), Tempe, AZ, (5-6 November 2010).
22. Kennedy, W.G., and Bugajska, M. (2010). Integrating Fast and Slow Cognitive Processes. In D.D. Salvucci & G. Gunzelmann (Eds.), *Proceedings of the International Conference on Cognitive Modeling (ICCM 2010)*, pp 121-126. Drexel University, Philadelphia, PA. (4-8 August 2010)
23. Kennedy, W.G., Gulden, T., Hailegiorgis, A.B., Bassett, J.K., Coletti, M., Balan, G.C., Clark, M, and Cioffi-Revilla, C. (2010) An Agent-Based Model of Conflict in East Africa and the Effect of the Privatization of Land. Third World Congress on Social Simulation, Kassel, Germany. (6-9 September 2010)
24. Hailegiorgis, A.B., Kennedy, W.G., Balan, G.C., Bassett, J.K., and Gulden, T. (2010) An Agent Based Model of Climate Change and Conflict among Pastoralists in East Africa. *Proceedings of the International Congress on Environmental Modeling and Software (IEMSS2010)*. Ottawa, Ontario, CN. (5-8 July 2010).

25. Kennedy, W.G., Hailegiorgis, Basset, J.K., A.B., Coletti, M., Balan, G.C., Rouleau, M., and Gulden, T. (2010) An Agent-Based Model of Conflict in East Africa and the Effects of Watering Holes. Behavior Representation in Modeling and Simulation Conference 2010 (BRiMS), pp 274-281. Charleston, SC (22-26 Mar. 2010)
26. Rouleau, M., Coletti, M., Basset, J.K., Hailegiorgis, A.B., Gulden, T., and Kennedy, W.G. (2009). Conflict and Complex Socio-Natural Systems: Using Agent-Based Modeling to Understand the Behavioral Roots of Social Unrest within the Manderu Triangle. In *Proceedings of the Human Behavior-Computational modeling and Interoperability Conference*. Oak Ridge, TN. (23-24 June 2009)
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38. Kennedy, W.G. and Lanning, W.D. (1987) Feedback of Human Factors Contributions to Significant Events. Paper presented at the IAEA Specialists Meeting on “The Human Factor Information Feedback in Nuclear Power: Implications of Operating Experience on System Analysis, Design and Operation,” Roskilde, Denmark (25 May 1987)

