Mikel D. Petty, Ph.D.

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Summary of Qualifications

- Over 35 years of professional experience, consisting of two phases
  - Modeling and simulation research and education (1990–present)
  - Software development and database administration (1979–1990)
- Ph.D., M.S., and B.S. degrees, all in Computer Science
- Over 110 research proposals funded, totaling over $16 million
- Over 185 research publications

Contents

Education

- Ph.D. Computer Science, University of Central Florida, 1997
  Advisor: A. Mukherjee
  Dissertation: "Computational Geometry Techniques for Terrain Reasoning
  and Data Distribution Problems in Distributed Battlefield Simulation"
- M.S. Computer Science, University of Central Florida, 1988
  Advisor: J. M. Moshell
  Thesis: "Tactical Simulation in an Object Oriented Animated Graphics Environment"
- B.S. Computer Science, California State University Sacramento, 1980

Current Employment

University of Alabama in Huntsville, Huntsville AL
Center for Modeling, Simulation, & Analysis
- Center Director   June 2005–Present

Department of Computer Science
- Associate Professor   January 2012–Present
- Research Professor   June 2005–December 2011

Responsibilities
- Perform modeling and simulation (M&S) research: verification and validation, distributed simulation, human behavior modeling, M&S standards, and combat modeling.
- Develop M&S research programs: define center research strategy, evaluate funding opportunities, write proposals, and develop customer relationships.
- Manage M&S research center: recruit and mentor research staff, plan facilities, develop academic collaborations, select equipment, and monitor budgets and schedules.
- Teach Computer Science and M&S university courses.
- Coordinate the M&S graduate degree programs (Ph.D. and M.S.).
- Advise graduate students in Computer Science and M&S.

Accomplishments
2014 • Published journal articles in a range of research areas, including software engineering, artificial intelligence, and game programming.
2013 • Served as Drafting Group Editor and major author of new IEEE Standard 1730.1.
      • Advised first Ph.D. graduate of UAH M&S degree program.
2012 • Advised first two M.S. graduates of UAH M&S degree program.
2011 • Wrote questions for new Certified Modeling and Simulation Professional examination.
2010 • Started new M&S graduate degree programs (M.S. and Ph.D.) at UAH.
2009 • Expanded research center to ~$1.5M yearly expenditures.
2008 • Developed new mathematical model of unit-level combat.
2007 • Designed 4 new university courses on M&S use for defense acquisition personnel.
2006 • Expanded research center to ~20 employees and ~$1M yearly expenditures.
2005 • Created new research center, starting from single project and single employee.

Old Dominion University, Norfolk VA
Virginia Modeling Analysis & Simulation Center
- Chief Scientist   October 1999–May 2005
Department of Engineering Management and Systems Engineering
- Research Professor   October 1999–May 2005

Responsibilities
- Performed research in M&S; selected projects included: Crowd Modeling; Composability Theory; Software Architecture Description Languages.
- Developed M&S research programs, including: contributed to center research strategy; evaluated funding opportunities; wrote proposals.
- Taught courses in Old Dominion University's M&S degree program.

Accomplishments
- 2004 • Led Crowd Modeling project, which was widely praised by sponsors and community.
- .   • Wrote significant portions of VMASC Strategic Plan, including goals and metrics.
  - Advised ODU's second, world's third student to receive Ph.D. in M&S.
- 2003 • Led Composability project, which developed new theory of simulation composability.
  - Advised ODU's first, world's first student to receive Ph.D. in M&S.
- 2002 • Co-authored National Research Council report on M&S for defense acquisition.
  - Formally analyzed computational complexity and power of HLA DDM.
- 2001 • Certified as a Modeling & Simulation Professional by the M&SPCC.
- 2000 • Served as an officer of Simulation Interoperability Standards Committee, which secured approval for the High Level Architecture as IEEE standard 1516.

University of Central Florida, Orlando FL
Institute for Simulation and Training
- Assistant Director   February 1998–September 1999
- Program Manager   August 1993–January 1998
- Principal Investigator   June 1991–July 1993
- Associate Engineer   September 1990–May 1991

Responsibilities
- As Assistant Director, led all center research projects in Distributed Simulation, which included simulation interoperability, multi-resolution simulation, and computer generated forces
- Managed as many as 7 research contracts simultaneously, with a combined staff of up to 20 faculty research scientists and student research assistants; wrote proposals; and personally performed research in distributed simulation.
- As Program Manager, consecutively led multiple research projects in three areas: High Level Architecture, Emergency Management, Computer Generated Forces.
- As Principal Investigator, led IST research project in intelligent autonomous behavior generation for computer generated forces in battlefield simulation.
- As Associate Engineer, designed and implemented real-time battlefield simulation software.
- Taught graduate and undergraduate computer science courses.

Accomplishments

1999 • Designed system architecture for first medical HLA distributed simulation federation.

1998 • Unified disparate projects in distributed simulation into a coherent R&D program.

1997 • Developed new terrain reasoning algorithm for defensive positioning
that outperformed best existing algorithm by ratio of 2:1.

1996 • Led team that was first to integrate virtual human-in-the-loop simulator into an HLA
distributed simulation federation (HLA Platform Proto-Federation).

1995 • Led team that implemented emergency management command training simulation.

1994 • Designed heuristics that reduced number of intervisibility determinations up to 50%.

1993 • Contributed to the design of an algorithm for automated reconnaissance route
planning which performed at a level comparable to that of human military experts.

1992 • Developed new algorithms for linking simulations at different levels of resolution.
• Implemented first computer generated dismounted infantry simulation.

University of Central Florida, Orlando FL
Computer Services

- Database Administrator   December 1988–August 1990
- Programmer/Analyst Supervisor   September 1986–November 1988
- Programmer/Analyst II   December 1985–August 1986

Responsibilities

- Performed database design, table normalization, and query optimization
for mainframe relational database applications (SQL/DS and DB2).
- Supervised four programmer/analysts, responsible for supporting University applications.
- Wrote technically complex applications programs.

General Mills Restaurants, Inc., Orlando FL
Compensation and Benefits

- Programmer/Analyst II   July 1984–November 1985
- Programmer/Analyst I   July 1983–June 1984

University of Texas at El Paso, El Paso TX
Computer Services

- Database Administrator   August 1982–June 1983
- Systems Analyst I   July 1981–July 1982

California State University Sacramento, Sacramento CA
Administrative Computing

- Computer Programmer I   June 1980–June 1981
- Computer Programmer Trainee   June 1979–May 1980

Computing Skills

- Programming languages: Java, C, COBOL, Lisp, FORTRAN
- Operating Systems: MS Windows, Unix
- Applications: High Level Architecture, Distributed Interactive Simulation, MS Office

Academic Activities

Graduate student advising

Listed in reverse chronological order. Only graduated students are listed; current active students are not listed.

Advisor (5× Ph.D. and 5× M.S. in three different disciplines: CS, M&S, ISE)

2014 • Salvador E. Barbosa, Ph.D. Computer Science, University of Alabama in Huntsville,
       Dissertation "Exploiting Spatio-Temporal Patterns for Event Response Using Reinforcement Learning
       in a Synthetically-Augmented Environment"
2013 • Gregory S. Reed, Ph.D. Modeling and Simulation, University of Alabama in Huntsville,
       Dissertation "A Quantitative Model of Relative Ethical Violation for Use in Military Decision-Making",
       1st M&S Ph.D. at University of Alabama in Huntsville
     • Gregg T. Hanold, Ph.D. Industrial and Systems Engineering and Engineering Management,
       University of Alabama in Huntsville,
       Dissertation "Validating and generating realistic routes for individual human characters
       in virtual urban terrain"
     • Sean P. Muratet, M.S. Modeling and Simulation, University of Alabama in Huntsville,
       3rd M&S M.S. at University of Alabama in Huntsville
2012 • Frederick M. Segrest, M.S. Modeling and Simulation, University of Alabama in Huntsville,
       2nd M&S M.S. at University of Alabama in Huntsville
     • Retonya L. Dunning, M.S. Modeling and Simulation, University of Alabama in Huntsville,
       1st M&S M.S. at University of Alabama in Huntsville
2011 • Shreyas S. Purohit, M.S. Computer Science, University of Alabama in Huntsville,
       Thesis "Modeling CPU utilization and network traffic in a Distributed Interactive Simulation system
       using discrete event simulation"
2005 • Karl D. Neal, M.S. Modeling & Simulation, Old Dominion University,
       Thesis "An application and evaluation of a methodology for testing operational level
       training simulations"
2004 • Eric W. Weisel, Ph.D. Modeling & Simulation, Old Dominion University
       Dissertation "Models, composability, and validity",
       2nd M&S Ph.D. at Old Dominion University, 3rd in world
2003 • John A. Sokolowski, Ph.D. Modeling & Simulation, Old Dominion University,
       Dissertation "Modeling the decision making of the Joint Task Force commander"
       1st M&S Ph.D. at Old Dominion University, 1st in world

Committee member (2× Ph.D. and 2× M.S. in two different disciplines: CS and ISE)

2011 • Nitin S. Sharma, Ph.D. Industrial and Systems Engineering, University of Alabama in Huntsville
       Dissertation "Multi-objective optimization using evolutionary algorithms
       for geographical zone partitioning"
2006 • Lloyd L. Copeland, M.S. Computer Science, University of Alabama in Huntsville
       Thesis "Line of sight decomposition using a terrain server of commodity PC's"
1999 • Robert W. Franceschini, Ph.D. Computer Science, University of Central Florida
       Dissertation "Correlation error in multi-resolution entity simulation"
     • Gregory S. Creech, M.S. Industrial Engineering, University of Central Florida
       Thesis "Increasing the resolution of simulated combat trauma injuries in an HLA environment"

Teaching

University	Department/Program	Total Courses	Different Courses
University of Alabama in Huntsville	Computer Science	18	4
	Modeling & Simulation	6	2
	Industrial and Systems Engineering	2	2
Old Dominion University	Modeling & Simulation	7	3
University of Central Florida	Computer Science	2	2
University of Texas at El Paso	Computer Science	2	1
Total		**37**	**14**

Courses are listed in reverse chronological order of most recent semester taught.

- CS 581 Modeling & Simulation I (Discrete Event Simulation), Graduate,
  University of Alabama in Huntsville, Computer Science,
  Fall 2014, Fall 2013, Fall 2012, Spring 2012, Fall 2010
- MOD 501 Survey of Modeling & Simulation, Graduate,
  University of Alabama in Huntsville, Modeling & Simulation,
  Fall 2014, Fall 2013, Fall 2012, Fall 2011, Fall 2010
- CS 582 Modeling & Simulation II (Distributed Simulation), Graduate,
  University of Alabama in Huntsville, Computer Science,
  Spring 2014, Spring 2013
- MOD 796/CS 796 Collaborative Construction of Virtual Environments, Graduate,
  University of Alabama in Huntsville, Modeling & Simulation and Computer Science,
  Spring 2012
- CS 214 Introduction to Discrete Structures, Undergraduate,
  University of Alabama in Huntsville, Computer Science,
  Spring 2011, Summer 2010, Spring 2010, Fall 2009, Summer 2008,
  Spring 2008, Fall 2007, Spring 2007, Fall 2006, Spring 2006
- CS 603 Formal Languages and Automata Theory, Graduate,
  University of Alabama in Huntsville, Computer Science,
  Spring 2010
- ISE 639 Modeling and Simulation Data Strategies, Graduate
  University of Alabama in Huntsville, Industrial and Systems Engineering and Engineering Management,
  Fall 2008
- ISE 639 Modeling and Simulation Environments, Graduate
  University of Alabama in Huntsville, Industrial and Systems Engineering and Engineering Management,
  Summer 2008
- MSIM 602 Computer Science Concepts for Modeling and Simulation, Graduate
  Old Dominion University, Modeling & Simulation,
  Spring 2005, Spring 2004, Spring 2002, Fall 2002
- MSIM 601 Introduction to Modeling and Simulation, Graduate
  Old Dominion University, Modeling & Simulation,
  Fall 2004, Fall 2003
- ENMA 707/807 Project Management for Modeling & Simulation, Graduate,
  Old Dominion University, Modeling & Simulation,
  Spring 2001
- COP 2213 Pascal Programming, Undergraduate, University of Central Florida, Computer Science,
  Spring 1999
- COT 5520 Computational Geometry, Graduate, University of Central Florida, Computer Science,
  Fall 1997
- COSC 224 COBOL Programming, Undergraduate, University of Texas at El Paso, Computer Science,
  Fall 1983, Fall 1982

Service to the professional discipline

- Technical contributor to nine M&S-related IEEE standards (listed in reverse chronological order)
  - *Drafting Group Editor, Product Development Group*, Distributed Simulation Engineering and Execution Process Multi-Architecture Overlay, IEEE Std 1730.1-2013
  - *Member, Product Development Group*, Recommended Practice for Distributed Simulation Engineering and Execution Process, IEEE Std 1730-2012
  - *Member, Standard Working Group*, Standard for Modeling and Simulation (M&S) High Level Architecture (HLA)–Framework and Rules, IEEE Std 1516-2010
  - *Member, Standard Working Group*, Standard for Modeling and Simulation (M&S) High Level Architecture (HLA)–Federate Interface Specification, IEEE Std 1516.1-2010
  - *Member, Standard Working Group*, Standard for Modeling and Simulation (M&S) High Level Architecture (HLA)–Object Model Template (OMT) Specification, IEEE Std 1516.2-2010
  - *Member, Standard Working Group*, Standard for Modeling and Simulation (M&S) Recommended Practice for Verification, Validation, and Accreditation of a Federation – An Overlay to the High Level Architecture Federation Development and Execution Process, IEEE Std 1516.4-2007
  - *Secretary, Standard Working Group*, Standard for Modeling and Simulation (M&S) High Level Architecture (HLA)–Framework and Rules, IEEE Std 1516-2000
  - *Secretary, Standard Working Group*, Standard for Modeling and Simulation (M&S) High Level Architecture (HLA)–Federate Interface Specification, IEEE Std 1516.1-2000
  - *Secretary, Standard Working Group*, Standard for Modeling and Simulation (M&S) High Level Architecture (HLA)–Object Model Template (OMT) Specification, IEEE Std 1516.2-2000
- *Member*, Proposal Preparation Team, North American Industry Classification System Code for M&S, 2014
- *External proposal reviewer*
  - National Institutes for Health, Special Emphasis Panel/Scientific Review Group 2014/10 ZGM1 TWD-7, 2014
  - National Science Foundation, CMMI – Engineering Design and Innovation, CAREER, 2013
  - Army Research Office, Proposals by Army Research Laboratory scientists, 2012
- *External faculty tenure reviewer*, School of Arts and Humanities, University of Texas at Dallas, 2013
- Current or past editor or referee for ten M&S and Computer Science journals
  - *Associate Editor, SIMULATION: Transactions of the Society for Modeling and Simulation International*
  - *Consulting Editor, Journal of Defense Modeling and Simulation*
  - *Referee, ACM Transactions on Modeling and Computer Simulation*
  - *Referee, IEEE Transactions on Parallel and Distributed Systems*
  - *Referee, International Journal of Simulation Modeling*
  - *Referee, Journal of Simulation*
  - *Referee, Simulation Modeling Practice and Theory*
  - *Referee, Computer Software – Japan Society for Software Science and Technology Journal*
  - *Referee, Intelligent Decision Technologies*
  - *Referee, Photogrammetric Engineering and Remote Sensing*
- *Member*, National Research Council, Army Research Laboratory Technical Assessment Board (ARL external review board), Panel on Digitization and Communications Science, 2008, 2010, 2012.
- *Member*, Army Research Office Board of Visitors (ARO external review board)
  - Network Sciences Division, 2012
  - Computing Sciences Division, 2008, 2010, 2012
- *Member*, Science & Technology Roadmap for Alabama Committee, Modeling & Simulation, 2009.
- *Member*, Advisory Board, Modeling and Simulation Body of Knowledge Index Program, 2009-2010.
- *Member*, Quality Committee, Certified Modeling and Simulation Professional Examination, 2008-2010.
- *Member*, Board of Directors, Modeling and Simulation Professional Certification Commission, 2007-2010.
- *Member*, Board of Directors, Alabama Modeling and Simulation Council, 2007-2008.
- *Member*, Selection Committee, Interservice/Industry Training, Simulation, and Education Conference Modeling and Simulation Education Post-Graduate Scholarships, 2007.

