

DENISE MARIE NICHOLSON

Institute for Simulation and Training
University of Central Florida
3100 Technology Parkway, Suite 319
Orlando, FL 32826
407-882-1444 (office)
407-616-7651 (mobile)
dnichols@ist.ucf.edu
www.active.ist.ucf.edu

EDUCATION

Ph.D. Optical Sciences, University of Arizona, Tucson, AZ, May 1997

Dissertation: A Diffractive Optic Imaging Spectrometer (DOIS): Theory, Design, Image Processing Algorithms, Modeling and Experimental Characterization.

M.S. Optical Sciences, University of Arizona, Tucson, AZ, August 1991

Thesis: Model of a Thermal Imaging System, which includes the Human Observer's response to state-of-the-art displays.

B.S. Electrical and Computer Engineering, Clarkson University, Potsdam, NY, May 1988

A.S. Engineering Science, Mohawk Valley Community College, Utica, NY, May 1986

AREAS OF RESEARCH SPECIALIZATION

Augmented Cognition ♦ Performance Enhancement and Training Simulation Technologies ♦
Human Systems Integration ♦ Optical Engineering ♦ Certified Modeling and Simulation Professional

PROFESSIONAL EXPERIENCE

Senior Research Associate, Institute for Simulation and Training August 2005 - Present
Research Faculty, Modeling and Simulation Graduate Program
Research Scientist, College of Optics and Photonics: CREOL
University of Central Florida, Orlando, FL

Director of IST's Applied Cognition and Training in Immersive Virtual Environments

(ACTIVE) Laboratory. Responsible for planning, developing and executing over a million dollars annually of multidisciplinary, externally funded, research projects using modeling and simulation to optimize human performance. Currently funded areas of research include Virtual Environments, Game-Based Simulation, Evaluating Training Effectiveness and Usability, Operational Neuroscience Sensing and Human Agent/ Robotics Interfaces for Unmanned Systems. Supervise and advise a large (30+) team of Post-Docs, full time scientists and student researchers organized into six focus area teams; Interfaces and Integration, Human Systems Integration and Engineering Management, Learning, Robotics, Operational Neurosensing, and Informal Game-based Learning.

Research Engineer, Photonics Laboratory, Optical Signal Processing Division

Air Force Rome Laboratory, Rome, NY

May 1988 - May 1997

In-house, bench level researcher: Responsible for establishing a new Air Force Optical Component Characterization laboratory for the, then emerging, field of Photonics. Duties included to conceive, propose, design, lead personnel and manage resources in the conduct of basic research programs in Optics, Optical Engineering, Digital and Analog Optical Signal Processing, Infrared Imaging, Hyper-spectral Imaging Spectroscopy, Electro-Optic System and Human Vision Modeling, Display Technologies and Diffractive Optics. Supervise and mentor junior engineers and military scientists. Provide briefings and demonstrations to sponsors and VIPs throughout the DoD, industry, academia and general public.

RECOGNITION AND AWARDS

2007 UCF Millionaires Club, Office of Sponsored Research (\$2,667,415)

2006 UCF Presidential Equipment Grant Award (\$100,000) for an Operational Neuroscience Sensing Suite

2005 The Science, Mathematics, and Research for Transformation (SMART) Defense Scholarship for Service Program, Selected Faculty Advisor

2004 Innovation Award in Science & Technology from RDML J. Wieringa, CO NAWCAD, The Virtual Technologies and Environments (VIRTE) team for transition of the Virtual Environments Landing Craft, Air Cushion (VELCAC), \$5000.00, Mar 2005

ON THE SPOT AWARDS FOR:

Outstanding Contribution to the Command Self Assessment, Feb 2004

Representing NAVAIR in NATO Multi National Exercise in Human Behavior Representation for Military Applications, Jul 2000

DTO in Human Behavioral Representation, Mar 2000

Outstanding leadership of the ONR/NAWCTSD M&S Program, Jan 2000

Valuable contribution to the IITSEC 99 *Operation Desert Rats* Joint Operations Interoperability and Training Demonstration, Dec 1999

Valuable contribution to the NAWCTSD Strategic Planning Group, Apr 1999

Outstanding performance on the Advanced Embedded Training Program, Mar 1999

AWARDS OF MERIT FOR GROUP ACHIEVEMENT FOR:

Operation Virtual Freedom, Jun 2004

The Future Naval Capabilities R&D Program Development Team, Jun 2001

Valuable contribution to ONR's Future Naval Capability in Capable Manpower Program Development, Apr 2000

The Advanced Embedded Training (AET) Program Team, May 1999

LETTERS OF APPRECIATION FOR:

Participation in Effective Communications Tutorial, from D.S. Young, Technical Director NAVAIR TSD, May 2004

Valuable support to DARPA's "Cognitive Information Processing Technology" Broad Agency Announcement proposal review, from Dr. Ronald Brachman, IPTO Office Director, DARPA, Mar 2003

Supporting I/ITSEC 2001 from Capt D. R. Gagnon, CO NAVAIR TSD, Feb 2002

Outstanding efforts supporting I/ITSEC 2000, from Capt Gagnon, Jan 2001

Outstanding efforts supporting I/ITSEC 1999, from Capt Hixson, Jan 2000

Hosting the CNO Strategic Studies Group, from ADM (Ret) J.R. Hogg, Apr 1999

Advanced Embedded Training Briefing, from Head, Instructional Systems Analysis and Development Division, Oct 1998

Co-Author, Best Human Systems Integration Paper I/ITSEC 2003, Dec 2003

Career Service Award for Fifteen years of service in the Government of the USA, Feb 2003

Augmented Cognition PLANK OWNER, from DARPA, Mar 2003

Original Recipient of DARPA's COGGIE Award for Augmented Cognition, Jul 2002

Sustained Excellence Award, Jun 2001

Co-Author, Outstanding Paper at the 10th Conference on CGF & BR, May 2001

Appointed NAVAIR Associate Fellow, Dec 2000

Selection for the FY00 Senior Executive Management Development Program, Jun 2000

Outstanding/Excellent Performance Ratings 1988 - 1999

6 Scientific Achievement awards for Papers Published 1992-1996

Air Force funded Long Term Full Time (LTFT) Study University of Arizona, Optical Sciences Department 1991 - 1992

TEACHING

Although the positions that I have held throughout my tenure as a DoD research scientist would not be formally described as teaching, a large part of my role has been to mentor and advise junior researchers in both their professional and academic pursuits. Additionally, the briefings, presentations and demonstrations that have been part of my daily duties have had a significant tutorial content, typically conveying highly technical topics to decision makers who, although experts in their own fields, may have little background in the topic which I represent.