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1. Kennedy, W.G. (2016) People are NOT Random. Abstract and poster presented at the Annual Meeting of the Cognitive Science Society, pp 2960: Philadelphia, PA. (Aug 2016)
2. Kennedy, W.G., (2016) Including Social and Emotional Cognitive Functionality. Presentation at the Post-Graduate Summer School of ACT-R, Lancaster, PA. (Aug 2016)
2. Ihara, E., Inoue, M., Tompkins, C., Kennedy, W.G., Wolf-Branigin, M.E. (2016) Is Incontinence the “breaking” point? Examining the decline in ADL functioning and caregiving stress. Proceedings of the Gerontological Society of America (GSA) 69th Annual Scientific Meeting, New Orleans, LA. (16-20 Nov. 2016)
3. Ihara, E., Tompkins, C., Kennedy, W.G., Wolf-Branigin, M.E. (2015) Using Agent-Based modeling to Test Community-Based Dementia Caregiving Options. Proceedings of the Annual Scientific Meeting of the Gerontological Society of America 2015, Orlando, FL. (18-22 Nov. 2015)
4. Kennedy, W.G. (2014) Applying Anthropologists’ Knowledge and Theories to Models and Simulations of Civil Unrest and Migration. Abstract, paper, and presentation at the 2014 annual meeting of the American Association of Anthropologists (AAA), Washington, DC. (3-7 Dec. 2014)
5. Fuhs, B., Basset, J., Hailegiorgis, A.B., Magallanes, J.M., Harrison, J., Kennedy, W., Rogers, D., and Cioffi-Revilla, C. (2014) An Agent-Based Model of Human Migration in Response to Climate Change Impacts in Northern Latitudes. Abstract and presentation at the 61st Annual North American Meeting of the Regional Science Association International, Washington, DC. (12-15 Nov. 2014)
6. Kennedy, W.G. (2014) An Abstract Approach to Modeling Disasters in Geosimulation Models. Abstract and presentation at the 2014 Association of American Geographers (AAG) Meeting, Tampa, FL. (8-12 Apr. 2014)
7. Skoggard, I.A., and Kennedy, W.G. (2011) Under the Hood: Modeling Pastoralists Movement in A Multi-Scale Spatial Agent-Based Model in East Africa. Abstract and presentation at the American Anthropological Association annual meeting, Montreal, CN. (16-20 Nov. 2011)
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 12. Kennedy, W.G., and Bugajska, M. (2010) Integrating Fast and Slow Cognitive Processes. Abstract in *Proceedings of the 32nd Annual Meeting of the Cognitive Science Society (CogSci 2010)*, pp 672. Portland, OR. (11-14 August 2010)
 13. Kennedy, W.G. (2010) Basing Computational Social Science on Cognitive Science Rather than Multivariate Functions or Probabilistic Representations. Presentation and abstract in Ron Sun (Ed.) *Proceedings of the Workshop on Cognitive Social Sciences: Grounding the Social Sciences in the Cognitive Sciences*. Technical Report 2010-RS-001, Rensselaer Polytechnic Institute, Troy, NY. (11 Aug. 2010)
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 15. Hendrey, M., Rouly, O., West, J., Kennedy, W., and Axtell, R. (2010) Social Decision Making Processes in Tribal Afghanistan: an Agent-Based Model. Abstract and presentation at the First Annual meeting of the Computational Social Science Society, Tempe, AZ. (5-6 Nov. 2010)
 16. Hendrey, M., Axtell, R., and Kennedy, W.G. (2010) Talibanization of Afganistan. Abstract and Presentation at the 78th MORS Symposium (Military Operations Research Society), Quantico, VA. (22-24 June 2010)
 17. Kennedy, W.G., (2009) “Cognitive Plausibility” in Cognitive Modeling, Artificial Intelligence, and Social Simulation. Abstract in A. Howes, D. Peebles, R. Cooper (Eds.), *Proceedings of the 9th International Conference on Cognitive Modeling - ICCM2009*. Manchester, UK. (24-26 July 2009)
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 20. Dixon, J.K. Bouchard, S.A., Kennedy, W.G., and Slagle, J.R. (1981) Mark I Robot, film presented at the Seventh International Joint Conference on Artificial Intelligence, University of British Columbia, BC, CN. (24-28 Aug. 1981)

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1. Kennedy, W.G., (2014) Social Cognition: ACT-R Models Talking to Each Other. Presentation at the 2014 ACT-R Workshop, part of the Annual Meeting of the Cognitive Science Society, Quebec City, CN. (July 2014)

2. Kennedy, W.G. (2010) Cognitive Architecture Lite for Computational Social Simulations. Presentation at the 30th Soar Workshop. Ann Arbor, MI. (May 2010)
3. Kennedy, W.G., and Trafton, J.G., (2008). "Like-Me" Simulation in ACT-R. Presentation at the 15th Annual ACT-R Workshop, Pittsburgh, PA. (July 2008)
4. Harrison, A., Kennedy, W., Fransen, B., and Tafton, G., (2008) Exploring Theory-of-Mind Components within Embodied Robotics. Presentation at the 15th Annual ACT-R Workshop, Carnegie Mellon University. (July 2008)
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6. Kennedy, W.G. (2008). Mental Simulation for a Robot Teammate. Presentation at the 28th Soar Workshop. Ann Arbor, MI. (May 2008)
7. Kennedy, W.G. and Trafton, J.G. (2007) Cognitive Science and Long-term Symbolic Learning. Presentation at the 27th Soar Workshop, University of Michigan. (May 2007)
8. Kennedy, W.G., and Trafton, J.G. (2006). Representing and Reasoning about Space. Presentation at the 13th Annual ACT-R Workshop. Pittsburgh, PA. (July 2006)
9. Kennedy, W.G., and Trafton, J.G. (2006). Cognitive Science and Long-term Symbolic Learning. 27th Soar Workshop. Ann Arbor, MI. (May 2006)
10. Kennedy, W.G. (2003) Status of Long-term learning in Soar. 23rd Soar Workshop, University of Michigan. (June 2003)
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12. Kennedy, W.G. (2001) The long-term use of chunks. 21st Soar Workshop, University of Michigan. (May 2001)
13. Kennedy W.G. and De Jong, K.A. (2001) Some insights into long-term learning in Soar. Workshop on Hierarchy and Memory in Reinforcement Learning, Eighteenth International Conference on Machine Learning, Williams College. (June 2001)
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15. Kennedy, W.G. (1995) The nature of long-term learning. 16th Soar Workshop, Carnegie-Mellon University. (Sep. 1995)