- *Textbook reviewer*
  - J. L. Gersting, *Mathematical Structures for Computer Science, Seventh Edition*, W. H. Freeman, 2013
  - J. L. Gersting, *Mathematical Structures for Computer Science, Sixth Edition*, W. H. Freeman, 2006
  - N. Dale, D. T. Joyce, and C. Weems, *Object-Oriented Data Structures Using Java, Second Edition*, Jones and Bartlett, 2005
- *Reviewer*, National Research Council, *Retooling Manufacturing: Bridging Design and Manufacturing*, National Academy Press, Washington DC, 2004
- *Member*, National Research Council, Committee on *Modeling and Simulation Enhancements for 21st Century Manufacturing and Acquisition*, 2000-2002

Service to the university, college, and department

- *Member*, Computer Science ABET Course Evaluation Committee,
  Theoretical and Mathematical Foundations, 2014.
- *Member*, Computer Science Faculty Selection Committee, 2013-2014.
- *Member*, Computer Science Entertainment Computing Curriculum Development Committee, 2013-2014.
- University independent observer at graduate student Ph.D. and M.S. defenses.
  - T A. Hodge, M.S. Chemistry, March 5 2014
  - J. T. Mooney, Ph.D. Physics, October 9 2013
  - C. M. Allen, M.S. Biology, February 25 2013
  - J. L. Waters, M.S. Electrical Engineering, August 1 2012
  - R. Markow, M.A. English, March 30 2011
  - M. Owen, M.S. Mechanical and Aerospace Engineering, February 26 2009
  - D. Kim, Ph.D. Atmospheric Science, February 11 2008
- *Member*, UAH graduate student recruiting contingent, Oak Ridge Affiliated Universities/Oak Ridge National Laboratory Graduate Student Recruiting Fair, 2012, 2013.
- *Member*, Review Committee for Internal Grants, UAH Office of the Vice President for Research.
  - Research Infrastructure Funding, 2014
  - Individual Investigator Distinguished Research Grants, 2013
  - University Research Infrastructure Initiative Grants, 2010, 2011, 2012
- *Author*, Proposal to create Modeling & Simulation M.S. and Ph.D. programs,
  Approved by University of Alabama System Board of Trustees, 2010.
- *Member*, Reorganization Committee, UAH School of Computing and Electrical Engineering, 2010.
- *Member*, Review Committee, UAH Foundation Awards for Research and Creative Achievement, 2009.
- *Member*, Selection Committee, UAH Psychology Faculty, 2009.
- *Member*, Computer Science ETS Algorithms/Discrete Test Scores Committee, 2008.
- *Member*, Selection Committee, UAH Vice President for Research, 2008.
- *Member*, Strategic Planning Committee, UAH Research, 2008.
- *Member*, Health Programs Task Force, UAH College of Nursing, 2008.
- *Member*, Advisory Committee, UAH Professional Development Test and Evaluation Certificate, 2007-2008.
- *Member*, Review Board, UAH Mechanical and Aerospace Engineering Integrated Project Team Course, 2006.

Conference program committees, tutorial boards, and paper reviewers

- *Paper reviewer*, 2014 Winter Simulation Conference, Simulation Education Track,
  Savannah GA, December 7-10 2014.
- *Program committee member*, Eighteenth IEEE/ACM International Symposium on Distributed Simulation and Real-time Applications, Toulouse France, October 1-3 2014.
- *Program committee member*, Seventeenth IEEE/ACM International Symposium on Distributed Simulation and Real-time Applications, Delft The Netherlands, October 30-November 1 2013.
- *Program committee member*, Sixteenth IEEE/ACM International Symposium on Distributed Simulation and Real-time Applications, Dublin Ireland, October 25-27 2012.
- *Program committee member*, Fifteenth IEEE/ACM International Symposium on Distributed Simulation and Real-time Applications, Salford UK, September 4-7 2011.

- *Program committee member*, 1st International Conference on Simulation and Modeling Methodologies, Technologies, and Applications, Noordwijkerhout The Netherlands, July 29-31 2011.
- *Tutorial board member*, 2010 Interservice/Industry Training, Simulation, and Education Conference, Orlando FL, November 29-December 2 2010.
- *Program committee member*, Fourteenth IEEE/ACM International Symposium on Distributed Simulation and Real-time Applications, Fairfax VA, October 17-20 2010.
- *Program committee member*, Symposium on Very Large and Complex Systems, 2010 Conference on Grand Challenges in Modeling and Simulation, Ottawa Canada, July 11-15 2010.
- *Tutorial board deputy chair*, 2009 Interservice/Industry Training, Simulation, and Education Conference, Orlando FL, November 30-December 3 2009.
- *Program committee member*, Thirteenth IEEE/ACM International Symposium on Distributed Simulation and Real-Time Applications, Singapore, October 25-28 2009.
- *Planning and review panel member*, Simulation Interoperability Workshop, Human Decision Making and Behavior Representation Forum, Orlando FL, September 21-25 2009.
- *Program committee member*, 2009 Conference on Grand Challenges in Modeling and Simulation (GCMS'09) at 2009 Summer Simulation Multiconference, Istanbul Turkey, July 13-16 2009.
- *Paper reviewer*, 18th Behavior Representation in Modeling and Simulation Conference, Sundance UT, March 30-April 2 2009.
- *Tutorial board member*, 2008 Interservice/Industry Training, Simulation, and Education Conference, Orlando FL, December 1-4 2008.
- *Program committee member*, 2008 Conference on Grand Challenges in Modeling and Simulation (GCMS'08) at 2008 Summer Simulation Multiconference, Edinburgh Scotland, June 16-19 2008.
- *Program committee member*, Modeling and Simulation of Very Large Systems (M&S-VLS'08) at 2008 Summer Simulation Multiconference, Edinburgh Scotland, June 16-19 2008.
- *Paper reviewer*, 17th Behavior Representation in Modeling and Simulation Conference, Providence RI, April 14-17 2008.
- *Tutorial board member*, 2007 Interservice/Industry Training, Simulation, and Education Conference, Orlando FL, November 26-29 2007.
- *Program committee member*, Eleventh IEEE International Symposium on Distributed Simulation and Real-Time Applications, Crete Greece, October 22-24 2007.
- *Paper reviewer*, Summer Computer Simulation Conference 2007, San Diego CA, July 15-18 2007.
- *Program committee member*, Sixteenth Conference on Behavior Representation in Modeling and Simulation, Norfolk VA, March 26-29 2007.
- *Paper reviewer*, Winter Simulation Conference 2006, Monterey CA, December 3-6 2006.
- *Paper reviewer*, 27th American Society for Engineering Management National Conference, Huntsville AL, October 22-28 2006.
- *Program committee member*, Tenth IEEE International Symposium on Distributed Simulation and Real-Time Applications, Torremolinos Spain, October 2-6 2006.
- *Track co-leader*, 11th AIAA/ISSMO Multidisciplinary Analysis and Optimization Conference, Portsmouth VA, September 6-8 2006.
- *Paper reviewer*, 10th World Multi-Conference on Systemics, Cybernetics, and Informatics (WMSCI 2006), Orlando FL, July 16-19 2006.
- *Program committee member*, Fifteenth Conference on Behavior Representation in Modeling and Simulation, Baltimore MD, May 15-18 2006.
- *Paper reviewer*, Winter Simulation Conference 2005, Orlando FL, December 4-7 2005.
- *Program committee member*, Ninth IEEE International Symposium on Distributed Simulation and Real-Time Applications, Montreal Canada, October 10-12 2005.
- *Program committee member*, Fourteenth Conference on Behavior Representation in Modeling and Simulation, Universal City CA, May 16-19 2005.
- *Program committee member*, Eighth IEEE International Symposium on Distributed Simulation and Real-Time Applications, Budapest Hungary, October 21-23 2004.
- *Program committee member*, Thirteenth Conference on Behavior Representation in Modeling and Simulation, Arlington VA, May 17-20 2004.

- *Program committee member*, Seventh IEEE International Workshop on Distributed Simulation and Real-Time Applications, Delft The Netherlands, October 23-25 2003.
- *Program committee member*, Twelfth Conference on Behavior Representation in Modeling and Simulation, Scottsdale AZ, May 12-15 2003.
- *Program committee co-chair*, Sixth IEEE International Workshop on Distributed Simulation and Real-Time Applications, Fort Worth TX, October 11-13 2002.
- *Program committee member*, Eleventh Conference on Computer-Generated Forces and Behavior Representation, Orlando FL, May 7-9 2002.
- *Program committee member*, Fifth IEEE International Workshop on Distributed Simulation and Real-Time Applications, Cincinnati OH, August 13-15 2001.
- *Program committee member*, Second Conference on Simulation Methods and Applications, Orlando FL, October 29-31 2000.
- *Program committee member*, Fourth IEEE International Workshop on Distributed Simulation and Real-Time Applications, San Francisco CA, August 25-27 2000.
- *Program committee member*, Third IEEE International Workshop on Distributed Simulation and Real-Time Applications, College Park MD, October 24-28 1999.
- *Program committee chair*, Seventh Conference on Computer Generated Forces and Behavioral Representation, Orlando FL, May 12-14 1998.
- *Planning and review panel member*, Simulation Interoperability Workshop, Run-Time Infrastructure and Communications Forum, Orlando FL, September 14-18 1998.
- *Program committee member*, Sixth Annual Conference on AI, Simulation, and Planning in High Autonomy Systems, La Jolla CA, March 23-27 1996.
- *Program committee member*, Fifth Annual Conference on AI, Simulation, and Planning in High Autonomy Systems, Gainesville FL, December 7-9 1994.
- *Program committee member*, Fourth Conference on Computer Generated Forces and Behavioral Representation, Orlando FL, May 4-6 1994.
- *Program committee member*, Third Conference on Computer Generated Forces and Behavioral Representation, Orlando FL, March 17-19 1993.
- *Program committee member*, Second Behavioral Representation and Computer Generated Forces Symposium, Orlando FL, May 6-7 1991.

Invited presentations, professional education short courses, tutorials, and guest lectures
(Listed in reverse chronological order. Normal conference paper presentations, project status briefings,
and regular course lectures are **not** included. Accepted and confirmed future presentations are included.)

Category	Count
Invited presentations	80
Professional education short courses	7
Conference tutorials	19
Guest lectures	18
Panels, workshops, and mediated discussions	25
Total	**149**

- *Short course*, "Simulation Verification, Validation, and Accreditation", Professional and Continuing Studies, University of Alabama in Huntsville, Huntsville AL, January 26-27 2015.
- *Tutorial*, "Model Verification and Validation Methods",
  2014 Interservice/Industry Training, Simulation, and Education Conference,
  National Training and Simulation Association, Orlando FL, December 1 2014.
- *Tutorial*, "Defense-related Applications of Discrete Event Simulation",
  2014 Interservice/Industry Training, Simulation, and Education Conference,
  National Training and Simulation Association, Orlando FL, December 1 2014.
- *Short course*, "Fundamentals of Modeling and Simulation", Professional and Continuing Studies, University of Alabama in Huntsville, Huntsville AL, November 3-4 2014.
- *Presenter*, "Workshop to Identify Modeling and Simulation Capabilities and Synergistic Relationships Among Industry, Academia, Army, NASA, and the State of Alabama",
  2014 AlaSim International Conference and Exposition,
  Alabama Modeling and Simulation Council, Huntsville AL, May 7 2014.
- *Tutorial*, "Model Verification and Validation Methods",
  2014 AlaSim International Conference and Exposition,
  Alabama Modeling and Simulation Council, Huntsville AL, May 7 2014.
- *Tutorial*, "Defense-related Applications of Discrete Event Simulation",
  2014 AlaSim International Conference and Exposition,
  Alabama Modeling and Simulation Council, Huntsville AL, May 6 2014.
- *Discussion leader*, 2014 AlaSim International Conference and Exposition,
  Alabama Modeling and Simulation Council, Huntsville AL, May 7 2014.
- *Tutorial*, "Model Verification and Validation Methods",
  2013 Interservice/Industry Training, Simulation, and Education Conference,
  National Training and Simulation Association, Orlando FL, December 2 2013.
  Selected for conference Best Tutorial award.
- *Tutorial coauthor*, "Fundamentals of Modeling and Simulation",
  2013 Interservice/Industry Training, Simulation, and Education Conference,
  National Training and Simulation Association, Orlando FL, December 2 2013.
- *Guest lecture*, "Model Verification and Validation Methods", CPE 656 Software Engineering Studio, University of Alabama in Huntsville, Huntsville AL, September 11 2013.
- *Invited presentation*, "Simulation Based Approaches for Systems Engineering",
  IEEE Aerospace and Electronic Systems Society, Huntsville AL, July 29 2013.
- *Tutorial*, "Model Verification and Validation Methods",
  2012 Interservice/Industry Training, Simulation, and Education Conference,
  National Training and Simulation Association, Orlando FL, December 3 2012.
  Nominated for conference Best Tutorial award.
- *Tutorial*, "The New Certified Modeling and Simulation Professional Examination",
  2012 Interservice/Industry Training, Simulation, and Education Conference,
  National Training and Simulation Association, Orlando FL, December 3 2012.

- *Tutorial coauthor*, "Fundamentals of Modeling and Simulation",
  2012 Interservice/Industry Training, Simulation, and Education Conference,
  National Training and Simulation Association, Orlando FL, December 3 2012.
- *Short course*, "Simulation Verification, Validation, and Accreditation", Professional and Continuing Studies,
  University of Alabama in Huntsville, Huntsville AL, November 29-30 2012.
- *Short course*, "Verification, Validation, and Accreditation", U. S. Army Aviation and Missile Research
  Development and Engineering Command, Software Engineering Directorate, Redstone Arsenal AL,
  November 14-16 2012.
- *Guest lecture,* "A Simulationist's Perspective on Modeling and Simulation as Science",
  PH 110 Frontiers of Science, University of Alabama in Huntsville, Huntsville AL, October 26 2012.
- *Short course*, "Fundamentals of Modeling and Simulation", Professional and Continuing Studies,
  University of Alabama in Huntsville, Huntsville AL, October 4-5 2012.
- *Guest lecture*, "Center for Modeling, Simulation, and Analysis: Center Overview and Research Portfolio",
  ISE 627 Engineering Systems, University of Alabama in Huntsville, Huntsville AL, September 17 2012.
- *Invited presentation*, "SISO Smackdown as M&S Education: 2012 UAHuntsville Student Experience",
  Fall 2012 Simulation Interoperability Workshop, Simulation Interoperability Standards Organization,
  Orlando FL, September 10 2012.
- *Invited presentation*, "Expanded Analysis of the Correlation of Characterizing Attributes and Success
  in Military M&S Standards", U. S. Army Research Development and Engineering Command,
  Modeling and Simulation Senior Working Group, Redstone Arsenal AL, June 28 2012.
- *Invited presentation*, "The Problem of Determining the Financial Implications of Modeling and Simulation
  Standards", U. S. Army Research Development and Engineering Command,
  Modeling and Simulation Senior Working Group, Redstone Arsenal AL, June 28 2012.
- *Panel,* "Modeling and Simulation of Large and Complex Systems", 2012 AlaSim International Modeling and
  Simulation Conference, Alabama Modeling and Simulation Council, Huntsville AL, May 2 2012.
- *Panel,* "Modeling and Simulation in K-12 and Higher Education", 2012 AlaSim International Modeling and
  Simulation Conference, Alabama Modeling and Simulation Council, Huntsville AL, May 2 2012
- *Invited presentation*, "The Problem of Determining the Financial Implications of Modeling and Simulation
  Standards", 2012 AlaSim International Modeling and Simulation Conference,
  Alabama Modeling and Simulation Council, Huntsville AL, May 2 2012.
- *Tutorial*, "Model Verification and Validation Methods", 2012 AlaSim International Modeling and
  Simulation Conference, Alabama Modeling and Simulation Council, Huntsville AL, May 1 2012.
- *Invited presentation*, "Modeling and Simulation (M&S) Body of Knowledge (BoK) Index Supporting the
  Certified M&S Professionals (CMSP) Initiative", 2012 Spring Simulation Developers' Working Group,
  Las Vegas NV, April 25 2012.
- *Invited presentation,* "Topics, Structure, and Delivery of the New Certified Modeling and Simulation
  Professional Examination", National Defense Industrial Association Systems Engineering Division,
  Modeling and Simulation Committee, Arlington VA, April 17 2012.
- *Invited presentation,* "Simulation Composability and Frameworks",
  Republic of Korea Agency for Defense Development, Daejeon Korea, February 21 2012.
- *Invited presentation,* "Center for Modeling, Simulation, and Analysis: Center Overview and Research
  Portfolio", College of Engineering, Technology, and Computer Science, Indiana University-Purdue University
  Fort Wayne, Fort Wayne IN, January 23 2012.
- *Panel,* "Correlation of Characterizing Attributes and Success in Military M&S Standards",
  M&S Standards Panel, Winter Simulation Conference 2011, Phoenix AZ, December 11 2011.
- *Panel,* "Comparing the M&S Graduate Degree Program and Professional Certificate Programs at the
  University of Alabama in Huntsville", M&S Professional Education Panel,
  Winter Simulation Conference 2011, Phoenix AZ, December 11 2011.
- *Tutorial*, "Model Verification and Validation Methods",
  2011 Interservice/Industry Training, Simulation, and Education Conference,
  National Training and Simulation Association, Orlando FL, November 28 2011.
- *Tutorial coauthor*, "Certified Modeling and Simulation Professional Prep Course",
  2011 Interservice/Industry Training, Simulation, and Education Conference,
  National Training and Simulation Association, Orlando FL, December 2 2011.