COURSES TAUGHT

GRADUATE:

Virtual Reality (IDS 6713), Summer 2007 & 2008, Modeling and Simulation, University of Central Florida, Orlando, FL. Team taught with Brian Goldiez

Human-Computer Interaction (EIN 6258), Fall 2000, Industrial Engineering and Management Systems Department, University of Central Florida, Orlando, FL.

Invited Lecturer on “Human Systems Topics in Modeling and Simulation”, Introduction to Modeling and Simulation (IDS 5717C), Fall 2005 – present, University of Central Florida, Orlando, FL

UNDERGRADUATE:

Physics, Fall 1989, Engineering Sciences Department, Mohawk Valley Community College, Utica, NY

SHORT COURSE:

Nicholson, D.M. (2006). *Preparation for the Modeling and Simulation Professional Certification Exam*. Lead Instructor, M&S Short Course at the Interservice/Industry Training, Simulation and Education Conference (IITSEC) 2006, December 4-7, Orlando, FL.

DISSERTATION COMMITTEE MEMBERSHIP

UNIVERSITY OF CENTRAL FLORIDA

INDUSTRIAL ENGINEERING AND MANAGEMENT SYSTEMS:

In-progress

Katherine Meza, *An investigation of organizational benefits gained from implementing holistic user-centered design considerations in product and system development*, Lesia Crumpton-Young, Chair.

Completed

Leah Reeves, *Architecture for multi-modal optimization*, January 16, 2007, Kay Stanney, Chair.

Stephanie Lackey, *Integrated virtual to live communications server*, November 2, 2006, Linda Malone, Chair.

Chien Wei Chia, *Soar CGFs that learn inductively: A hybrid autonomous approach based on a modified naive bayes learning algorithm*, September 3, 2003, Kent Williams, Chair.

Elizabeth Sheldon, *Virtual agent interactions*, August 16, 2001, Linda Malone, Chair.

ELECTRICAL ENGINEERING & COMPUTER SCIENCE:

In-progress

Glen Martin, *Adaptive Automatic Scenario Generation using Procedural Modeling Techniques and After Action Review*, Charlie Hughes and **Denise Nicholson**, Co-Chairs.

Aniket Vartak, *Data Fusion techniques for Operational Neuroscience Sensing*, Wasfy Mikhael, Chair.

MODELING AND SIMULATION:

In-progress

Carl Anglesea, *Mitigation with Automation in Human Robotic Interactions*, Clint Bowers and **Denise Nicholson**, Co-Chairs.

April Lovelady, *Neurophysiological Techniques for Performance Assessment*, Clint Bowers and **Denise Nicholson**, Co-Chairs.

Sae Schatz, *Individual Differences in Trait Arousability*, Clint Bowers and **Denise Nicholson**, Co-Chairs.

Lee Sciarini, *Neurosensing Triggers for Adaptive Automation in Human Robotic Interactions*, Clint Bowers and **Denise Nicholson**, Co-Chairs.

Peter Smith, *Learning in Massively Multiplayer On-line Games (MMOGs)*, Clint Bowers and Jan Cannon-Bowers, Co-Chairs.

Completed

Javier Covelli, Ph.D., *A quantitative measurement of presence in flight simulators*, October 26, 2007, Jannick P. Rolland and J. Peter Kincaid, Chairs.

MASTER'S ADVISING

Don Kemper, Modeling and Simulation, University of Central Florida, May 2008

Lee Sciarini, Modeling and Simulation, University of Central Florida, Dec 2006

RESEARCH

AREAS OF RESEARCH SPECIALIZATION

Human Systems Integration (HSI): Human Factors Engineering, Human Computer Interaction, Task Analysis, Usability, Workload, Manning and Training Concepts including Individual and Team, Systems Engineering

Human Performance and Training Simulation Technologies: Augmented Cognition, Multi-modal Sensory Devices and Optimization, Virtual Environments, Schoolhouse/ Distance/ Embedded/ Deployable Trainers with Networked/ Distributed Simulation, Augmented Reality, Automated Performance Measurement, Intelligent Tutoring, Hand-Held and Wearable Computer Instructor Aides and Performance Support, Computer Generated Forces, Cognitive and Behavioral Modeling

Optical Engineering: Digital and Analog Optical Signal Processing, Infrared Imaging, Hyperspectral Imaging Spectroscopy, Electro-Optic System and Human Vision Modeling, Display Technologies, Diffractive Optics

CURRENT FUNDING SUPPORT: (note: FY is 1 Oct - 30 Sept)