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U.S. Department of Energy (1990-2005)

DOE lead person responsible for the development of these publications associated with Departmental plans and performance in support of the Government Performance and Results Act of 1993 (GPRA)

DOE Strategic Plans:

Strategic Plan, September 2003.
Strategic Plan, DOE/CR-0070, September 2000.
Strategic Plan, September 1997.
Strategic Plan, DOE/S-0108, April 1994.

DOE Annual Performance Plans (submitted to Congress with federal budgets):

FY 2002, DOE/CR-0080, April 2001.
FY 2001, DOE/CR-0068-9, February 2000.
FY 2000, DOE/CR-0060, February 1999.
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FY 1998, DOE/CR-0046, February 1997.

Performance Agreements between the President and the Secretary of Energy, signed by the President, the DOE Secretary, the Deputy Secretary, and all DOE Assistant Secretaries and the Director of Naval Reactors: developed, negotiated, and executed annually, FY 1995 through FY 2000. Also developed the agency wide tracking system, Solomon, for quarterly reporting to the Secretary.

DOE Annual Reports:

FY 2000 Performance and Accountability Report, DOE/CR-0071, March 2001.
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FY 1998 Annual Report, DOE/CR-0067, March 1999.
FY 1997 Consolidated Financial Statements, DOE/CR-0057, March 1998.
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Annual Report for FY 1994/95, June 1996.

DOE Guidelines on Performance Measurement, DOE G 120.1-5, June 1996.

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As a member of the Commission's professional staff, contributed to investigations, regulatory process, and official licensing documents:

- Kennedy, W.G. (1989) Lessons Learned in Process Control at the Halden Reactor Project, Technical Report NUREG-1361, U.S. Nuclear Regulatory Commission. (sole author)
- Survey of OECD Members on the Use of Computers in Control Rooms of Nuclear Power Plants. Paper published by the IAEA, Vienna as IAEA-CN-49/55, pp 193-200. 1988. (sole author)
- Analysis of French (Paluel) Pressurized Water Reactor Design Differences Compared to Current U.S. PWR Designs, Technical Report NUREG-1206, May 1986. (co-author)

- Loss of Power and Water Hammer Event at San Onofre, Unit 1, on November 21, 1985, Technical Report NUREG-1190, Incident Investigation Team (IIT) Member, January 1986. (Team member, co-author)
 - NRC Presentation to the Advisory Committee on Reactor Safety (ACRS) on lessons learned from NASA's automation of the launch control room. Transcript of ACRS meeting, 28 Jan. 1986. (presenter)
 - Testimony before the Nuclear Regulatory Commission concerning operator actions during safety shutdown system failures (ATWS's) at Salem Nuclear Power Plant, February 1983. (witness)
 - Generic Implications of the ATWS (Anticipated Transients without Scram) Events at Salem, Technical Report NUREG-1000, Task Force Report, April 1983. (Task Force member, co-author)
 - Guidelines for the Development of Emergency Operating Procedures, Technical Report NUREG-0899, August 1982. (co-author)
 - Draft Criteria for Preparation of Emergency Operating Procedures, Technical Report NUREG-0799, July 1981. (co-author)
 - Safety Evaluation Reports, part of the public licensing process, Section 13.5.2 on operating procedure programs for licensing of commercial nuclear power plants: Braidwood, Byron, Clinton, Clinch River, Farley, Midland, Millstone, Pilgrim, Riverbend, St. Lucie, Summer, Susquehanna, and Zimmer, March 1980-November 1985, and June 1987-June 1988. (co-author)
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