- *Tutorial coauthor*, "Fundamentals of Modeling and Simulation",
  2011 Interservice/Industry Training, Simulation, and Education Conference,
  National Training and Simulation Association, Orlando FL, November 28 2011.
- *Invited presentation,* "A Theory of Simulation Composability", Decision Theater, Arizona State University,
  Tempe AZ, November 18 2011.
- *Guest lecture,* "A Simulationist's Perspective on Modeling and Simulation",
  PH 110 Frontiers of Science, University of Alabama in Huntsville, Huntsville AL, November 11 2011.
- *Invited presentation,* "Simulation Based Approaches for Systems Engineering",
  IDGA Engineering Simulation for Military Technology, Washington DC, October 25 2011.
- *Panel,* "Modeling and Simulation in Engineering Design and Manufacturing", Modeling and Simulation
  Stakeholders Meeting, U. S. Department of Education, Washington DC, July 27 2011.
- *Invited presentation,* "Center for Modeling, Simulation, and Analysis: Overview and Research Portfolio",
  School of Computer and Information Sciences, University of South Alabama, Mobile AL, May 31 2011.
- *Invited presentation,* "Metrics and Measures: Assessing the Impact of Standards",
  Workshop on Standards in Modeling and Simulation: Objects and Tools,
  Virginia Modeling Analysis & Simulation Center, Suffolk VA, May 11 2011.
- *Guest lecture*, "Case Studies in M&S for T&E", MOD 620 Modeling & Simulation for Test and Evaluation,
  University of Alabama in Huntsville, Huntsville AL, April 13 2011.
- *Short course*, "Simulation Verification, Validation, and Accreditation", Professional and Continuing Studies,
  University of Alabama in Huntsville, Huntsville AL, April 11-12 2011.
- *Invited presentation*, "UAHuntsville Modeling and Simulation Degree Programs", Brown Bag Event,
  Lockheed Martin Space Systems Company, Huntsville AL, March 17 2011.
- *Invited presentation*, "CMSA Overview and Research Portfolio", Brown Bag Event,
  Lockheed Martin Space Systems Company, Huntsville AL, March 17 2011.
- *Guest lecture*, "Verification, Validation, and Accreditation", MOD 620 Modeling & Simulation
  for Test and Evaluation, University of Alabama in Huntsville, Huntsville AL, February 9 2011.
- *Tutorial*, "Model Verification and Validation Methods",
  2010 Interservice/Industry Training, Simulation, and Education Conference,
  National Training and Simulation Association, Orlando FL, November 29 2010.
- *Panel*, "Modeling the Economic Impact of the Gulf Oil Spill",
  Collaborative Scientific Research Opportunities Relative to the Gulf Oil Spill,
  Louisiana EPSCoR and National Science Foundation, New Orleans LA, November 1 2010.
- *Tutorial*, "Verification and Validation Methods", Huntsville Simulation Conference 2010,
  The Society for Modeling and Simulation International, Huntsville AL, October 28 2010.
- *Panel*, "Predictive Analysis of Patient Outcomes as a Function of Nurse Staffing Levels",
  Four Views of the State of Simulation for Healthcare Training, Huntsville Simulation Conference 2010,
  The Society for Modeling and Simulation International, Huntsville AL, October 28 2010.
- *Guest lecture,* "A Simulationist's Perspective on Modeling Methods and Applications",
  PH 110 Frontiers of Science, University of Alabama in Huntsville, Huntsville AL, September 1 2010.
- *Invited presentation,* "Games and Simulation: Fun vs. Realism",
  University of Alabama in Huntsville Honors Forum, Huntsville AL, August 26 2010
- *Invited presentation,* "Verification and Validation Methods", National Academy of Sciences,
  Committee on Mathematical Foundations of Verification, Validation, and Uncertainty Quantification,
  Washington DC, August 23 2010
- *Invited presentation,* "Technical Characteristics and Governance Processes in Military M&S Standards",
  Workshop on Standards in Modeling and Simulation: Governance Process,
  Virginia Modeling Analysis & Simulation Center, Suffolk VA, August 4 2010.
- *Invited presentation,* "Games and Simulation: Fun vs. Realism",
  University of Alabama System Scholars Institute, Huntsville AL, May 18 2010
- *Invited presentation,* "Systems Engineering Process", Live-Virtual-Constructive Architecture Roadmap
  Implementation, Simulation Interoperability Workshop, Simulation Interoperability Standards Organization,
  Orlando FL, April 15 2010.
- *Invited presentation,* "Asset Reuse Mechanisms", Live-Virtual-Constructive Architecture Roadmap
  Implementation, Simulation Interoperability Workshop, Simulation Interoperability Standards Organization,
  Orlando FL, April 15 2010.

- *Invited presentation,* "Evolution and Governance of Military M&S Standards",
  Workshop on Standards in Modeling and Simulation: The Next 10 Years,
  Virginia Modeling Analysis & Simulation Center, Suffolk VA, April 1 2010.
- *Invited presentation,* "Modeling and Validation Challenges for Complex Systems",
  Complex Systems M&S Technical Workshop, Alabama Modeling & Simulation Council
  Huntsville AL, February 3 2010.
- *Invited Subject Matter Expert,* Workforce Development Working Group,
  2010 Modeling & Simulation Leadership Summit, National Training Systems Association,
  Virginia Beach VA, February 1 2010.
- *Tutorial,* "Verification and Validation Methods", Huntsville Simulation Conference 2009,
  The Society for Modeling and Simulation International, Huntsville AL, October 29 2009.
- *Panel,* "Validation of Models of Large and Complex Systems", Simulation of Large and Complex Systems,
  Huntsville Simulation Conference 2009, The Society for Modeling and Simulation International,
  Huntsville AL, October 28 2009.
- *Invited presentation,* "Modeling the Huntsville Technical Workforce",
  Human Decision Making and Behavior Representation Forum, Fall 2009 Simulation Interoperability
  Workshop, Simulation Interoperability Standards Organization, Orlando FL, September 23 2009.
- *Invited presentation,* "Verification, Validation, and Accreditation",
  Technical Intellectual Capital in Alabama District 5, Presentation to Congressman Parker Griffith,
  Alabama Modeling and Simulation Council, Huntsville AL, September 3 2009.
- *Panel,* "Workforce Development: Education and Modeling",
  Building Partnerships Advancing Competitiveness Symposia Series, Oak Ridge-Huntsville Partnership Office,
  Huntsville AL, April 16 2009.
- *Panel,* "Regional Initiatives in Modeling and Simulation: Southeast/South Central",
  2009 Modeling & Simulation Leadership Summit, National Training Systems Association,
  Norfolk VA, February 2 2009.
- *Invited presentation,* "Test & Evaluation and Modeling & Simulation at CMSA",
  Testing and Evaluation: Educating the Future, International Testing and Evaluation Association,
  Huntsville AL, October 29 2008.
- *Invited presentation,* "Modeling the Huntsville Technical Workforce",
  Huntsville Simulation Conference 2008,
  The Society for Modeling and Simulation International, Huntsville AL, October 23 2008.
- *Guest lecture,* "Modeling and Simulation Research and Development at CMSA",
  ISE 627 Engineering Systems, University of Alabama in Huntsville, Huntsville AL, September 3 2008.
- *Panel,* "Motivation and Education", Building the M&S Research Agenda,
  Spring Simulation Multiconference 2008, Ottawa Canada, April 14 2008.
- *Moderator,* Workshop on Conceptual Modeling,
  Alabama Modeling and Simulation Council, Huntsville AL, October 26 2007.
- *Invited presentation,* "Simulation and Gaming: Realism vs. Fun", UAH Library Fall Frolic 2007,
  University of Alabama in Huntsville, Huntsville AL, August 30 2007.
- *Invited presentation,* "Modeling Methods" and "M&S Paradigms",
  Preparation for the Modeling and Simulation Professional Certification Exam Course,
  Alabama Modeling and Simulation Council, Huntsville AL, June 25 2007.
- *Guest lecture,* "A Theory of Simulation Composability", CPE 656 Software Engineering Studio,
  University of Alabama in Huntsville, Huntsville AL, March 15 2007.
- *Guest lecture,* "Introduction to Distributed Simulation and the High Level Architecture",
  CPE 656 Software Engineering Studio, University of Alabama in Huntsville, Huntsville AL, March 1 2007.
- *Discussion leader,* 2007 Modeling & Simulation Leadership Summit,
  National Training Systems Association, Chesapeake VA, February 26 2007.
- *Invited presentation,* "A Theory of Simulation Composability", Computer Science Department Seminar,
  University of Alabama in Huntsville, Huntsville AL, February 2 2007.
- *Guest lecture,* "Constructive Battlefield Simulation", CS 582 Modeling and Simulation II,
  University of Alabama in Huntsville, Huntsville AL, January 24 2007.
- *Short course,* "Hands-on Simulation", 2-day course, Professional and Continuing Education,
  University of Alabama in Huntsville, Huntsville AL, January 22-23 2007.

- *Tutorial*, "Certified Modeling and Simulation Professional Examination Preparation Course",
  2006 Interservice/Industry Training, Simulation, and Education Conference,
  National Defense Industrial Association, Orlando FL, December 8 2006.
- *Panel*, "Composition and Complexity Challenges of Open Source: Is it Really so Easy to Reuse?",
  Fall 2006 Simulation Interoperability Workshop,
  Simulation Interoperability Standards Organization, Orlando FL, September 12 2006.
- *Invited presentation*, "Crowd Behavior Models for M&S", Fall 2006 Simulation Interoperability Workshop,
  Simulation Interoperability Standards Organization, Orlando FL, September 10 2006.
- *Invited presentation*, "A Simulation of Crowd Behavior in Military Scenarios", Computer Science
  Department Seminar, University of Alabama in Huntsville, Huntsville AL, September 8 2006.
- *Invited presentation*, "M&S Degree Plans at UAH",
  Navy Technical Interchange Meeting on M&S Workforce Development,
  Defense Modeling and Simulation Conference, Baltimore MD, May 4 2006.
- *Panel*, Education Focus Group, subteam of the DoD Acquisition Focus Group,
  Defense Modeling and Simulation Conference, Baltimore MD, May 3 2006.
- *Panel*, "M&S as a Profession", 2006 Spring Simulation Multiconference Student Day,
  Society for Computer Simulation International, Huntsville AL, April 5 2006.
- *Panel*, "Is There a Real Discipline/Science of M&S?",
  Spring 2006 Simulation Interoperability Workshop Academic Night,
  Simulation Interoperability Standards Organization, Huntsville AL, April 4 2006.
- *Invited presentation*, "How Universities Help to Attract and Retain Young Professionals",
  Best Practices Workshop, Leadership Huntsville/Madison County, Huntsville AL, March 16 2006.
- *Panel*, "Recommendations Roundtable", 2006 Modeling & Simulation Leadership Summit,
  National Training Systems Association, Suffolk VA, February 6 2006.
- *Keynote speaker*, "Trends in M&S Technology: Mergence, Emergence, Convergence, and Divergence",
  Annual Meeting, Alabama Modeling and Simulation Council, Huntsville AL, October 28 2005.
- *Guest lecture*, "Introduction to Distributed Simulation", CS 581 Modeling and Simulation I,
  University of Alabama in Huntsville, Huntsville AL, October 11 2005.
- *Panel*, "Research Requirements for Simulation Based Acquisition",
  Simulation Based Acquisition Symposium, American Institute of Aeronautics and Astronautics,
  Huntsville AL, May 20 2005.
- *Invited presentation*, "Crowd Modeling Federate", Joint Systems and Analysis Group
  Modeling and Simulation Meeting, Defense Modeling and Simulation Office, Alexandria VA, May 17 2005.
- *Invited presentation*, "Introduction to the High Level Architecture", M&S Short Course,
  Defense Threat Reduction Agency, Alexandria VA, May 13 2005.
- *Invited presentation*, "Distributed Simulation", M&S Short Course, National Institute of Aerospace,
  Suffolk VA, January 25-26 2005.
- *Invited presentation*, "History and Goals of HLA", M&S Short Course, National Institute of Aerospace,
  Suffolk VA, January 25-26 2005.
- *Invited presentation*, "HLA Federation Examples", M&S Short Course, National Institute of Aerospace,
  Suffolk VA, January 25-26 2005.
- *Invited presentation*, "HLA Concepts", M&S Short Course, National Institute of Aerospace,
  Suffolk VA, January 25-26 2005.
- *Invited presentation*, "Crowd Modeling for Military Simulation", M&S Board of Directors meeting,
  U. S. Joint Forces Command, Suffolk VA, October 29 2004.
- *Invited presentation*, "Crowd Modeling for Military Simulation",
  Huntsville Simulation Conference 2004, Huntsville AL, October 21 2004.
- *Keynote speaker*, "Overview of a Theory of Composability",
  Workshop on Web-Enabled Modeling and Simulation, OMG, Arlington VA, October 14 2004.
- *Panel*, "Technical Requirements for a Composability Business Case",
  Workshop on Web-Enabled Modeling and Simulation, OMG, Arlington VA, October 14 2004.
- *Invited presentation*, "Verification, Validation, and Accreditation", M&S Short Course,
  National Institute of Aerospace, Hampton VA, October 5 2004.
- *Panel*, "Virginia Modeling Analysis and Simulation Center", M&S Organizations Session,
  Simulation Interoperability Standards Organization, Orlando FL, September 21 2004.