- “Next Generation Expeditionary Warfare Intelligent Training (NEW-IT)”. Office of Naval Research, Capable Manpower Program. Principal Investigator. **Nicholson**, Bowers, Cannon-Bowers, Fiore, Kotnour. \$7,618,721 (notified of contract selection May 07, under contract negotiations for FY08 award expected Jan 08).
- “Adaptive Intelligent Training Environment (AITE) for Distributed Operations (DO).” Office of Naval Research, Expeditionary Warfare and Combating Terrorism S&T Division, . Principal Investigator. **Nicholson**. \$3,112,471. (incremental awards - \$1,011,160 Feb 07, \$25,000 Sept 07, \$40,000 Oct 07, \$650,000 Dec 07).
- “Team Performance in Human-Agent Collaboration”. US Army Research Laboratory. Principal Investigator. **Nicholson**, Davis, & Fidopiastis. \$150,000.00 (awarded Sept 07).
- “Perceptually-informed Virtual Environment”. STTR subcontract to AnthroTronix, Inc. Principal Investigator. **Nicholson**. \$21,000.00 (awarded Sept 07).
- “Operational Neurosensing for Advertising Research”. MARS Information Services. Principal Investigator. **Nicholson**, Fidopiastis. \$40,000 (awarded Sept 07).
- “Virtual Technologies and Environments (VIRTE) for Advanced Research on Agents and Teams.” Final cost proposal to RDECOM/NAVAIR. Principal Investigator. **Nicholson**, Stapleton, Fiore, Salas, Rolland, Hughes, Martin, Burke, Smith. \$2,200,000 (incremental awards - \$950,000 Jan 06; \$1,187,500 Jan 07).

“Human Agents for Training and Simulation (HATS) Contract Change Proposal”, CCP for FY06-08 to RDECOM. Principal Investigator. **Nicholson**, Shumaker. \$1,450,000 (incremental awards - \$254,419 Aug 06, \$500,000 Apr 07).

COMPLETED FUNDED PROJECTS:

“Virtual Reality Training System Development Guidance Tool for Multimodal Information Fidelity Level Selection”. SBIR sub-contract to Aptima, Inc. UCF Principal Investigator. **Nicholson**. \$30,000.00 (awarded Jul 07).

“Human Agent Team Performance Testbed and Experimentation.” Sub-Project under SUS Proposal to Army Research Laboratory. UCF Principal Investigator. **Nicholson**, Metcalf. \$150,000. (\$141,494 awarded Aug 06).

“Games for Speech Therapy In-house Grant”, In-house Grant Application to UCF IST. UCF Principal Investigator. **Nicholson**, Ruddy, Davis. \$5,000. (\$5,000 awarded Jun 06).

“Visual and Usability Enhancements to the Dismounted Infantry Virtual After Action Review System (DIVAARS)” SOW and Cost Proposal to Lockheed Martin. UCF Co - Principal Investigator. Martin, **Nicholson**, Daly, \$140,000. (\$140,000 awarded Nov 06).

“Operational Neuroscience Sensing Suite”, UCF Presidential Equipment Grant Proposal–UCF Principal Investigator, **Nicholson**, Fiore, and Jentsch, \$100,000. (awarded Jan 06).

“Virtual Technologies and Environments (VIRTE) Demo II & III”, ONR 6.2/6.3, Advanced Development Manager for FY04 - \$7.3M, FY05 - \$9.6M, Principle Investigator at NAVAIR, FY04 - \$912K, FY05 - \$2.1M

“S&T Training Transition: Manpower, Personnel, Training, Simulation, & Human Factors” NOOT 6.4, FY05-07, Program Manager for \$1.2M/yr, Principle Investigator at NAVAIR, \$129K/yr

“An Open Source Simulation Engine (Delta3D) with Scenario Editing and AAR for the Joint National Training Capability (JNTC) Training and Education Applications”, Joint Forces Command (JFCOM) JNTC 6.3, Co-Principle Investigator, FY05 - FY06, \$500K/yr

“Augmented Cognition”, DARPA 6.2, Principle Investigator, FY02 - \$92K, FY03 - \$250K, FY04 - \$300K, FY05 - \$20K

“Virtual Technologies and Environments (VIRTE) for Expeditionary Warfare (Demo I)”, ONR 6.2/6.3, Advanced Development Manager for FY02 - \$8.5M, FY03 - \$7.3M, Principle Investigator at NAVAIR, FY02 - \$800K, FY03 - \$650K

“Modeling Interactive Communication Behaviors of Decision Makers in Operations Other Than War (OOTW)”, DMSO 6.3, Principle Investigator, FY01 - FY02, \$250K/yr

- “Simulation for Training with Simulated Forces”, ONR 6.2, Principle Investigator and Technical Area Manager, FY02, \$2.5M
- “Intelligent Synthetic Forces for Air Warfare Training”, PMA-205 6.4, Principle Investigator, FY01-FY03, \$150K/year
- “Synthetic Cognition for Operational Team Training (SCOTT)”, ONR-6.3, Co-Principle Investigator, FY00 - FY01, \$5.5M
- “Improved Realism in Human Cognitive and Behavioral Modeling for Computer Generated Forces (CGF)”, ONR-6.1/6.2, Principle Investigator/Technical Area Manager, FY99 - FY01, \$1.75M/year
- “Automated Training Exercise and Management System (ATEAMS) Phase II”, PMS-430, Technical Manager, FY01-FY02, \$2.5M
- “Automated Training Exercise and Management System (ATEAMS) Phase I” COMNAVSURFPAC and PMS-430, Technical Manager, FY99-FY00, \$700K
- “ShipMATE: Shipboard Mobile Aide for Training and Evaluation” ONR and CINCLANTFLT Blue Book Initiative, Principle Investigator, FY00, \$250K
- “Embedded Training Evaluation of Smart-Cruiser On-Board Training Modules” NAVSEA-PMS400, Principle Investigator, FY00, \$25K
- “Advanced Embedded Training (AET) Advanced Technology Demonstration (ATD)”, ONR 6.3, Lead Engineer, FY97 - FY99
- “Shipboard Instructor Training and Support (SITS)”, ONR 6.3 Lead engineer, FY97 – FY99
- “Identification and Tracking of Infrared (IR) Targets”, Air Force Research Lab 6.1, Principle Investigator, 1993-1997, (\$25K/year)
- “Diffractive Optic Image Spectrometer with PAT Inc.”, Air Force Research Lab Cooperative Research & Development Agreement (CRDA), Technical Manager, 1995-1996
- “Binary Optics with Photonic Development Corporation”, Air Force Research Lab Small Business Innovative Research (SBIR), Technical Manager, 1990-1993
- “Acousto-Optic Adaptive Processor (AOAP)”, Air Force Research Lab 6.1, Principle Investigator, 1989-1990, (\$25K/year)
- “Analog Optical Signal Processing Component Characterization Laboratory”, Air Force Research Lab 6.1, Principle Investigator and Laboratory Manager, 1988-1990, (\$500K/yr)

PATENTS

US Patent Number: 5,986,758 **Lyons***, **D.M.**, Whitcomb, K. “Diffractive Optic Imaging Spectrometer (DOIS)”, November 16, 1999

* *Lyons – previous name*

PUBLICATIONS AND PRESENTATIONS [Advised researchers i.e. students and post-docs, in italic]

EDITED BOOK SERIES

Schmorrow, D. D., & **Nicholson, D. M.** (Eds.). (in preparation). *Psychology, Technology and Health*. Westport, CT: Praeger Security International.

Series currently includes:

- I. Schmorrow, D. D., Cohn, J., & **Nicholson, D. M.** (Eds.). (in preparation). *Handbook of virtual environments for training and education: Developments, applications, and issues for the military and beyond*.
- II. O’Connor, P. and Cohn, J. (Eds.). (in preparation). *Human Performance Research for Extreme Environments: Current Trends and Future Directions in the U.S. Navy*.

EDITED BOOKS

Schmorrow, D. D., Cohn, J., & **Nicholson, D. M.** (Eds.). (in preparation). *Handbook of virtual environments for training and education: Developments, applications, and issues for the military and beyond*. Westport, CT: Praeger Security International.

Schmorrow, D. D., **Nicholson, D. M.**, Drexler, J. M., & Reeves, L. M. (Eds.). (2007). *Foundations of augmented cognition* (4th Ed.). Arlington, VA: Strategic Analysis, Inc.

REFEREED JOURNALS

Salas, E., Rosen, M. A., Burke, C. S., **Nicholson, D. M.**, & Howse, W. R. (2007). Markers for enhancing team cognition in complex environments: The power of team performance diagnosis. *Aviation, Space, and Environmental Medicine Special Supplement on Operational Applications of Cognitive Performance Enhancement Technologies*, 78(5), B77-B85.

Rolland, J., Cakmakci, O., Covelli, J., Fidopiastis, C., Fournier, F., Martins, R., Hamza-Lup, F., & **Nicholson, D.** (2007). Beyond the desktop: Emerging technologies for supporting 3D collaborative teams. *Int. J. Interactive Design and Manufacturing*.

Stanney, K. M., Samman, S., Reeves, L., Hale, K., Buff, W., Bowers, C., Goldiez, B., **Nicholson, D. M.**, & Lackey, S. J. (2004). A paradigm shift in interactive computing: Deriving multimodal design principles from behavioral and neurological foundations. *International Journal of Human-Computer Interaction*, 17(2), 229-257.

EDITED BOOK CONTRIBUTIONS

Nicholson, D. M., & Lackey, S. (in preparation). Systems engineering approach applied to science and technology programs to improve technology transition. In D. D. Schmorrow, J. Cohn, & D. Nicholson (Eds.), *Handbook of virtual environments for training and education: Developments, applications, and issues for the military and beyond*. Westport, CT: Praeger Security International.

Nicholson, D. M., Becker, W., Burke, S., & *Sciarini, L.*, (in preparation). Training transfer effectiveness experimentation with the USMC Deployed Virtual Training Environment (DVTE). In D. D. Schmorrow, J. Cohn, & D. Nicholson (Eds.), *Handbook of virtual environments for training and education: Developments, applications, and issues for the military and beyond*. Westport, CT: Praeger Security International.

Bowers, C., Smith, P. A., Cannon-Bowers, J., & **Nicholson, D. M.,** (in press). Using virtual worlds to assist distributed teams. In P. Zemliansky, (Ed.), *The handbook of research on virtual workplaces and the new nature of business practices*. Hershey, PA: IGI Publishing Group.

Schmorrow, D. D., **Nicholson, D. M.,** Lackey, S. J., Cohn, J. C., Allen, R. C., & Norman, K. L. (in press). Virtual Reality in the Training Environment. In D. Vincenzi (Ed.), *Human Factors in Simulation and Training*. Mahwah, NJ: Lawrence Erlbaum Associates.

Bowers, C. A., Smith, P. A., Cannon-Bowers, J., & **Nicholson, D. M.,** (in press). Social Psychology and Massively Multiplayer Online Learning Games. In R. Ferdig (Ed.), *Handbook of Research on Effective Electronic Gaming in Education*.

Nicholson, D. M., Fidopiastis, C. M., Bowers, C. A., Mahajan, P., Vartak, A., Ballion, T., & Anglesea, A. (2007). Multiple baseline approach to understanding psychometric data in augmented cognition paradigms. In D. D. Schmorrow, D. M. Nicholson, J. M. Drexler, & L. M. Reeves (Eds.), *Foundations of Augmented Cognition* (4th ed., pp. 107-111). Arlington, VA: Strategic Analysis, Inc.

Stephen, M. Fiore, S. M., & **Nicholson, D. M.,** (2007). Putting the cart together with the horse: Augmenting Cognition across the training cycle. In D. D. Schmorrow, D. M. Nicholson, J. M. Drexler, & L. M. Reeves (Eds.), *Foundations of Augmented Cognition* (4th ed., pp. 145-151). Arlington, VA: Strategic Analysis, Inc.