- *Invited presentation*, "Crowd Modeling – An HLA Federate to Enhance Military Simulation", M&S Working Group Meeting, North Atlantic Treaty Organization, Suffolk VA, September 14 2004.
- *Invited presentation*, "Distributed Simulation", M&S Short Course, National Institute of Aerospace, Hampton VA, August 3 2004.
- *Invited presentation*, "M&S Categories", M&S Short Course, National Institute of Aerospace, Hampton VA, July 20 2004.
- *Invited presentation*, "Modeling Methods", M&S Short Course, National Institute of Aerospace, Hampton VA, July 15 2004.
- *Invited presentation*, "Basic M&S Concepts and Definitions", M&S Short Course, National Institute of Aerospace, Hampton VA, July 13 2004.
- *Panel*, "Modeling & Simulation Body of Knowledge Recommendations", M&S Body of Knowledge Workshop, Simulation Interoperability Standards Organization, Arlington VA April 21 2004.
- *Invited presentation*, "Developing a Crowd Model for Military Simulation", Effects Based Operations Research Working Group, Old Dominion University, Norfolk VA, April 8 2004.
- *Invited presentation*, "Developing a Crowd Model for Military Simulation", Computer Science Department Colloquium, Old Dominion University, Norfolk VA, February 5 2004.
- *Invited presentation*, "Modeling and Simulation Research and Development at VMASC", M&S Seminar, University of Alabama in Huntsville, Huntsville AL, January 16 2004.
- *Invited presentation*, "Introduction to Modeling & Simulation", Workshop on Web-Enabled Modeling and Simulation, Object Management Group, Reston VA, October 27 2003.
- *Invited presentation*, "Modeling and Simulation Research & Development at ODU", Board of Visitors Meeting, Old Dominion University, Norfolk VA, September 11 2003.
- *Invited presentation*, "Towards a Theory of Semantic Composability", Spring 2003 Simulation Interoperability Workshop, Simulation Interoperability Standards Organization, Orlando FL, April 3 2003.
- *Invited presentation*, "Towards a Theory of Semantic Composability", Spring 2003 Simulation Interoperability Workshop, Simulation Interoperability Standards Organization, Orlando FL, April 1 2003.
- *Invited presentation* (with J. Sokolowski and A. Tolk), "Introduction to DOD/Military Simulations", Interservice/Industry Training, Simulation, and Education Conference, National Training Systems Association, Orlando FL, December 2 2002.
- *Invited presentation*, "Basic Modeling & Simulation Concepts & Definitions", M&S Short Course, Booz Allen Hamilton, McLean VA, August 13 2002.
- *Invited presentation*, "Modeling Methods", M&S Short Course, Booz Allen Hamilton, McLean VA, August 13 2002.
- *Invited presentation*, "Modeling & Simulation Categories", M&S Short Course, Booz Allen Hamilton, McLean VA, August 13 2002.
- *Invited presentation*, "Simulation Project Management", M&S Short Course, Booz Allen Hamilton, McLean VA, August 13 2002.
- *Invited presentation*, "Two Aspects of Composability: Lexicon and Theory", Workshop on Composable Modeling and Simulation, Defense Modeling and Simulation Office, Washington DC, July 9 2002.
- *Invited presentation* (with J. Sokolowski), "HBR Requirements for Joint M&S", 11th Conference on Computer-Generated Forces and Behavior Representation, Defense Modeling and Simulation Office, Orlando FL, May 8 2002.
- *Guest lecture*, "Introduction to the High Level Architecture and Managing HLA Projects", ENMA 707/807 Project Management for M&S, Old Dominion University, Norfolk VA, January 23 2002.
- *Invited presentation*, "Automated and Autonomous Decision Making in Joint Operational Command and Control", Joint Experimentation Futures Workshop, U. S. Joint Forces Command, Suffolk VA, December 4 2001.
- *Invited presentation* (with R. Mielke, T. Mastaglio), "Modeling and Simulation of Commercial Enterprises", Interservice/Industry Training, Simulation, and Education Conference, National Training Systems Association, Orlando FL, November 26 2001.
- *Guest lecture*, "Introduction to Modeling and Simulation for Operational Test and Evaluation", Operational Test Directors' Course, U.S. Navy Commander Operational Test and Evaluation Force, Norfolk VA, August 28 2001.
- *Guest lecture*, "Modeling and Simulation", Operational Test Director's Course, U.S. Navy Commander Operational Test and Evaluation Force, Norfolk VA, April 6 2001.

- *Invited presentation*, "Intention Prediction Systems Concept Description",
  Joint Experimentation Futures Workshop, U. S. Joint Forces Command, Quantico VA, March 6 2001.
- *Guest lecture*, "Modeling and Simulation", Operational Test Directors' Course,
  U.S. Navy Commander Operational Test and Evaluation Force, Norfolk VA, February 9 2001.
- *Guest lecture*, "A Terrain Reasoning Algorithm to Defend a Fire Zone", M&S Staff Officers' Course,
  U.S. Navy Commander Operational Test and Evaluation Force, Norfolk VA, January 31 2001.
- *Invited presentation*, "Theoretical Results Regarding HLA Data Distribution Management",
  Computer Science Department Colloquium, Old Dominion University, Norfolk VA, November 8 2000.
- *Invited presentation*, "A Terrain Reasoning Algorithm to Defend a Fire Zone", Electrical and Computer
  Engineering Department Graduate Seminar, Old Dominion University, Norfolk VA, September 8 2000.
- *Invited presentation*, "A Brief Introduction to the High Level Architecture", National Research Council,
  Committee on Modeling and Simulation Enhancements for 21st Century Manufacturing and Acquisition,
  Woods Hole MA, August 29 2000.
- *Invited presentation*, "Modeling and Simulation at VMASC", Saab Training Systems Science
  Council's Seminar, Orlando FL, March 28 2000.
- *Invited presentation*, "A Terrain Reasoning Algorithm to Defend a Fire Zone",
  Computer Science Department Colloquium, Old Dominion University, Norfolk VA, February 15 2000.
- *Invited presentation*, "Distributed Simulation and Interoperability", Electrical and Computer Engineering
  Department Graduate Seminar, Old Dominion University, Norfolk VA, January 28 2000.
- *Invited presentation*, "Interoperability in Modeling and Simulation", M&S Functional Course,
  Institute for Simulation and Training, Orlando FL, June 9 1999.
- *Invited presentation*, "Interoperability in Modeling and Simulation", M&S Functional Course,
  Institute for Simulation and Training, Orlando FL, January 27 1999.
- *Guest lecture*, "Observations on Object-Oriented Modeling and Simulation Interoperability",
  EIN 6645 M&S of Real Time Processes, University of Central Florida, Orlando FL, January 27 1999.
- *Invited presentation*, "Applications of Computational Geometry in Computer Generated Forces",
  Computer Science Department Colloquium, University of Central Florida, Orlando FL, September 26 1997.
- *Panel*, "Research Proposal Preparation Strategies", Enabling Strategies for Obtaining Federal Research
  Dollars Workshop, University of Central Florida, Orlando FL, November 14 1997.
- *Invited presentation*, "Computer Generated Forces, Terrain Representation, and Intervisibility Algorithms",
  Computer Science Department Colloquium, University of Central Florida, Orlando FL, March 28 1997.
- *Invited presentation*, "Computational Geometry Research Opportunities",
  Computer Science Department Graduate Showcase, University of Central Florida,
  Orlando FL, November 11 1996.
- *Invited presentation*, "HLA BDS-D PPF Results", High Level Architecture Technical Support Meeting,
  University of Central Florida, Orlando FL, October 18 1996.
- *Invited presentation*, "Reconnaissance Planning in Polygonal Terrain", Industrial Advisory Board Meeting,
  Institute for Simulation and Training, Orlando FL, April 21 1993.
- *Invited presentation*, "Battlefield Simulation and Computer Generated Forces",
  Computer and Information Sciences Department Seminar, University of Florida,
  Gainesville FL, October 16 1992.

Year	Awards	Value
2014	4	250,542
2013	5	1,038,626
2012	9	524,900
2011	5	308,293
2010	9	1,210,662
2009	7	491,020
2008	4	553,650
2007	7	661,226
2006	3	44,693
2005	4	57,585
2004	6	741,305
2003	4	1,090,796
2002	4	556,390
2001	2	119,349
2000	4	266,938
1999	6	394,558
1998	11	1,500,394
1997	2	148,826
1996	2	958,365
1995	2	1,123,390
1994	6	1,454,846
1993	3	892,944
1992	3	1,862,720
Total	**112**	**16,252,018**

Funded proposals are listed in reverse chronological order. Proposals submitted but not funded are not listed. Each entry has two codes indicating my role in proposal authorship and project execution:
- Proposal preparation: SA=Sole author, PA=Primary author, CA=Co-author
- Project execution: PM=Project Manager, PI=Principal Investigator, CI=Co-Investigator, N=None

2014
- Systems Engineering Services for AFAMS under SNIM-12-0408 Option Year 2, U. S. Air Force Agency for Modeling and Simulation (via Wyle Laboratories); $215,961; PA, PI.
- Change Order #4 to Systems Engineering Services for AFAMS under SNIM-12-0408 Option Year 1, U. S. Air Force Agency for Modeling and Simulation (via Wyle Laboratories); $20,581; SA, PI.
- Change Order #2 to Systems Engineering Services for AFAMS under SNIM-12-0408 Option Year 1, U. S. Air Force Agency for Modeling and Simulation (via Wyle Laboratories); $10,000; CA, PI.
- Student Expenses for Simulation Exploration Experience, AEgis Technologies; $4,000; SA, PI.

2013
- Systems Engineering Services for AFAMS under SNIM-12-0408 Option Year 1, U. S. Air Force Agency for Modeling and Simulation (via Wyle Laboratories); $209,987; PA, PI.
- Exploiting Emerging Modeling and Simulation Technologies to Increase Training Effectiveness; Office of the Secretary of Defense; $242,677; SA, PI.
- Concurrent Model Validation and Operational Test Using Bayesian Experimental Design; University of Alabama in Huntsville Office of the Vice President for Research; $38,962; SA, PI.
- Best Practices from Eight County Oil Spill Relief Grant: Replication and Deployment of Key Data and Technologies Across Alabama; Economic Development Partnership of Alabama; $542,000; PA, PI.
- Student Expenses for Simulation Interoperability Standards Organization Smackdown, AEgis Technologies; $5,000; SA, PI.

2012
- ART-SAM Long Endurance Multi-intelligence Vehicle Simulation;
  U. S. Army (via Science Applications International Corporation); $47,896; CA, PI.
- Research on Common SAF Simulation Composition Technique;
  Republic of Korea Agency for Defense Development (via REALTIMEVISUAL); $100,200; SA, PI.
- Certified Modeling and Simulation Professional Product Maintenance;
  National Training and Simulation Association; $7,100; CA, PM.
- Systems Engineering Services for AFAMS under SNIM-12-0408 Year 1,
  U. S. Air Force Agency for Modeling and Simulation (via Wyle Laboratories); $209,917; PA, PI.
- Verification, Validation, and Accreditation Short Course for AMRDEC SED,
  U. S. Army Aviation and Missile Research Development and Engineering Center; $6,164; SA, PI.
- Extension to Collaborative and Regional Framework for Economic Renewal of the Alabama Gulf Coast,
  Economic Development Partnership of Alabama; $21,174; CA, PI.
- UAHuntsville CAVE Installation, Training, and Demonstration,
  University of Alabama in Huntsville, Office of the Vice President for Research; $65,659; SA, PI.
- Live–Virtual–Constructive Simulation Subject Matter Expertise, Follow-On,
  Johns Hopkins University Applied Physics Laboratory; $21,949; SA, PI.
- Alternative Aggregate Unconventional Option,
  Defense Advanced Research Projects Agency (via Gnosys Systems); $44,841; SA, PI.

2011
- CMSP Project Implementation,
  National Training and Simulation Association; $18,364; CA, CI.
- High Fidelity Obscurant Modeling for Sensor Simulation,
  U. S. Army via Simulation Technologies; $35,417; CA, PM.
- Collaborative and Regional Framework for Economic Renewal of the Alabama Gulf Coast,
  Economic Development Partnership of Alabama; $149,642; PA, PI.
- Research on a Standard Modeling & Simulation Framework for Modular Simulation Components,
  REALTIMEVISUAL, Seoul South Korea; $86,840; SA, PI.
- Live–Virtual–Constructive Simulation Subject Matter Expertise Extension,
  Johns Hopkins University Applied Physics Laboratory; $18,030; SA, PI.

2010
- Modeling and Simulation Standards Study, Phase II;
  Naval Air Warfare Center Training Systems Division (via Old Dominion University); $237,887; SA, PI.
- CMSP Content Support;
  Boeing Company; $7,235; SA, PI.
- Virtual Environment Simulation Laboratory;
  National Aeronautics and Space Administration; $500,000; PA, PI.
- Live–Virtual–Constructive Simulation Subject Matter Expertise,
  Johns Hopkins University Applied Physics Laboratory; $21,850; SA, PI.
- Refinement and Testing of the Nursing Services Dashboard;
  University of Alabama in Huntsville, Office of the Vice President for Research; $88,813; CA, CI.
- M&S Professional Certification Examination Question Preparation;
  National Training and Simulation Association; $15,393; SA, PI.
- DoD M&S Standards Support,
  Naval Air Warfare Center Training Systems Division (via Old Dominion University); $71,382, SA, PI.
- Developing and Calibrating a Quantitative Metric of Evil of Use in Course of Action Analysis,
  U. S. Army Aviation and Missile Command; $78,102; PA, PI.
- Modeling & Simulation Degree Program Investment,
  University of Alabama in Huntsville Office of the Vice President for Research; $190,000; SA, PI.

2009
- Alternative Aggregate Combat Modeling Algorithms Phase II,
  Defense Advanced Research Projects Agency (via Gnosys Systems); $225,000; SA, PI.
- Live–Virtual–Constructive Architecture Roadmap Implementation,
  Johns Hopkins University Applied Physics Laboratory; $124,000; SA, PI.
- Virtual Target Model Validation Analysis,
  U. S. Army Aviation and Missile Research, Development, and Engineering Center; $29,954; CA, CI.
- Development of a Nursing Services Dashboard to Predict and Track the Effect of Nurse Staffing;
  University of Alabama in Huntsville OVPR; $44,266; CA, CI.

- UAHuntsville Research Enterprise Model;
  University of Alabama in Huntsville Office of the Vice President for Research; $14,000; SA, PI.
- EXPI SWMS Integration Support;
  U. S. Air Force; $38,670; SA, CI.
- Modeling and Simulation Education for the Acquisition and T&E Workforce, DODI 5000.2 Revisions;
  Naval Postgraduate School; $15,130; SA, PI.

2008
- M&S Education and Certification Support;
  Boeing Company; $100,000; SA, PI.
- BRAC Demographic Analysis;
  U. S. Army Aviation and Missile Command; $113,012; CA, CI.
- Modeling and Simulation Degree Program Proposal Development;
  Science Applications International Corporation; $24,975; SA, PI.
- Modeling and Simulation Education for the Acquisition/T&E Workforce CY08;
  Naval Postgraduate School; $315,663; SA, PI.

2007
- Educating the Acquisition Workforce in Modeling and Simulation;
  Naval Postgraduate School; $38,159; SA, PI.
- AH-64 Reliability Assessment using Simulation;
  University of Alabama in Huntsville OVPR; $100,000; CA, PI.
- Alternative Aggregate Combat Modeling Algorithms, Phase I;
  Defense Advanced Research Projects Agency (via Gnosys Systems); $28,626; PA, PI.
- Asymmetric Adversaries for Synthetic Training Environment;
  Office of Naval Research; $27,000; SA, PI.
- Validation Methodologies for Network Centric Warfare Simulation;
  U. S. Navy Naval Air Warfare Center Weapons Division; $400,008; CA, CI.
- BRAC Workforce Analysis Model;
  Huntsville Chamber of Commerce; $38,433; SA, PI.
- Bayesian Data Analysis Method for Terror Attack Prediction;
  Air Force Research Laboratory; $29,000; CA, PI.

2006
- C2PAT Verification;
  Davidson Technologies Incorporated; $10,364; SA, PM.
- Warlords 2006 Support;
  Defense Modeling and Simulation Office; $4,332; SA, PM.
- Simulation-based Integration Testing System Design Study;
  U. S. Army Aviation and Missile Research, Development, and Engineering Command; $29,997; SA, PI.