Davis, L., Fidopiastis, C., Vartak, A., Mahajan, P., **Nicholson, D. M.,** & Finkelstein, N. (2007). Determining the color of your mood rock: Synchronizing dynamic eye tracking data with arousal measures in a virtual environment. In D. D. Schmorrow, D. M. Nicholson, J. M. Drexler, & L. M. Reeves (Eds.), *Foundations of Augmented Cognition* (4th ed., pp. 162-170). Arlington, VA: Strategic Analysis, Inc.

Drexler, J., Sciarini, L., Smith, P., & **Nicholson, D. M.,** (2007). Playing games with the mind: Augmented cognition in the entertainment industry. In D. D. Schmorrow, D. M. Nicholson,

J. M. Drexler, & L. M. Reeves (Eds.), *Foundations of Augmented Cognition* (4th ed., pp. 281). Arlington, VA: Strategic Analysis, Inc.

Nicholson, D. M., Davis, L., Fidopiastis, C., Schmorow, D., & Stanney, K. (2007). An adaptive instructional architecture for training and education. In D. D. Schmorow & L. M. Reeves (Eds.), *Foundations of augmented cognition* (3rd ed., pp. 380-384). Berlin: Springer-Verlag.

Kemper, D., Davis, L., Fidopiastis, C. M., & Nicholson, D. M., (2007). Foundations for creating a distributed, adaptive user interface. In D. D. Schmorow & L. M. Reeves (Eds.), *Foundations of augmented cognition* (3rd ed., pp. 251-257). Berlin: Springer-Verlag.

Nicholson, D. M., Stanney, K., Fiore, S., Davis, L., Fidopiastis, C., Finkelstein, N., & Arnold, R. (2006). An adaptive system for improving and augmenting human performance. In D. D. Schmorow (Ed.), *Foundations of Augmented Cognition* (2nd ed., pp. 215-222). Mahwah, NJ: Lawrence Erlbaum Associates.

Nicholson, D. M., Lackey, S. J., Arnold, R. & Scott, K., (2005). Augmented cognition technologies applied to training: A roadmap for the future. In Dylan D. Schmorow (Ed.), *Foundations of Augmented Cognition* (1st ed., pp. 931-940). Mahwah, NJ: Lawrence Erlbaum Associates.

REFEREED CONFERENCE PROCEEDINGS PUBLICATIONS

Schmorow, D.D. and **Nicholson, D.M.** (2008, July) Human-System Integration and Optimization in Operational and Training Applications. Special Interest Group Proposal on HSI accepted for the 2nd Applied Human Factors and Ergonomics International Conference, 14-17 July, Las Vegas, NV.

Fidopiastis, C. & Nicholson, D. (2008, July) User-in-the-Loop Adaptive System Design: Information Fusion Examples for Visualizing and Measuring Biophysiological States. Abstract accepted for the 2nd *International Conference on Applied Ergonomics*, Las Vegas, NV, July 14-17.

Schatz, S.L., Bowers, C.A., Nicholson, D., & Vogel-Walcutt, J.J. (2008, July). Trait arousability: An individual difference that may actually be useful for designers. Abstract accepted for the 2nd *International Conference on Applied Ergonomics*, Las Vegas, NV, July 14-17.

Vogel-Walcutt, J.J., Schatz, S.L., Bowers, C.A., & Nicholson, D. (2008, July). Learning Efficiency in Complex Domains: Implications from Cognitive Load Theory. Abstract accepted for the 2nd *International Conference on Applied Ergonomics*, Las Vegas, NV, July 14-17.

Shumaker, R., **Nicholson, D., Fidopiastis, C., & Davis, L.,** (2007, July). Aiding Tomorrow's Augmented Cognition Researchers through Modeling and Simulation Curricula. *Proceedings of HCI International 2007*, Beijing, China.

- Nicholson, D., Davis, L., & Fidopiastis, C.**, (2007, April). Applied cognition and training research to address emerging military requirements. *Proceedings of SPIE Defense & Security Symposium*. Orlando, FL.
- Nicholson, D., & Davis, L.**, (2007, May). Collaborative human robot interactions in combined arms operations. *Proceedings of the 2007 International Symposium on Collaborative Technologies and Systems*. Orlando, FL.
- Cohn, J. V., Schmorow, D., **Nicholson, D. M.**, Muller, P., Stanney, K. M., & Milham, L. (2005, July 22-27). Trainee-centric design for developing military-based virtual environment training systems. *1st International Conference on Virtual Reality*, Las Vegas, NV.
- Muller, P., Cohn, J. V., & **Nicholson, D. M.** (2004, December). Immersing humans in virtual environments: Where's the Holodeck? *Proceedings of the 26th Annual Interservice/Industry Training, Simulation and Education Conference*, Orlando, FL.
- Muller, P., Cohn, J. V. & **Nicholson, D. M.**, (2003, December). Developing and evaluating advanced technologies for military simulation and training. *Proceedings of the 25th Annual Interservice/Industry Training, Simulation, and Education Conference*, Orlando, FL. (Voted Best Paper by the HSI Committee).
- Cohn, J. V., Stanney, K. M., Allen, R. C., **Lyons-Nicholson, D. M.**, & Schmorow, D. (2003, July). Guidelines for designing and evaluating virtual environment training systems. *Proceedings of 2003 IMAGE Conference*, Scottsdale, AZ.
- Cohn, J. V., Lackey, S. J., Soles, R. W., **Lyons-Nicholson, D. M.**, Allen, R. C., Schmorow, D., Stanney, K. M., & Graeber, D. (2003, May). Theory-driven development of instructional agents: An example from operational training system. *Proceedings of the 12th Conference on Behavior Representation in Modeling and Simulation*, Scottsdale, AZ.
- Lyons, D. M.**, Lackey, S. J., Schmorow, D., Cohn, J. V. (2002, July). Scenario based training with virtual technologies and environments. *Proceedings of the Image Society: IMAGE 2002 Conference*, Scottsdale, AZ.
- Zachary, W., **Lyons, D. M.**, Santarelli, M., Bergondy, M., Freeman, J., Stretton, M. (2002, May). Synthetic cognition in training and simulation 1: State of the art case study. *Proceedings of the 11th Conference on Computer Generated Forces and Behavioral Representation*.
- Szczepkowski, M., Weiland, W., **Lyons, D. M.**, Mitchell, T., Soles, R. (2002, May). Reusing cognitive models: Leveraging SCOTT technology in an LCAC training environment, synthetic cognition in training and simulation. *Proceedings of the 11th Conference on Computer Generated Forces and Behavioral Representation*.
- Schaafstal, A., & **Lyons, D. M.** (2001, November). Defining simulated team members: Guidelines based on an empirical approach. *Proceedings of the 2001 Interservice/Industry Training, Simulation, and Education Conference*, Orlando, FL.