2005
- Graduate Level Modeling and Simulation Overview Course Final Report Feeder;
  Old Dominion University; $5,970; SA, PI.
- Introduction to the High Level Architecture Course;
  Defense Threat Reduction Agency; $3,000; SA, PI.
- Consulting to UAH Center for Modeling, Simulation, and Analysis;
  University of Alabama in Huntsville; $37,715; SA, PI.
- Introduction to the High Level Architecture Course;
  National Institute of Aerospace; $10,900; PA, PI.

2004
- Support of the Global Vision Integration Center (Multi-Resolution Simulation Assessment);
  Lockheed Martin Simulation and Training Support; $40,000; SA, PI.
- Advanced Modeling and Simulation Course;
  National Institute of Aerospace; $5,250; CA, CI.
- Enhanced Tactical and Operational Crowd Modeling;
  Defense Modeling and Simulation Office; $470,287; SA, PI.
- Consulting to UAH Center for Modeling, Simulation, and Analysis;
  University of Alabama in Huntsville; $45,635; SA, PI.
- Modeling and Simulation Overview Course;
  National Institute of Aerospace; $9,100; CA, CI.
- Semantic Meta-Model Formalisms and Algorithms in a Theory of Semantic Composability;
  Defense Modeling and Simulation Office; $171,033; SA, PI.

2003
- Joint Operations Feasibility Tool Validation;
  U. S. Joint Forces Command; $84,559; SA, PI.
- Modeling and Simulation Overview Course;
  Defense Modeling and Simulation Office; $159,749; CA, CI.
- Simulation of Non-Combatant Crowds in Military and Para-Military Scenarios;
  Defense Modeling and Simulation Office; $552,786; PA, PI.
- Joint Simulation System Operational Evaluation Support;
  U. S. Navy Commander Operational Test and Evaluation Force; $293,702; CA, PI.

2002
- Joint Simulation System Testing Support;
  U. S. Navy Commander Operational Test and Evaluation Force; $7,250; CA, CI.
- A Theory of Composability;
  Office of Naval Research and Defense Modeling and Simulation Office; $149,860; PA, PI.
- Modeling the Decision Process of a Joint Task Force Commander;
  Defense Modeling and Simulation Office; $99,970; CA, CI.
- Composable Reconfigurable Environment for Acquisition, Training, and Experimentation;
  Defense Modeling and Simulation Office; $299,310; PA, PI.

2001
- Joint Futures Exploration Support (DO 25);
  U.S. Joint Forces Command; $71,689; SA, PI.
- Architecture Standards for Modeling and Simulation;
  U.S. Army STRICOM; $47,660; SA, PI.

2000
- Joint Futures Exploration Support (DO 18);
  U.S. Joint Forces Command; $35,454; SA, PI.
- Modeling and Simulation Support to COMOPTEVFOR;
  U.S. Navy Commander Operational Test and Evaluation Force; $135,227; CA, CI.
- JSAF Configuration Management;
  U.S. Joint Forces Command; $66,257; SA, PI.
- Personality Modeling in Modeling and Simulation;
  Old Dominion University College of Engineering and Technology; $30,000; SA, CI.

1999
- OneSAF System Architecture;
  GRC International; $26,958; SA, PI.
- Combat Trauma Patient Simulation Phase III;
  Medical Education Technologies Incorporated; $75,000; PA, PM.
- Combat Trauma Patient Simulation Phase II Increment (Compliance);
  U.S. Army STRICOM; $9,000; SA, PM.
- Combat Trauma Patient Simulation Phase II Increment (RTI Version);
  U.S. Army STRICOM; $15,600; SA, PM.
- Application of Beowulf Cluster Supercomputing to Simulation;
  University of Central Florida; $50,000; CA, CI.
- HLA Gateway Continuation 1999;
  U.S. Army STRICOM; $218,000; CA, PM.

1998
- Applications of Beowulf Cluster Supercomputing to Simulation;
  University of Central Florida Office of Sponsored Research; $50,000; CA, CI.
- Maintenance and Support for the High Level Architecture Gateway;
  U.S. Army STRICOM; $95,388; PA, PM.
- Research and Support for the Advanced Tactical Engagement Simulation STO;
  U.S. Army STRICOM; $299,408; PA, PM.
- Continued Research on Pseudo-Disaggregation for Dynamic Multi-User Information Fusion;
  U.S. Army TRADOC Analysis Center; $149,909; CA, PM.
- Using the HLA Object Model Template for Simulation Specification;
  U.S. Army STRICOM; $199,983; CA, PM.
- Realism in Computer Generated Forces, Artificial Intelligence Enhancements;
  U.S. Army ARI; $49,687; PA, PM.
- Flood Elevations for the Florida Coast: A State-of-the-Art Simulation Approach;
  University of Central Florida Office of Sponsored Research; $21,266; CA, CI.

- Continued Development of the HLA Gateway;
  U.S. Army STRICOM; $269,963; PA, PM.
- Realism in Computer Generated Forces, Software Development for C3SIM;
  U.S. Army ARI; $49,964; PA, PM.
- Review of the CFOR Army Command Entity Relative to OneSAF Requirements;
  U.S. Army STRICOM; $299,826; CA, PM.
- Continued Research on Pseudo-Disaggregation for Dynamic Multi-User Information Fusion
  (Radar task); U.S. Army TRADOC Analysis Center; $15,000; CA, PM.

1997
- HLA Gateway PDU Expansion;
  U.S. Army STRICOM; $108,376; PA, PM.
- Future Data Distribution for the HLA Based on the *d*-space Intersection of Convex *d*-Polyhedra;
  University of Central Florida Office of Sponsored Research; $40,450; SA, PI.

1996
- Continued Experimentation and Evaluation of the High Level Architecture Implementation;
  U.S. Army STRICOM; $499,958; CA, PM.
- BDS-D Participation in the High Level Architecture Platform Proto-Federation Demonstration;
  U. S. Army STRICOM and Defense Modeling and Simulation Office; $458,407; PA, PM.

1995
- Plowshares, Emergency Management Simulation and Training;
  U. S. Army STRICOM; $549,995; SA, PM.
- AAAV: Demonstrating the Feasibility of Using Virtual Simulation for Test and Evaluation;
  U.S. Navy Naval Air Warfare Center Training Systems Division; $573,395; PA, CI.

1994
- Development and Implementation of Computer Controlled Hostiles in Support of TTES;
  U.S. Navy Naval Air Warfare Center Training Systems Division; $248,971; CA, PM.
- Integrated Eagle/BDS-D Expansion;
  U.S. Army STRICOM and U.S. Army TRADOC Analysis Center; $698,780; CA, PM.
- Graph Isomorphism Algorithms;
  University of Central Florida Office of Sponsored Research; $6,000; CA, PM.
- Integrated Eagle/BDS-D Consultation;
  U.S. Army STRICOM and U.S. Army TRADOC Analysis Center; $102,566; CA, PM.
- Team Target Engagement System Computer Controlled Hostiles Expansion;
  U.S. Navy Naval Air Warfare Center Training Systems Division; $119,238; CA, PM.
- TTES Computer Controlled Hostiles FY 95 Continuation;
  U.S. Navy Naval Air Warfare Center Training Systems Division; $279,291; CA, PM.

1993
- Integrated Eagle/BDS-D Enhancement;
  U.S. Army STRICOM and U.S. Army TRADOC Analysis Center; $435,747; CA, PM.
- Increasing the Realism of the DIS Battlefield with Semi-Automated Forces Dismounted Infantry;
  U.S. Army STRICOM; $417,241; PA, PM.
- Integrated Eagle/BDS-D Laboratory Development;
  U.S. Army STRICOM and U.S. Army TRADOC Analysis Center; $39,956; CA, PM.

1992
- Intelligent Autonomous Behavior by Semi-Automated Forces in Distributed Interactive Simulation;
  U.S. Army STRICOM; $1,810,720; PA, PI.
- Efficient Line of Sight Determination in Polygonal Terrain;
  University of Central Florida Office of Sponsored Research; $2,000; SA, PI.
- A Language for Specifying and Executing the Behavior of Autonomous Simulation Entities;
  Martin Marietta; $50,000; SA, PI.

Publications are organized by category; within a category they are listed in reverse chronological order. Only publications that have been published or accepted are included; pending papers and unpublished technical reports are not included. Coauthors marked with an asterisk (*) are or were my Ph.D. or M.S. advisees.

Category	Count
Journal articles (peer-reviewed)	18
Book chapters	12
Conference papers (peer-reviewed)	77
Conference papers (other)	65
Magazine and newspaper articles	14
Total	**186**

Journal articles (peer-reviewed)

- M. J. Bott* and **M. D. Petty**, "Implementing a Physics-based Model of Crowd Movement using the Unreal Development Kit", *Journal of Gaming and Virtual Worlds*, Vol. 6, No. 3, September 2014.

- S. E. Barbosa* and **M. D. Petty**, "Exploiting Spatio-Temporal Patterns Using Partial-State Reinforcement Learning in a Synthetically-Augmented Environment", *Progress in Artificial Intelligence*, August 2014, DOI: 10.1007/s13748-014-0057-2.

- S. E. Barbosa* and **M. D. Petty**, "Reinforcement Learning in an Environment Synthetically Augmented with Digital Pheromones", *Advances in Artificial Intelligence*, Vol. 2014, March 2014, 23 pages, DOI: 10.1155/2014/932485.

- **M. D. Petty**, J. Kim, S. E. Barbosa*, and J. Pyun, "Software Frameworks for Model Composition", *Modelling and Simulation in Engineering*, Vol. 2014, February 2014, 18 pages, DOI: 10.1155/2014/492737.

- G. S. Reed*, G. B. Tackett, **M. D. Petty**, and J. P. Ballenger, "A Model of 'Evil' for Course of Action Analysis", *Military Operations Research*, Vol. 18, No. 4, December 2013, pp. 61-76.

- G. T. Hanold* and **M. D. Petty**, "Enhancing a Commercial Game Engine to Support Research on Route Realism for Synthetic Human Characters", *International Journal of Computer Games Technology*, Vol. 2011, December 2011, Article ID 819746, 15 pages, DOI: 10.1155/2011/819746.

- F. D. McKenzie, **M. D. Petty**, P. A. Kruszewski, R. C. Gaskins, Q. H. Nguyen, J. Seevinck, and E. W. Weisel*, "Integrating crowd-behavior modeling into military simulation using game technology", *Simulation & Gaming*, Vol. 39, No. 1, March 2008, pp. 10-38.

- F. D. McKenzie, **M. D. Petty**, P. A. Kruszewski, R. C. Gaskins, Q. H. Nguyen, J. Seevinck, and E. W. Weisel*, "Crowd Modeling for Military Simulations Using Game Technology", *International Journal of Intelligent Games and Simulation*, Vol. 4, No. 1, May/June 2005, pp. 35-54, URL http://ijigs.scit.wlv.ac.uk/ijigs41.htm.

- K. L. Morse and **M. D. Petty**, "High Level Architecture Data Distribution Management Migration from DoD 1.3 to IEEE 1516", *Concurrency and Computation: Practice and Experience*, Vol. 16, Iss. 15, December 2004, pp. 1527-1543.

- F. D. McKenzie, **M. D. Petty**, and Q. Xu, "Usefulness of Software Architecture Description Languages for Modeling and Analysis of Federates and Federation Architectures", *SIMULATION: Transactions of the Society for Modeling and Simulation International*, Vol. 80, Iss. 11, November 2004, pp. 559-576.

- **M. D. Petty** and K. L. Morse, "The Computational Complexity of the High Level Architecture Data Distribution Management Matching and Connecting Processes", *Simulation Modelling Practice and Theory*, Volume 12, Issues 3-4, July 2004, pp. 217-237.

- **M. D. Petty**, "Benefits and Consequences of Automated Learning in Computer Generated Forces Systems", *Information & Security*, Volume 12, Number 1, 2003, pp. 63-74.

- F. D. McKenzie, **M. D. Petty**, and J. Catanzaro, "An Experimental Application of a Trait-Based Personality Model to the Simulation of Military Decision-Making", *Information & Security*, Volume 12, Number 1, 2003, pp. 75-92.

- **M. D. Petty**, "Comparing High Level Architecture Data Distribution Management Specifications 1.3 and 1516", *Simulation Practice and Theory*, Volume 9, Issue 3-5, April 2002, pp. 95-119.

- **M. D. Petty**, R. W. Franceschini, and A. Mukherjee, "A Terrain Reasoning Algorithm for Defending a Fire Zone", *Information & Security*, Vol. 3, 1999, pp. 56-75.

- **M. D. Petty** and P. S. Windyga, "A High Level Architecture-based Medical Simulation", *SIMULATION*, Vol. 73, No. 5, November 1999, pp. 279-285.

- M. P. Slepow, **M. D. Petty**, and J. P. Kincaid, "From Battlefield to Emergency Management", *Ergonomics in Design*, Vol. 5, No. 4, October 1997, pp. 6-12.

- **M. D. Petty**, M. P. Slepow, and M. Horsley, "Plowshares: An Emergency Management Training Simulation", *SIMULATION*, Vol. 66, No. 6, June 1996, pp. 357-373.

Book chapters

- **M. D. Petty** and P. Gustavson, "Combat Modeling with the High Level Architecture and Base Object Models", in A. Tolk (Editor), *Engineering Principles of Combat Modeling and Distributed Simulation*, John Wiley & Sons, Hoboken NJ, 2012, pp. 413-448.

- **M. D. Petty**, R. W. Franceschini, and J. Panagos, "Multi-Resolution Combat Modeling", in A. Tolk (Editor), *Engineering Principles of Combat Modeling and Distributed Simulation*, John Wiley & Sons, Hoboken NJ, 2012, pp. 607-640.

- **M. D. Petty**, "Verification, Validation, and Accreditation", in J. A. Sokolowski* and C. M. Banks (Editors), *Modeling and Simulation Fundamentals: Theoretical Underpinnings and Practical Domains*, John Wiley & Sons, Hoboken NJ, 2010, pp. 325-372.

- **M. D. Petty**, "Verification and Validation", in J. A. Sokolowski* and C. M. Banks (Editors), *Principles of Modeling and Simulation: A Multidisciplinary Approach*, John Wiley & Sons, Hoboken NJ, 2009, pp. 121-149.

- **M. D. Petty**, "Behavior Generation in Semi-Automated Forces", in D. Nicholson, D. Schmorrow, and J. Cohn (Editors), *The PSI Handbook of Virtual Environment Training and Education: Developments for the Military and Beyond, Volume 2: VE Components and Training Technologies*, Praeger Security International, Westport CT, 2009, pp. 189-204.

- R. B. Loftin, **M. D. Petty**, F. D. McKenzie, and R. C. Gaskins, "Modeling Crowd Behavior for Military Simulation Applications", in W. B. Rouse and K. R. Boff (Editors), *Organizational Simulation*, Wiley, New York NY, 2005, pp. 471-536.

- **M. D. Petty**, et al., "Modeling and Simulation Research and Development Topics", in P. E. Castro et al, *Modeling and Simulation in Manufacturing and Defense Acquisition: Pathways to Success*, National Research Council, National Academy Press, Washington DC, 2002, pp. 77-102.

- **M. D. Petty**, et al., "Conclusions and Recommendations", in P. E. Castro et al, *Modeling and Simulation in Manufacturing and Defense Acquisition: Pathways to Success*, National Research Council, The National Academy Press, Washington DC, 2002, pp. 103-126.

- D. D. Wood and **M. D. Petty**, "Electronic warfare and Distributed Interactive Simulation", in T. L. Clarke (Editor), *Distributed Interactive Simulation Systems for Simulation and Training in the Aerospace Environment*, SPIE Critical Reviews of Optical Science and Technology, Vol. CR58, SPIE Press, Bellingham WA, 1995, pp. 179-194.

- **M. D. Petty**, "Computer generated forces in Distributed Interactive Simulation", in T. L. Clarke (Editor), *Distributed Interactive Simulation Systems for Simulation and Training in the Aerospace Environment*, SPIE Critical Reviews of Optical Science and Technology, Vol. CR58, SPIE Press, Bellingham WA, 1995, pp. 251-280.