- Lyons, D. M.,** & Hawkins, H. (2001, May). Naval directions and requirements for computer generated forces. *Proceedings of the 10th Conference on Computer Generated Forces and Behavioral Representation*.
- Schaafstal, A., **Lyons, D. M.,** & Reynolds, R. T. (2001, May). Teammates and trainers: The fusion of SAF's and ITS's. *Proceedings of the 10th Conference on Computer Generated Forces and Behavioral Representation*, Orlando, FL.
- Zachary, W., Santarelli, M., **Lyons, D. M.,** Bergondy, M., Johnston, J. (2001, May). Using a community of intelligent synthetic entities to support operational team training. *Proceedings of the 10th Conference on Computer Generated Forces and Behavioral Representation*. (Selected as "Outstanding Paper").
- Schaafstal, A. & **Lyons, D. M.** (2001, April). Training teams with simulated team members: Defining requirements. *Proceedings of 2001 International Conference, Exhibition & Network for Training, Education & Simulation*, Lille, France.
- Lyons, D. M.** & Allen, R. C. (2000, November). Guidelines for developing hand-held performance measurement tools. *Proceedings of the 2000 Interservice/Industry Training, Simulation and Education Conference*, Orlando, FL, 661-671.
- Schaafstal, A., **Lyons, D. M.,** & Stroomer, S. M. (2000, November). Training teams with simulated teammates. *Proceedings of the 2000 Interservice/Industry Training, Simulation and Education Conference*, Orlando, FL, 1325-1331.
- Sheldon, E. A., Malone, L., Breaux, R. B., **Lyons, D. M.,** Mead, A., & Walker, W. (2000, November). Building an effective component to enhance an intelligent tutoring system for shiphandling. *Proceedings of the 2000 Interservice/Industry Training, Simulation and Education Conference*, Orlando, FL, 504-514.
- Lyons, D. M.,** & Hawkins, H. (2000, May). Navy's keynote on new basic research initiatives in modeling and simulation. *Proceedings of the 9th Conference on Computer Generated Forces and Behavioral Representation*, Orlando, FL.
- Lyons, D. M.,** & Hawkins, H. (1999, May). *Navy's keynote address on new initiatives in computer generated forces*. Keynote address presented at the 8th Conference on Computer Generated Forces and Behavioral Representation, Orlando, FL.
- Lyons, D. M.,** & Hawkins, H. (1999, May). Developing guidelines to advance, implement, and apply cognitive and behavioral modeling techniques for computer generated forces. *Proceedings of the 8th Conference on Computer Generated Forces and Behavioral Representation*, 3-5.
- Hicinbothom, J. H., & **Lyons, D. M.** (1999, May). Synthetic forces for team training. *Proceedings of the 8th Conference on Computer Generated Forces and Behavioral Representation*, 333-338.

CONFERENCE PROCEEDINGS

- Vogel-Walcutt, J.J., Schatz, S., Sciarini, L., Beatriz, J., Bowers, C.A., & **Nicholson, D.** (2008). Varying Workload: A validation of the DVTE system. Poster submitted to the 52nd Annual Conference of the Human Factors and Ergonomics Society, New York, NY, September 22-26.
- Fidopiastis, C. M., Hughes, C. E., Smith, E. M. & **Nicholson, D. M.** (2007, Oct). Developing baseline assessments for virtual rehabilitation environments. *Proceedings of the 4th International INTUITION Conference*, Athens, Greece.
- Fidopiastis, C. M., Hughes, C. E., Smith, E. M. & **Nicholson, D. M.** (2007, Oct). Assessing virtual rehabilitation design with biophysiological metrics. *Proceedings of Virtual Rehabilitation 2007*, Venice, Italy.
- Cohn, J. V., Schmorow, D., **Nicholson, D.**, Templeman, J., & Muller, P. (2003). Virtual technologies and environments for expeditionary warfare training. Proceedings of *NATO Human Factors and Medicine Symposium on Advanced Technologies for Military Training*, Genoa, Italy.
- Schmorow, D., **Lyons, D. M.**, Stanney, K. M., Lackey, S. J., Schaffer, R., & Cavitt, D. (2002, April). Virtual technologies and environments. *Proceedings from the IEEE Virtual Reality 2002 Conference*, Orlando, FL.
- Lyons, D. M.** (2002, April). Modeling and simulation technologies for training military operations. *Proceedings of the Society of Photo-Optical Instrumentation Engineers Imaging—International Society for Optical Engineering- Technologies, Systems, and Architectures for Trans-National Defense*, 4745.
- Lyons, D. M.**, & Lackey, S. J. (2002, April). Keynote on modeling and simulation for naval operations. *Proceedings of the Institute of Industrial Engineers Simulation Solutions 2002 Conference*, San Diego, CA.
- Lyons, D. M.** (2001, December). Cognitive workload assessment. *Proceedings of the 1st annual DARPA Augmented Cognition Conference*, Austin, TX.
- Lyons, D. M.**, & Coury. (2001, October). Computer generated forces in virtual environments. *Proceedings of the 45th annual meeting of the Human Factors and Ergonomics Society*, Minneapolis, MN.
- Lyons, D. M.**, & McDonald, D. (2001, August). Advanced embedded training with real-time simulation for navy surface combatant tactical teams. *Proceedings of the 9th International Conference on Human Computer Interaction*.
- Reeves, D., Burns, J., Paris, C., Johnston, J., & **Lyons, D. M.** (1998, October). Application of hand-held PC technology to support evaluation of tactical decision making performance. *Proceedings of the 42nd annual meeting of the Human Factors and Ergonomics Society*, 1422-1426.