- R. W. Franceschini and **M. D. Petty**, "Linking constructive and virtual simulation in DIS", in T. L. Clarke (Editor), *Distributed Interactive Simulation Systems for Simulation and Training in the Aerospace Environment*, SPIE Critical Reviews of Optical Science and Technology, Vol. CR58, SPIE Press, Bellingham WA, 1995, pp. 281-298.

- S. Rajput, C. R. Karr, **M. D. Petty**, and M. A. Craft, "Intervisibility heuristics for CGF", in T. L. Clarke (Editor), *Distributed Interactive Simulation Systems for Simulation and Training in the Aerospace Environment*, SPIE Critical Reviews of Optical Science and Technology, Vol. CR58, SPIE Press, Bellingham WA, 1995, pp. 299-327.

Conference papers (peer-reviewed)

- **M. D. Petty** and W. S. Barge, "Emerging Modeling and Simulation Technologies Needed to Implement Cultural Familiarization Training in Virtual Environments", *Proceedings of the 2014 Summer Simulation Multi-Conference*, Monterey CA, July 6-10 2014, pp. 500-507.

- E. W. Weisel* and **M. D. Petty**, "A Bayesian Approach to Assessing Expected Utility in the Simulation Decision", *Proceedings of the 2013 Summer Simulation Multi-Conference*, Toronto Canada, July 7-10 2013.

- **M. D. Petty**, "Advanced Topics in Calculating and Using Confidence Intervals for Model Validation", *Proceedings of the Spring 2013 Simulation Interoperability Workshop*, San Diego CA, April 8-12 2013, pp. 194-204.
  Nominated for conference "Recommended Reading List" (Best Paper) award.

- D. A. O'Neil* and **M. D. Petty**, "Organizational Simulation for Model Based Systems Engineering", *Proceedings of the 2013 Conference on Systems Engineering Research*, Atlanta GA, March 19-22 2013, pp. 323-332.

- A. J. Collins, D. Meyr, S. Sherfey, and **M. D. Petty**, "The Value of Modeling and Simulation Standards", *Proceedings of the Autumn Simulation Multiconference 2012*, San Diego CA, October 28-31 2012.

- **M. D. Petty**, "Calculating and Using Confidence Intervals for Model Validation", *Proceedings of the Fall 2012 Simulation Interoperability Workshop*, Orlando FL, September 10-14 2012, pp. 37-45.
  Selected for conference "Recommended Reading List" (Best Paper) award.

- D. C. Bulgatz, D. L. Heater, D. A. O'Neil*, B. C. Norris*, B. C. Schricker*, and **M. D. Petty**, "Design and Implementation of Lunar Communications Satellite and Server Federates for the 2012 SISO Smackdown Federation", *Proceedings of the Fall 2012 Simulation Interoperability Workshop*, Orlando FL, September 10-14 2012, pp. 213-223.

- C. L. Fordyce, S. Govindaiah, S. P. Muratet*, D. A. O'Neil*, B. C. Schricker*, and **M. D. Petty**, "Three Dimensional Computer Graphics Federates for the 2012 SISO Smackdown Federation", *Proceedings of the Fall 2012 Simulation Interoperability Workshop*, Orlando FL, September 10-14 2012, pp. 224-233.

- **M. D. Petty**, R. L. Dunning*, and A. J. Collins, "Expanded Analysis of the Correlation of Characterizing Attributes and Success in Military M&S Standards", *Proceedings of the 2012 AlaSim International Modeling and Simulation Conference*, Huntsville AL, May 1-3 2012.

- W. E. Daniels and **M. D. Petty**, "Recreating the Battle of 73 Easting in a Constructive Combat Model", *Proceedings of the 2012 AlaSim International Modeling and Simulation Conference*, Huntsville AL, May 1-3 2012.

- **M. D. Petty**, "Modeling and Validation Challenges for Complex Systems", *Proceedings of the Spring 2012 Simulation Interoperability Workshop*, Orlando FL, March 26-30 2012, pp. 178-187.
  Selected for conference "Recommended Reading List" (Best Paper) award.

- **M. D. Petty**, G. S. Reed*, and W. V. Tucker*, "Topics, Structure, and Delivery of the New Certified Modeling and Simulation Professional Examination", *Proceedings of the Spring 2012 Simulation Interoperability Workshop*, Orlando FL, March 26-30 2012, pp. 188-195.

- M. L. Loper, J. W. Diem, A. Henninger, **M. D. Petty**, and A. Tolk., "Educating the Workforce: M&S Professional Education", *Proceedings of the 2011 Winter Simulation Conference,* Phoenix AZ, December 11-14 2011, pp. 3968-3978.

- A. Tolk, O. Balci, S. Y. Diallo, P. A. Fishwick, X. Hu, M. L. Loper, **M. D. Petty**, P. F. Reynolds, H. Sarjoughian, and B. P. Zeigler, "Towards A Methodological Approach to Identify Future M&S Standard Needs", *Proceedings of the 2011 Winter Simulation Conference,* Phoenix AZ, December 11-14 2011, pp. 2980-2997.

- **M. D. Petty**, R. L. Dunning*, and A. J. Collins, "Correlation of Characterizing Attributes and Success in Military M&S Standards", *Proceedings of the Fall 2011 Simulation Interoperability Workshop*, Orlando FL, September 19-23 2011, pp. 188-200.

- **M. D. Petty**, J. Panagos, J. P. Joseph, and R. W. Franceschini, "Validation Using Comparison Testing of Three Constructive Combat Models", *Proceedings of the Fall 2011 Simulation Interoperability Workshop*, Orlando FL, September 19-23 2011, pp. 201-212.

- A. J. Collins, S. Y. Diallo, S. R. Sherfey, A. Tolk, C. D. Turnitsa, **M. D. Petty**, and E. W. Weisel*, "Standards in Modeling and Simulation: The Next Ten Years;" *Proceedings of the MODSIM World 2010 Conference and Expo*; Hampton VA; October 13-15 2010, pp. 68-73.

- **M. D. Petty**, K. L. Morse, W. C. Riggs, P. Gustavson, and H. Rutherford, "A Reuse Lexicon: Terms, Units, and Modes in M&S Asset Reuse", *Proceedings of the Fall 2010 Simulation Interoperability Workshop*, Orlando FL, September 20-24 2010.

- W. C. Riggs, K. L. Morse, P. Gustavson, H. Rutherford, and **M. D. Petty**, "Use Cases and Criteria for Assessing M&S Reuse Repositories", *Proceedings of the Fall 2010 Simulation Interoperability Workshop*, Orlando FL, September 20-24 2010.

- R. Lutz, R. Scrudder, R. Syring, **M. D. Petty**, J. Borah, and J. Rutledge, "A Systems Engineering Perspective on the Development and Execution of Multi-Architecture LVC Environments", *Proceedings of the Fall 2010 Simulation Interoperability Workshop*, Orlando FL, September 20-24 2010.
  Selected for conference "Recommended Reading List" (Best Paper) award.

- S. E. Barbosa* and **M. D. Petty**, "A Survey and Comparison of Past Instances of Combat Model Validation by Retrodiction", *Proceedings of the Spring 2010 Simulation Interoperability Workshop*, Orlando FL, April 12-16 2010.
  Nominated for conference "Recommended Reading List" (Best Paper) award.

- **M. D. Petty** and J. Panagos, "A Unit-level Combat Resolution Algorithm Based on Entity-level Data", *Proceedings of the 2008 Interservice/Industry Training, Simulation and Education Conference*, Orlando FL, December 1-4 2008, pp. 267-277.

- L. J. Moya, E. W. Weisel*, F. D. McKenzie, Q. H. Nguyen, and **M. D. Petty**, "A Distributed Crowd Behavior Model Using Game Technology", *Proceedings of the 2007 European Simulation Interoperability Workshop*, Genoa Italy, June 18-20 2007.
  Selected for conference "Recommended Reading List" (Best Paper) award.

- **M. D. Petty**, "Approximating Sensor Footprints with HLA DDM Rectangles: Comparing the Maximum and Minimum Approaches", *Proceedings of the Fall 2006 Simulation Interoperability Workshop*, Orlando FL, September 10-15 2006, pp. 475-488.

- **M. D. Petty**, "Corrigendum to 'Computational Complexity of Selecting Components for Composition'", *Proceedings of the Fall 2006 Simulation Interoperability Workshop*, Orlando FL, September 10-15 2006, pp. 489-490.

- **M. D. Petty**, "Approximating Sensor Footprints with HLA DDM Rectangles: Lines, Quadrilaterals, and Multi-Sectors", *Proceedings of the Spring 2006 Simulation Interoperability Workshop*, Huntsville AL, April 2-7 2006, pp. 155-177.

- E. W. Weisel*, F. D. McKenzie, Q. H. Nguyen, **M. D. Petty**, J. Camp, J. Anthony, and R. Albright, "Crowd Federate Implementation for Maneuver Support Simulation", *Proceedings of the Spring 2006 Simulation Interoperability Workshop*, Huntsville AL, April 2-7 2006, pp. 583-587.

- **M. D. Petty**, "Approximating Sensor Footprints with HLA DDM Rectangles: Ellipses, Sectors with Semicircular Ends, and Rectangles with Semicircular Ends", *Proceedings of the Fall 2005 Simulation Interoperability Workshop*, Orlando FL, September 18-23 2005, pp. 151-163.
  Nominated for conference "Recommended Reading List" (Best Paper) award.

- K. D. Neal*, W. N. Colley, and **M. D. Petty**, "An Application and Evaluation of a Methodology for Testing Operational Level Training Simulations", *Proceedings of the Fall 2005 Simulation Interoperability Workshop*, Orlando FL, September 18-23 2005, pp. 271-279.

- **M. D. Petty**, "Approximating Sensor Footprints with DDM Rectangles: Circles, Sectors, and Non-Axis Parallel Rectangles", *Proceedings of the Spring 2005 Simulation Interoperability Workshop*, San Diego CA, April 3-8 2005, pp. 419-430.
  Selected for conference "Recommended Reading List" (Best Paper) award.

- **M. D. Petty**, E. W. Weisel*, and R. R. Mielke, "Composability Theory Overview and Update", *Proceedings of the Spring 2005 Simulation Interoperability Workshop*, San Diego CA, April 3-8 2005, pp. 431-437.

- E. W. Weisel*, **M. D. Petty**, and R. R. Mielke, "A Comparison of DEVS and Semantic Composability Theory", *Proceedings of the Spring 2005 Simulation Interoperability Workshop*, San Diego CA, April 3-8 2005, pp. 956-964.
  Nominated for conference "Recommended Reading List" (Best Paper) award.

- K. R. Hunter, **M. D. Petty**, and F. D. McKenzie, "Experimental Evaluation of the Effect of Varying Levels of Crowd Behavior Fidelity on the Outcome of Certain Military Scenarios", *Proceedings of the Spring 2005 Simulation Interoperability Workshop*, San Diego CA, April 3-8 2005, pp. 446-453.

- F. D. McKenzie, Q. H. Nguyen, Q. Xu, **M. D. Petty**, and P. A. Kruszewski, "Designing Physical Layer Components in a Reconfigurable Crowd Federate", *Proceedings of the Spring 2005 Simulation Interoperability Workshop*, San Diego CA, April 3-8 2005, pp. 333-342.
  Nominated for conference "Recommended Reading List" (Best Paper) award.

- E. W. Weisel*, W. T. Richards, V. Lassiter-Bryson, and **M. D. Petty**, "Generating Geospecific Terrain Databases for Brcko Bosnia for the Crowd Federate", *Proceedings of the Spring 2005 Simulation Interoperability Workshop*, San Diego CA, April 3-8 2005, pp. 1024-1032.

- E. W. Weisel* and **M. D. Petty**, "Reference Scenarios for Crowd Federate Validation", *Proceedings of the Fall 2004 Simulation Interoperability Workshop*, Orlando FL, September 19-24 2004, pp. 415-423.

- F. D. McKenzie, Q. Xu, Q. H. Nguyen, and **M. D. Petty**, "Crowd Federate Architecture and API Design", *Proceedings of the Fall 2004 Simulation Interoperability Workshop*, Orlando FL, September 19-24 2004, pp. 574-587.
  Selected for conference "Recommended Reading List" (Best Paper) award.

- D. A. Dryer, L. A. Belfore, **M. D. Petty**, M. Phillips, H. Garcia, J. Seevinck, R. B. Loftin, and T. Mastaglio, "A Methodology for Rapid Assessment of Simulation Technology and Application to Soldier CATT", *Proceedings of the Fall 2004 Simulation Interoperability Workshop*, Orlando FL, September 19-24 2004, pp. 403-414.

- **M. D. Petty**, "Simple Composition Suffices to Assemble Any Composite Model", *Proceedings of the Spring 2004 Simulation Interoperability Workshop*, Arlington VA, April 18-23 2004, pp. 299-307.

- E. W. Weisel*, **M. D. Petty**, and R. R. Mielke, "A Survey of Engineering Approaches to Composability", *Proceedings of the Spring 2004 Simulation Interoperability Workshop*, Arlington VA, April 18-23 2004, pp. 722-731.

- **M. D. Petty**, F. D. McKenzie, R. C. Gaskins, and E. W. Weisel*, "Developing a Crowd Federate for Military Simulation", *Proceedings of the Spring 2004 Simulation Interoperability Workshop*, Arlington VA, April 18-23 2004, pp. 483-493.
  Nominated for conference "Recommended Reading List" (Best Paper) award.

- K. L. Morse, **M. D. Petty**, P. F. Reynolds, W. F. Waite, and P. M. Zimmerman, "Findings and Recommendations from the 2003 Composable Mission Space Environments Workshop", *Proceedings of the Spring 2004 Simulation Interoperability Workshop*, Arlington VA, April 18-23 2004, pp. 313-323.
  Selected for conference "Recommended Reading List" (Best Paper) award.

- F. D. McKenzie, H. Garcia, Q. H. Nguyen, J. Seevinck, and **M. D. Petty**, "Mogadishu Terrain Generation and Correlation for Crowd Modeling", *Proceedings of the Spring 2004 Simulation Interoperability Workshop*, Arlington VA, April 18-23 2004, pp. 944-950.

- L. A. Belfore, J. J. Garcia, E. K. Lada, **M. D. Petty**, and W. P. Quinones, "Capabilities and Intended Uses of the Joint Operations Feasibility Tool", *Proceedings of the Spring 2004 Simulation Interoperability Workshop*, Arlington VA, April 18-23 2004, pp. 596-604.

- **M. D. Petty**, E. W. Weisel*, and R. R. Mielke, "A Formal Approach to Composability", *Proceedings of the 2003 Interservice/Industry Training, Simulation and Education Conference*, Orlando FL, December 1-4 2003, pp. 1763-1772.

- **M. D. Petty**, E. W. Weisel*, and R. R. Mielke, "Computational Complexity of Selecting Components for Composition", *Proceedings of the Fall 2003 Simulation Interoperability Workshop*, Orlando FL, September 14-19 2003, pp. 517-525.

- E. W. Weisel*, R. R. Mielke, and **M. D. Petty**, "Validity of Models and Classes of Models in Semantic Composability", *Proceedings of the Fall 2003 Simulation Interoperability Workshop*, Orlando FL, September 14-19 2003, pp. 526-536.
  Nominated for conference "Recommended Reading List" (Best Paper) award.
- **M. D. Petty** and E. W. Weisel*, "A Formal Basis for a Theory of Semantic Composability", *Proceedings of the Spring 2003 Simulation Interoperability Workshop*, Orlando FL, March 30-April 4 2003, pp. 416-423.
- **M. D. Petty** and E. W. Weisel*, "A Composability Lexicon", *Proceedings of the Spring 2003 Simulation Interoperability Workshop*, Orlando FL, March 30-April 4 2003, pp. 181-187.
  Selected for conference "Recommended Reading List" (Best Paper) award.
- **M. D. Petty**, F. D. McKenzie, and Q. Xu, "Using a Software Architecture Description Language to Model the Architecture and Run-Time Performance of a Federate", *Proceedings of the Sixth IEEE International Workshop on Distributed Simulation and Real-Time Applications*, Ft. Worth TX, October 11-13 2002, pp. 85-92.
- F. D. McKenzie, **M. D. Petty**, and Q. Xu, "Using Rapide to Simulate a Federation Architecture", *Proceedings of the Fall 2002 Simulation Interoperability Workshop*, Orlando FL, September 8-13 2002, pp. 203-212.
- K. L. Morse and **M. D. Petty**, "Data Distribution Management Migration from DoD 1.3 to IEEE 1516", *Proceedings of the Fifth IEEE International Workshop on Distributed Simulation and Real-Time Applications*, Cincinnati OH, August 13-15 2001, pp. 58-65.
- **M. D. Petty**, "Data Distribution Management Specifications 1.3 And 1516 Are Equivalently Powerful", *Proceedings of the Spring 2001 Simulation Interoperability Workshop*, Orlando FL, March 26-30 2001, pp. 857-867.
- **M. D. Petty**, "Geometric and Algorithmic Results Regarding HLA Data Distribution Management Matching", *Proceedings of the Fall 2000 Simulation Interoperability Workshop*, Orlando FL, September 17-22 2000, pp. 596-603.
- **M. D. Petty** and K. L. Morse, "Computational Complexity of HLA Data Distribution Management", *Proceedings of the Fall 2000 Simulation Interoperability Workshop*, Orlando FL, September 17-22 2000, pp. 1027-1032.
- P. S. Windyga, J. P. Kincaid, B. C. Schricker*, F. W. Feuerbacher, K. B. Anna, T. C. Johnson, and **M. D. Petty**, "Multiple Casualty Sources in the Combat Trauma Patient Simulation (CTPS)", *Proceedings of the Spring 2000 Simulation Interoperability Workshop*, Orlando FL, March 26-31 2000, pp. 424-433.
- D. D. Wood and **M. D. Petty**, "HLA Gateway 1999", *Proceedings of the Spring 1999 Simulation Interoperability Workshop*, Orlando FL, March 14-19 1999, pp. 302-307.
- S. Rajput and **M. D. Petty**, "Combat Trauma Patient Simulation Phase 2 Architecture", *Proceedings of the Spring 1999 Simulation Interoperability Workshop*, Orlando FL, March 14-19 1999, pp. 285-292.
- M. D. Myjak, R. L. Carter, D. D. Wood, and **M. D. Petty**, "A Taxonomy of Multiple Federation Executions", *Proceedings of the 20th Interservice/Industry Training Systems and Education Conference*, Orlando FL, November 30-December 3 1998, pp. 179-189.
- A. Cox and **M. D. Petty**, "Use of DIS Simulation Management (SIMAN) in HLA Federations", *Proceedings of the 1998 Spring Simulation Interoperability Workshop*, Orlando FL, March 9-13 1998, pp. 622-627.
- S. A. Schricker, R. W. Franceschini, and **M. D. Petty**, "Implementation Experiences with the DIS Aggregate Protocol", *Proceedings of the 1998 Spring Simulation Interoperability Workshop*, Orlando FL, March 9-13 1998, pp. 768-776.
- M. B. H. Pettitt, B. F. Goldiez, **M. D. Petty**, S. Rajput, and H. Tu, "The Combat Trauma Patient Simulator", *Proceedings of the 1998 Spring Simulation Interoperability Workshop*, Orlando FL, March 9-13 1998, pp. 936-946.
- D. D. Wood, A. Cox, and **M. D. Petty**, "An HLA Gateway for DIS Applications", *Proceedings of the 19th Interservice/Industry Training, Simulation, and Education Conference*, Orlando FL, December 1-4 1997, pp. 511-520.
- **M. D. Petty** and A. Mukherjee, "Experimental Comparison of *d*-Rectangle Intersection Algorithms Applied to HLA Data Distribution", *Proceedings of the 1997 Distributed Simulation Symposium*, Orlando FL, September 8-12 1997, pp. 13-26.

- K. L. Morse, A. Kemkes, and **M. D. Petty**, "Issues in the Relationship Between HLA's Declaration Management and Data Distribution Management Services", *Proceedings of the 1997 Fall Simulation Interoperability Workshop*, Orlando FL, September 8-12 1997, pp. 549-559.

- A. Cox, **M. D. Petty**, and D. D. Wood, "Gateway Performance Using RTI 1.0", *Proceedings of the 1997 Fall Simulation Interoperability Workshop*, Orlando FL, September 8-12 1997, pp. 467-471.

- S. M. Harkrider and **M. D. Petty**, "Results of the High Level Architecture Platform Proto-Federation Experiment", *Proceedings of the 8th International Training and Education Conference*, Lausanne Switzerland, April 22-25 1997.

- **M. D. Petty** and A. Mukherjee, "The Sieve Overlap Algorithm for Intervisibility Determination", *Proceedings of the 1997 Spring Simulation Interoperability Workshop*, Orlando FL, March 3-7 1997, pp. 245-255.

- D. D. Wood, **M. D. Petty**, A. Cox, R. C. Hofer, and S. M. Harkrider, "HLA Gateway Status and Future Plans", *Proceedings of the 1997 Spring Simulation Interoperability Workshop*, Orlando FL, March 3-7 1997, pp. 807-814.

- S. M. Harkrider and **M. D. Petty**, "High Level Architecture and the Platform Proto-Federation", *Proceedings of the 18th Interservice/Industry Training Systems and Education Conference*, Orlando FL, December 3-6 1996.

- **M. D. Petty** and M. P. Slepow, "Plowshares: Emergency Management Training with a Military Constructive Simulation", *Proceedings of the 17th Interservice/Industry Training Systems and Education Conference*, Albuquerque NM, November 13-16 1995.
  Nominated for conference Best Paper award.

- R. W. Franceschini, **M. D. Petty**, and D. A. Reece, "Dismounted Infantry in Distributed Interactive Simulation", *Proceedings of the 16th Interservice/Industry Training Systems and Education Conference*, Orlando FL, November 28-December 1 1994, p. 4-20.

- **M. D. Petty**, C. R. Karr, and S. H. Smith, "Semi-Automated Forces Dismounted Infantry in the SIMNET Battlefield", *Proceedings of the 14th Interservice/Industry Training Systems and Education Conference*, San Antonio TX, November 2-5 1992, pp. 314-321.

- **M. D. Petty**, T. J. Frederick, and J. M. Moshell, "Experiments in Routing an Autonomous Land Vehicle with a Weakly Inductive Learning Algorithm", *Proceedings of the Third Florida Artificial Intelligence Research Symposium*, Cocoa Beach FL, April 3-6 1990, pp. 159-163.

Conference papers (other)

- **M. D. Petty** and B. C. Schricker*, "Curriculum Structure and Graduation Requirements in the UAHuntsville M&S Degree Programs", *Proceedings of the 2010 Huntsville Simulation Conference*, Huntsville AL, October 26-28 2010.

- S. E. Barbosa* and **M. D. Petty**, "Implementing Autonomous Behavior Control and Inter-Agent Collaboration in Unreal Tournament", *Proceedings of the 2010 Huntsville Simulation Conference*, Huntsville AL, October 26-28 2010.

- G. T. Hanold* and **M. D. Petty**, "Developing a Modeling and Simulation Environment and Methodology for the Measurement and Validation of Route Realism", *Proceedings of the 2010 Huntsville Simulation Conference*, Huntsville AL, October 26-28 2010.

- G. S. Reed* and **M. D. Petty**, "Designing and Implementing a Predictive Healthcare Decision Support Software System for Nursing Managers", *Proceedings of the 2010 Huntsville Simulation Conference*, Huntsville AL, October 26-28 2010.

- **M. D. Petty**, "The UAHuntsville Modeling and Simulation Degree Programs", *Proceedings of the 2009 Huntsville Simulation Conference*, Huntsville AL, October 28-29 2009.

- **M. D. Petty** and G. S. Reed*, "Developing a Modeling and Simulation Education Curriculum for Defense Test and Evaluation and Acquisition Professionals", *Proceedings of the 2009 Huntsville Simulation Conference*, Huntsville AL, October 28-29 2009.

- A. W. Morris, **M. D. Petty**, W. N. Colley, J. D. Richardson, and M. Chandler, "Developing Instructional Content for Test & Evaluation: Advanced Modeling and Simulation for Test and Evaluation", *Proceedings of the 2009 ITEA Live-Virtual-Constructive Conference*, El Paso TX, January 12-15 2009.

- A. W. Morris, **M. D. Petty**, W. N. Colley, and M. Chandler, "Developing Instructional Content for Test & Evaluation: Introduction to Modeling and Simulation for Test and Evaluation", *Proceedings of the 2009 ITEA Live-Virtual-Constructive Conference*, El Paso TX, January 12-15 2009.

- **M. D. Petty**, J. Panagos, R. W. Franceschini, and J. S. Strickland, "Towards an Aggregate-Level Combat Resolution Algorithm Based on Entity-Level Models", *Proceedings of the 2007 Huntsville Simulation Conference*, Huntsville AL, October 30-November 1 2007.

- **M. D. Petty** and L. A. Litten, "A Comparative Analysis of Modeling and Simulation Degree Programs", *Proceedings of the 2006 Huntsville Simulation Conference*, Huntsville AL, October 17-19 2006.

- R. R. Mielke, **M. D. Petty**, and E. W. Weisel*, "A Comparison of Model-Based Systems Engineering and Composability Theory", *Proceedings of the Huntsville Simulation Conference 2005*, Huntsville AL, October 25-27 2005, pp. 300-308.

- Q. H. Nguyen, F. D. McKenzie, and **M. D. Petty**, "Crowd Behavior Cognitive Model Architecture Design", *Proceedings of the 2005 Conference on Behavior Representation in Modeling and Simulation*, Universal City CA, May 16-19 2005, pp. 55-64.
  Selected for conference "Recommended Reading List" (Best Paper) award.

- C. M. Boone, R. C. Gaskins, and **M. D. Petty**, "Crowd Control Training for Military Officers", *American Psychological Association Annual Symposium on Applied Experimental Research*, Fairfax VA, March 3-4 2005.

- **M. D. Petty**, E. W. Weisel*, and R. R. Mielke, "Overview of a Theory of Composability", *Proceedings of the Huntsville Simulation Conference 2004*, Huntsville AL, October 19-21 2004, pp. 363-368.

- R. C. Gaskins, C. M. Boone, T. M. Verna, and **M. D. Petty**, "Cognitive and Behavioral Psychological Research for Crowd Modeling", *NATO Symposium on Modeling and Simulation to Address NATO's New and Existing Military Requirements*, Koblenz Germany, October 7-8 2004.

- C. M. Boone, R. C. Gaskins, and **M. D. Petty**, "Crowd Behavior Observations for Military Simulation", *Human Factors and Ergonomics Society 48th Annual Meeting*, New Orleans LA, September 20-24 2004.

- C. M. Boone, R. C. Gaskins, and **M. D. Petty**, "Observations of Crowd Behavior", *Proceedings of the 2004 Conference on Behavior Representation in Modeling and Simulation*, Arlington VA, May 17-20 2004, pp. 397-398.

- R. C. Gaskins, C. M. Boone, T. M. Verna, J. P. Bliss, and **M. D. Petty**, "Psychological Research for Crowd Modeling", *Proceedings of the 2004 Conference on Behavior Representation in Modeling and Simulation*, Arlington VA, May 17-20 2004, pp. 401-402.

- **M. D. Petty**, F. D. McKenzie, and R. C. Gaskins, "Requirements, Psychological Models, and Design Issues in Crowd Modeling for Military Simulation", *Proceedings of the Huntsville Simulation Conference 2003*, Huntsville AL, October 29-31 2003, pp. 237-245.

- **M. D. Petty**, "Semantic Composability and XMSF", *XMSF Technical Challenges Workshop 2002*, Monterey CA, August 19-20 2002.

- **M. D. Petty**, "Do We Really Want Computer Generated Forces That Learn?", *Proceedings of the Tenth Conference on Computer Generated Forces and Behavioral Representation*, Norfolk VA, May 15-17 2001, pp. 125-130.

- F. D. McKenzie, J. Catanzaro, and **M. D. Petty**, "A Personality-Based Command Decision-Maker: Results and Recommendations", *Proceedings of the Tenth Conference on Computer Generated Forces and Behavioral Representation*, Norfolk VA, May 15-17 2001, pp. 351-359.

- **M. D. Petty**, "Comparing the Power of the HLA Data Distribution Management Specifications 1.3 and 1516", *Proceedings of the Second Conference on Simulation Methods and Applications*, Orlando FL, October 29-31 2000, pp. 214-223.

- F. D. McKenzie, **M. D. Petty**, A. Jafri, and T. Khan, "Personality Comparisons in Trait-Based Command Decision Making", *Proceedings of the Second Conference on Simulation Methods and Applications*, Orlando FL, October 29-31 2000, pp. 252-261.

- R. R. Mielke, T. W. Mastaglio, and **M. D. Petty**, "Using Enterprise Simulation to Support SATS", *Proceedings of the 2000 Summer Computer Simulation Conference*, Society for Computer Simulation, Vancouver BC Canada, July 16-20 2000, pp. 830-835.

- M. Lorenzo, B. Riggs, P. D. Rizik, A. D. Christiansen, D. Florek, and **M. D. Petty**, "Next Generation CGF Requirements to Support Sensor Development", *Proceedings of the Ninth Conference on Computer Generated Forces and Behavioral Representation*, Orlando FL, May 16-18 2000, pp. 413-420.

- R. W. Franceschini, **M. D. Petty**, S. A. Schricker, D. J. Franceschini, and G. McCulley, "Measuring and Improving CGF Performance", *Proceedings of the Eighth Conference on Computer Generated Forces and Behavioral Representation*, Orlando FL, May 11-13 1999, pp. 9-15.

- **M. D. Petty**, R. W. Franceschini, and A. Mukherjee, "A Geometric Terrain Reasoning Algorithm For Fire Zone Defense", *Proceedings of the Seventh Conference on Computer Generated Forces and Behavioral Representation*, Orlando FL, May 12-14 1998, pp. 87-98.

- **M. D. Petty** and A. Cox, "HLA Interoperability for Existing Simulations", *Proceedings of the 1997 Summer Computer Simulation Conference*, Arlington VA, July 13-17 1997, pp. 437-442.

- A. Cox, **M. D. Petty**, and D. D. Wood, "HLA Logging Methods and Issues", *Proceedings of the 1997 Summer Computer Simulation Conference*, Arlington VA, July 13-17 1997, pp. 443-448.

- **M. D. Petty**, M. A. Hunt, and K. C. Hardis, "Terrain Correlation Measurement for the HLA Platform Proto-Federation", *Proceedings of the 15th Workshop on Standards for the Interoperability of Defense Simulations*, Orlando FL, September 16-20 1996, pp. 691-702.

- A. Cox, D. D. Wood, **M. D. Petty**, and K. A. Juge, "Integrating DIS and SIMNET Simulations into HLA with a Gateway", *Proceedings of the 15th Workshop on Standards for the Interoperability of Defense Simulations*, Orlando FL, September 16-20 1996, pp. 517-525.

- S. M. Harkrider and **M. D. Petty**, "Results of the HLA Platform Proto-Federation Experiment", *Proceedings of the 15th Workshop on Standards for the Interoperability of Defense Simulations*, Orlando FL, September 16-20 1996, pp. 441-450.

- R. C. Creech and **M. D. Petty**, "A Model of Large-Scale Citizen Evacuation for Emergency Management Simulation", *Proceedings of the Sixth Conference on Computer Generated Forces and Behavioral Representation*, Orlando FL, July 23-25 1996, pp. 67-78.