- Lyons, D. M., & Whitcomb, K.** (1997, July). Reconstruction techniques applied to DOIS: A diffractive optic image spectrometer. *Proceedings of the Society of Photo-Optical Instrumentation Engineers Imaging—The International Society for Optical Engineering Spectrometry III*.
- Lyons, D. M., & Whitcomb, K.** (1996, August). Characterization of the DOIS prototype. *Proceedings of the Society of Photo-Optical Instrumentation Engineers Imaging—The International Society for Optical Engineering Spectrometry II: New Sensors*, 2819, 206-217.
- Lyons, D. M., & Whitcomb, K.** (1996, April). Image reconstruction algorithms for DOIS. *Proceedings of the Society of Photo-Optical Instrumentation Engineers Imaging—The International Society for Optical Engineering Algorithms for Multispectral Imagery*, 2758, 342-353.
- Whitcomb, K., Lyons, D. M., & Hartnet, S.** (1996, April). DOIS: A diffractive optic image spectrometer. *Proceedings of the Society of Photo-Optical Instrumentation Engineers Imaging—The International Society for Optical Engineering Photonic Component Engineering & Applications*, Orlando, FL.
- Lyons, D. M., & Whitcomb, K.** (1996, February). The DOE in DOIS, a diffractive optic image spectrometer. *Proceedings of the Society of Photo-Optical Instrumentation Engineers Imaging—The International Society for Optical Engineering Diffractive & Holographic Optics Technology III*, 2689, 274-283.
- Lyons, D. M.** (1995, April). Image spectrometry with a diffractive optic lens. *Proceedings of the Society of Photo-Optical Instrumentation Engineers Imaging—The International Society for Optical Engineering Imaging Spectrometry*, 2480, 123-131.
- Lyons, D. M.** (1994, November). 3D robotic vision with a diffractive optic. *Proceedings of the Society of Photo-Optical Instrumentation Engineers Imaging—The International Society for Optical Engineering Imaging & Illumination for Metrology & Inspection*, 2348, 189-193.
- Lyons, D. M.** (1994, July). Range, direction & velocity determination with a diffractive optic. *Proceedings of the Society of Photo-Optical Instrumentation Engineers Imaging—The International Society for Optical Engineering Infrared Technology XX*, 2269, 35-42.
- Lyons, D. M.** (1994 May) A diffractive optic application: Range, direction & velocity determination by measuring defocus at 2 wavelengths. *Proceedings of the IEEE Dual-Use Technology & Applications Conference IV*.
- Lyons, D. M.** (1994, April). Thermal imaging systems model which includes a human observer. *Proceedings of the Society of Photo-Optical Instrumentation Engineers Imaging—The International Society for Optical Engineering, Infrared Imaging Systems: Design, Analysis, Modeling and Testing V*, 2224, 130-140.
- Lyons, D. M.** (1994, April). Design & characterization of a diffractive lens for an IR application. *Proceedings of the Society of Photo-Optical Instrumentation Engineers*

Imaging—The International Society for Optical Engineering Photonics at the Air Force Photonics Center, 2216, 30-38.

Blanchard*, D. M., & Brost, R. (1990, February). On the temperature dependent photo-refractive effects in BaTiO₃. *Proceedings of the Photo-Refractive Materials, Effects and Devices II*, 71-74.

TECHNICAL REPORTS

Nicholson, D.M., Schmorow, D. D., (2007). *Warfighter Enhancement Activities*. (Institute for Simulation and Training Technical Report IST-CR-07-05) University of Central Florida, Orlando, FL.

Blanchard*, D. M. (1991). *Model of thermal imaging systems which includes the human observer's response to "state of the art" displays*. (Air Force Rome Lab Technical Rep. No. 91-307). Rome, NY: Rome Air Develop Center.

Blanchard*, D. M., & Ward, M. (1989). *Characterization of liquid crystal displays for optical signal processing applications*. (Air Force Rome Lab Technical Rep. No. 89-226). Rome, NY: Rome Air Development Center.

***Blanchard - maiden name, a.k.a. Lyons and Nicholson**

TUTORIALS / WORKSHOPS / PANELS

Nicholson, D.M., Drexler, J. and Schmorow, D.D. (2008) *AugCog-enabled ergonomics: design and application examples for researchers*. Proposed Tutorial for the 2nd Applied Human Factors and Ergonomics International Conference, 14 July, Las Vegas, NV.

Schmorow, D.D. and **Nicholson, D.M.** (2008) *Human-System Integration and Optimization in Operational and Training Applications*. Special Interest Group Proposal on HSI accepted for the 2nd Applied Human Factors and Ergonomics International Conference, 14-17 July, Las Vegas, NV.

Nicholson, D. M. (2006). *Virtual Environment Amphibious Assault Vehicles (VEAAV) Turret Trainer*. Invited panel presentation as part of M&S Reuse Success Stories: Improving Economics and Effectiveness of M&S Support to Warfighting, Interservice/Industry Training, Simulation and Education Conference (IITSEC) 2006, December 4-7, Orlando, FL.

Fidopiastis, C., Hughes, C., **Nicholson, D. M.**, Davis, L., & Rolland, J. (2006). *Optics in simulation and training*. Tutorial presentation at Interservice/Industry Training, Simulation and Education Conference (IITSEC) 2006, December 4-7, Orlando, FL.