- M. P. Slepow, J. H. Burmester, and **M. D. Petty**, "Adapting Military Simulation and Training Technology for Emergency Management", *Proceedings of the 7th International Training Equipment Conference*, The Hague, The Netherlands, April 16-18 1996, pp. 56-66.

- **M. D. Petty** and M. P. Slepow, "Constructive simulation for emergency management", *High-Fidelity Simulation for Training, Test Support, Mission Rehearsal, and Civilian Applications (SPIE Proceedings Vol. 2740)*, Orlando FL, April 8-9 1996.

- **M. D. Petty** and M. P. Slepow, "Emergency Management Training with Constructive Simulation", *Proceedings of the ITEA "Modeling & Simulation: Today and Tomorrow" Workshop*, Las Cruces NM, December 11-14 1995.

- **M. D. Petty**, "Case Studies in Verification, Validation, and Accreditation for Computer Generated Forces", *Proceedings of the ITEA "Modeling & Simulation: Today and Tomorrow" Workshop*, Las Cruces NM, December 11-14 1995.

- T. R. Tolley R. W. Franceschini, and **M. D. Petty**, "An Empirical Comparison of Graph Isomorphism Algorithms", *Proceedings of the 1995 Southeastern Simulation Conference*, Orlando FL, October 22-24 1995, pp. 224-233.

- **M. D. Petty** and M. P. Slepow, "Plowshares: Emergency Management Simulation", *Proceedings of the 1995 Southeastern Simulation Conference*, Orlando FL, October 22-24 1995, pp. 150-158.

- D. D. Wood, J. V. Farr, M. Horsley, and **M. D. Petty**, "Plowshares: Hurricane, Tornado, and Fire Modeling in TERRA", *Proceedings of the 1995 Southeastern Simulation Conference*, Orlando FL, October 22-24 1995, pp. 159-166.

- **M. D. Petty** and R. W. Franceschini, "Disaggregation Overload and Spreading Disaggregation in Constructive+Virtual Linkages", *Proceedings of the Fifth Conference on Computer Generated Forces and Behavioral Representation*, Orlando FL, May 9-11 1995, pp. 103-111.

- **M. D. Petty**, M. P. Slepow, and P. D. West, "CGF Opportunities in Plowshares", *Proceedings of the Fifth Conference on Computer Generated Forces and Behavioral Representation*, Orlando FL, May 9-11 1995, pp. 337-344.

- H. K. Pickett and **M. D. Petty**, "Report on the State of Computer Generated Forces 1994", *Proceedings of the Fifth Conference on Computer Generated Forces and Behavioral Representation*, Orlando FL, May 9-11 1995, pp. 549-558.

- S. Rajput, C. R. Karr, **M. D. Petty**, and M. A. Craft, "Intervisibility Heuristics for Computer Generated Forces", *Proceedings of the Fifth Conference on Computer Generated Forces and Behavioral Representation*, Orlando FL, May 9-11 1995, pp. 451-464.

- M. A. Craft and **M. D. Petty**, "Experimental Conversion of the IST Computer Generated Forces Simulator from C to Ada", *Proceedings of the Fifth Conference on Computer Generated Forces and Behavioral Representation*, Orlando FL, May 9-11 1995, pp. 433-442.

- S. A. Schricker, R. W. Franceschini, **M. D. Petty**, and T. R. Tolley, "Terrain Avoidance for CGF Helicopters", *Proceedings of the Fifth Conference on Computer Generated Forces and Behavioral Representation*, Orlando FL, May 9-11 1995, pp. 315-325.

- D. R. Stober, M. K. Kraus, W. F. Foss, R. W. Franceschini, and **M. D. Petty**, "Survey of Constructive+Virtual Models", *Proceedings of the Fifth Conference on Computer Generated Forces and Behavioral Representation*, Orlando FL, May 9-11 1995, pp. 93-102.

- **M. D. Petty**, "Computer Generated Forces and the Turing Test", *Proceedings of the 6th International Training Equipment Conference*, The Hague, The Netherlands, April 25-27 1995, pp. 195-204.

- **M. D. Petty** and P. D. West, "Plowshares: Applying a Military Constructive Simulation Model to Emergency Management Training", *Proceedings of the 1995 Simulation MultiConference*, Simulation for Emergency Management, Society for Computer Simulation, Phoenix AZ, April 9-13 1995, pp. 326-331.

- M. L. Loper and **M. D. Petty**, "Distributed Interactive Simulation and Emergency Management", *Proceedings of the 1995 Simulation MultiConference*, Simulation for Emergency Management, Society for Computer Simulation, Phoenix AZ, April 9-13 1995, pp. 344-348.

- R. W. Franceschini and **M. D. Petty**, "Status Report on the Development of PDUs to Support Constructive+Virtual Linkages", *Proceedings of the 12th DIS Workshop on Standards for the Interoperability of Defense Simulations*, Orlando FL, March 13-17 1995, pp. 385-388.

- **M. D. Petty**, "The Turing Test as an Evaluation Criterion for Computer Generated Forces", *Proceedings of the Fourth Conference on Computer Generated Forces and Behavioral Representation*, Orlando FL, May 4-6 1994, pp. 107-116.

- R. W. Franceschini and **M. D. Petty**, "Dismounted Infantry in DIS Style Scenarios: A SAFDI Project Overview", *Proceedings of the Fourth Conference on Computer Generated Forces and Behavioral Representation*, Orlando FL, May 4-6 1994, pp. 155-167.

- D. D. Wood and **M. D. Petty**, "Development of Signal Intelligence/Electronic Warfare Capabilities in a Computer Generated Forces Testbed", *Proceedings of the Fourth Conference on Computer Generated Forces and Behavioral Representation*, Orlando FL, May 4-6 1994, pp. 365-371.

- **M. D. Petty** and D. R. Van Brackle, "Reconnaissance Planning in Polygonal Terrain", *Proceedings of the 5th International Training Equipment Conference*, The Hague, The Netherlands, April 26-28 1994, pp. 314-327.

- M. L. Loper and **M. D. Petty**, "Simulator Networking for Medical Simulation", *Proceedings of the 5th International Training Equipment Conference*, The Hague, The Netherlands, April 26-28 1994, pp. 412-419.

- **M. D. Petty** and R. W. Franceschini, "Dismounted Infantry in Distributed Interactive Simulation", *Proceedings of the Individual Combatant Modeling and Simulation Symposium (INCOMSS-94)*, Ft. Benning GA, February 15-17 1994, pp. 288-305.

- D. R. Van Brackle, **M. D. Petty**, C. D. Gouge, and R. D. Hull, "Terrain Reasoning for Reconnaissance Planning in Polygonal Terrain", *Proceedings of the Third Conference on Computer Generated Forces and Behavioral Representation*, Orlando FL, March 17-19 1993, pp. 285-306.

- M. L. Loper and **M. D. Petty**, "Computer Generated Forces at the DIS Interoperability Demonstration", *Proceedings of the Third Conference on Computer Generated Forces and Behavioral Representation*, Orlando FL, March 17-19 1993, pp. 155-168.

- C. R. Karr, R. W. Franceschini, K. R. S. Perumalla, and **M. D. Petty**, "Integrating Aggregate and Vehicle Level Simulations", *Proceedings of the Third Conference on Computer Generated Forces and Behavioral Representation*, Orlando FL, March 17-19 1993, pp. 231-240.

- **M. D. Petty**, "Computer Generated Forces in Battlefield Simulation", *Proceedings of the Southeastern Simulation Conference 1992*, Pensacola FL, October 22-23 1992, pp. 56-71.

- S. H. Smith and **M. D. Petty**, "Controlling Autonomous Behavior in Real-Time Simulation", *Proceedings of the Southeastern Simulation Conference 1992*, Pensacola FL, October 22-23 1992, pp. 27-40.

- F. C. Cimini, C. E. Campbell, and **M. D. Petty**, "A Simple Flight Dynamics Model for Computer Generated Forces", *Proceedings of the Southeastern Simulation Conference 1992*, Pensacola FL, October 22-23 1992, pp. 41-47.

- C. R. Karr, R. W. Franceschini, K. R. S. Perumalla, and **M. D. Petty**, "Integrating Battlefield Simulations of Different Granularity", *Proceedings of the Southeastern Simulation Conference 1992*, Pensacola FL, October 22-23 1992, pp. 48-55.

- **M. D. Petty**, C. E. Campbell, R. W. Franceschini, and M. H. Provost, "Efficient Line of Sight Determination in Polygonal Terrain", *Proceedings of the 1992 IMAGE VI Conference*, Phoenix AZ, July 14-17 1992, pp. 239-253.

- P. A. Fishwick, **M. D. Petty**, and D. E. Mullally, "Key Research Directions in Behavioral Representation for Computer Generated Forces", *Proceedings of the Second Behavioral Representation and Computer Generated Forces Symposium*, Orlando FL, May 6-7 1991, pp. E 1-14.

- J. M. Moshell, C. E. Hughes, and **M. D. Petty**, "Constraints as a Specification Mechanism for Automated Opposing Forces in Networked Simulators", *Proceedings of the Interactive Networked Simulation for Training Conference*, Institute for Simulation and Training, Orlando FL, April 1989, pp. 84-90.

Magazine and newspaper articles

- **M. D. Petty**, "Modeling and Validation Challenges for Complex Systems", *M&S Journal*, Vol. 9, Iss. 1, Spring 2014, pp. 25-35.

- **M. D. Petty**, R. L Dunning*, and A. J. Collins, "Correlation of Characterizing Attributes and Success in Military M&S Standards", *M&S Journal*, Vol. 8, Iss. 1, Spring 2013, pp. 19-30.

- **M. D. Petty**, K. L. Morse, W. C. Riggs, P. Gustavson, and H. Rutherford, "A Reuse Lexicon: Terms, Units, and Modes in M&S Asset Reuse", *M&S Journal*, Vol. 6, Iss. 2, Fall 2011, pp. 16-27.

- **M. D. Petty**, "University Courses Provide Coverage of M&S Applications", *Technology Alabama*, Summer 2009, pp. 21-22.

- **M. D. Petty**, "UAH and SPARTA Develop Methods to Validate Simulations of Network-Centric Warfare", *Technology Alabama*, Summer 2008, pp. 29-30.

- **M. D. Petty**, Michael P. J. Benfield, and Jeffery K. Little, "UAHuntsville Center for Modeling, Simulation, and Analysis: Modeling and Simulation Research", *Huntsville/Madison County*, 2008, pp. 38-41.

- **M. D. Petty**, "CMSA Up and Running", *Technology Alabama,* Special section on Modeling & Simulation, Summer 2007, pp. 5-6.

- K. L. Morse, **M. D. Petty**, P. F. Reynolds, W. F. Waite, and P. M. Zimmerman, "Summary of the 2003 Composable Mission Space Environments Workshop", *Simulation Technology*, Volume 7, Issue 2, September 9 2004.

- R. W. Franceschini, S. A. Schricker, and **M. D. Petty**, "New Dimensions in Simulation", *Military Training Technology*, Vol. 4, Iss. 6, 1999, pp. 46-50.

- **M. D. Petty**, "Interoperability in Medical Simulation", *Simulation Technology*, Volume 1, Issue 4a, June 2 1999.

- D. D. Wood, A. Cox, and **M. D. Petty**, "An HLA Gateway for DIS Applications", *Modern Simulation & Training*, No. 1, 1998, pp. 4-10.

- J. H. Burmester, M. P. Slepow, and **M. D. Petty**, "Plowshares: Adapting Military Simulation and Training Technology for Emergency Management", *Modern Simulation & Training*, No. 1, 1996, pp. 6-11.

- **M. D. Petty**, J. M. Moshell, and C. E. Hughes, "Tactical Simulation in an Object-Oriented Animated Graphics Environment", *ACM SIGSIM Simulation Digest*, Vol. 19, No. 2, June 1988, pp. 31-46.

- **M. D. Petty**, "Home Computers Market Survey", *Review*, Vol. 1, No. 4, July 1983, pp. 20-24.

Honors, Awards, Certifications, and Memberships

- *Advisor*, UAH students selected for RADM Fred Lewis Postgraduate I/ITSEC Scholarship
  - ▪ Mitchell J. Bott, 2014
  - ▪ Daniel A. O'Neil, 2014
- *Advisor*, UAH student team for international distributed simulation event,
  team award for "Excellence in Technology Application and Engineering Design"
  - ▪ SCS Simulation Exploration Experience, 2014.
  - ▪ SISO Simulation Smackdown, 2013
  - ▪ SISO Simulation Smackdown, 2012
- *Awardee*, Simulation Education Award for "Outstanding Educational Action
  in Modeling & Simulation", American Indian Higher Education Consortium, 2014.
- *Awardee*, IEEE Standards Association "Successful Standards Development" award
  for the development and approval of IEEE Standard 1730.1^{TM}-2013.
- Conference "Best Paper" awards (9 awards, 17 total nominations)
  - ▪ *Nominated*, Recommended Reading List, Spring 2013 Simulation Interoperability Workshop
  - ▪ *Selected*, Recommended Reading List, Fall 2012 Simulation Interoperability Workshop
  - ▪ *Selected*, Recommended Reading List, Spring 2012 Simulation Interoperability Workshop
  - ▪ *Selected*, Recommended Reading List, Fall 2010 Simulation Interoperability Workshop
  - ▪ *Nominated*, Recommended Reading List, Spring 2010 Simulation Interoperability Workshop
  - ▪ *Selected*, Recommended Reading List, 2007 European Simulation Interoperability Workshop
  - ▪ *Nominated*, Recommended Reading List, Fall 2005 Simulation Interoperability Workshop
  - ▪ *Selected*, Recommended Reading List, 2005 Behavior Representation in Modeling and Simulation
  - ▪ *Selected*, Recommended Reading List, Spring 2005 Simulation Interoperability Workshop
  - ▪ *Nominated*, Recommended Reading List, Spring 2005 Simulation Interoperability Workshop
  - ▪ *Nominated*, Recommended Reading List, Spring 2005 Simulation Interoperability Workshop
  - ▪ *Selected*, Recommended Reading List, Fall 2004 Simulation Interoperability Workshop
  - ▪ *Nominated*, Recommended Reading List, Spring 2004 Simulation Interoperability Workshop
  - ▪ *Selected*, Recommended Reading List, Spring 2004 Simulation Interoperability Workshop
  - ▪ *Nominated*, Recommended Reading List, Fall 2003 Simulation Interoperability Workshop
  - ▪ *Selected*, Recommended Reading List, Spring 2003 Simulation Interoperability Workshop
  - ▪ *Nominated*, Best Paper, 17th Interservice/Industry Training, Simulation, and Education Conference
- Conference "Best Tutorial" awards (1 award, 2 total nominations)
  - ▪ *Selected*, Best Tutorial, 2013 Interservice/Industry Training, Simulation, and Education Conference
  - ▪ *Nominated*, Best Tutorial, 2012 Interservice/Industry Training, Simulation, and Education Conference
- *Awardee*, Certificate of Commendation from Alabama House of Representatives,
  Commending UAH team success in Simulation Interoperability Standards Organization
  Smackdown Competition, 2012.
- *Member*, Phi Kappa Phi Academic Honor Society, 2007–present
- *Member*, Alabama Academy of Science, 2005–present
- *Member*, Virginia Academy of Science, 2003–2005
- *Nominee*, ODU Batten College of Engineering and Technology,
  "Excellence in Research" Award, 2004
- *Awardee*, IEEE Standards Association Working Group Chair Award, 2001
- *Designee*, Certified Modeling & Simulation Professional, 2001
- *Awardee*, UCF Institute for Simulation and Training "Distinguished Researcher", 1993
- *Member*, Upsilon Pi Epsilon National Computer Science Honor Society, 1991-present

Additional Details

- U. S. Citizen
- SECRET level security clearance, 1994-present, active
- Married, with one adult child and one grandchild
- Languages: English (native), French (conversational)
- Personal interests: mathematics and science, road bicycling, baseball, and aviation history
- Erdős number: **3** (P. Erdős–S. M. Selkow–C. E. Hughes–M. D. Petty)