Invited Speaker with Macedonia, M., Sottolare, R., Murphy, W., Bushika, M., Fracapane, S., Glasow, J., in a panel on “DOD S&T Needs in M&S”, at *Enabling Technologies for Simulation Science IX Conference* as part of the SPIE 2005 Defense and Security Symposium, Orlando, FL, (29 Mar 2005).

Invited Speaker with Davis, I., Kirby, N., Pratt, D., Wu, S., in a panel on “*The Evolving Role of Artificial Intelligence Agents in Games, Simulations & Education*” at *The G.A.M.E.S. Synergy Summit*, Orlando, FL, (27 Jan 2005).

Developed and presented with Lackey, S., Arnold, R., Campbell, G., & Hodak, J., a tutorial on “*Effective Communications*”. Presented to Naval Air Warfare Center Training Systems Division, Orlando, FL, (25 May 2004).

Participated with Cohn, J., Schmorow, D., Stanney, K., Lackey, S., Allen, R., Muth, E., & Milham, L., in a panel on "Designing virtual environment training systems that work: Stacking the deck in the user's favor", at *The 46th Annual Human Factors and Ergonomics Society Meeting*, Baltimore, MD, (pp. 2104-2108) (29 Sept - 4 Oct 2002).

Organized and lead workshop on “NATIVE - Natural Agents for Autonomous Adaptation to Threats in Varied Environments”, at DARPA’s Cognitive Systems Exploratory Efforts Meeting, Arlington, VA, (15-16 Jul 2002).

Invited Speaker with Bushnell, D.M., Shoemaker, R., Boezer, G., Kramer, M.J., Landauer, C., Minsky, M., Hummel, R., in a panel on “The Future of Transnational Security: Architectures and Infrastructure”, at *SPIE Aerosense 2002 Conference 4745*, Technologies, Systems, and Architectures for Trans-National Defense, (4 Apr 2002).

Participated with Stanney, K., Cohn, J. & Schmorow, D., in a panel on "Virtual technologies & environments for expeditionary warfare training" at IEEE Virtual Reality Conference 2002, Orlando, FL, (24-28 Mar 2002).

Organized and lead workshop on “Cognitive Workload Assessment”, at DARPA’s Augmented Cognition Conference, Austin, TX, (Dec 2001).

Developed and presented a Tutorial on “The Basics of Photonics” at *The IEEE Dual-Use Technology & Applications Conference V*, Utica, NY, (May 1995).

BRIEFINGS AND INVITED TALKS

The following key presentations are representative of the briefings that Denise Nicholson has provided throughout her career in a variety of military, industry and academic forums:

Invited Presenter - *S&T Processes for Transition and Training Effectiveness*, to LtGen James F. Amos, Commanding General of the Marine Corps Combat Development Command (MCDC), BGen Thomas M. Murray, Vice Chief of Naval Research, and Dr. John Tangney, ONR Code 34 department head, hosted at the Naval Research Laboratory (25 June 2007).

Invited Presenter - *S&T Processes for Transition and Training Effectiveness*, to MajGen George J. Flynn, Commanding General of the USMC's Training and Education Command (TECOM), hosted at the Naval Research Laboratory, Washington, DC (30 April 2007).

Invited Speaker – to RADM William Landay, Chief of Naval Research, BGen Randolph Alles, Vice Chief of Naval Research, and George Solhan, ONR Code 30 Department Head, hosted at the Naval Research Laboratory, Washington, DC (25 January 2007)

Invited presentation and demonstration - *Virtual Technologies and Environments*, to BGen Michael Brogan, Commanding General of MARCORPSYSCOM, hosted by PMTRASYS at UCF IST's ACTIVE Lab, (6 October 2006)

Invited Speaker - *Human Systems Research at ONR and NAVAIR TSD*, UCF Industrial Engineering and Management Systems Department offsite, (19 Nov 2004).

Presenter- *VIRTE Transitions: Customers and Agreements*, ONR Human Systems Department annual offsite, (21 Oct 2004).

Invited presentation - “6.1 to 6.4 The Transfer/Transition Process”, to Dr. Lubard, ONR Technical Director (13 Oct 2004).

Invited brief- *VIRTE: a Human Systems Integration (HSI) S&T Program delivering Warfighter Training Enhancement for Navy & MC Transition Customers*, to new ONR Code 342 Branch Head, Rob Carter, (22 Jul 2004).

Presenter- *Overview of Human Systems Integration (HSI) S&T at NAVAIR*, NAVAIR Technology Showcase, (12 May 2004).

Speaker, Best HSI Paper - *Developing and Evaluating Advanced Technologies for Military Simulation and Training* I/ITSEC 2003, (3 Dec 03).

Presenter - *ONR/NAVAIR R&D* - Mr. Crabtree, SES CFFC, N-7, (21 Oct 03).

Invited Speaker - *Transition Opportunities of VELCAC*, LCAC Training Strategies Working Group, (23 Jul 03).

Invited Speaker - *Capabilities of VE-Expeditionary Fighting Vehicle* - DRPM AAA Trainer Acquisition Planning Meeting, (31 Jul 03).

Participant and speaker - *Naval R&D Training Initiatives* - TTCP International Technical Panel (TP-2) Training Technology meeting, (22-28 Apr 03).

Presenter - *Virtual Technology and Environments R&D*, RADM Jay Cohen, Chief of Naval Research, Commanding Officer of the Office of Naval Research, (26 Mar 03).

Presenter - *NAVAIR Training S&T* - Joint Aeronautical Commanders Group consisted of six groups of over 70 high ranking VIP's including LT GEN Richard Reynolds, USAF, and ADM Joe Dyer, USN, (16 Jan 03).

Invited Speaker - *Augmented Cognition* at the 36th Annual International Conference on System Sciences, (7 Jan 03).

Invited speaker - *Fostering Innovation in Information Technology* workshop at University of Central Florida Institute for Simulation and Training hosted by Air Force Agency for Modeling and Simulation (AFAMS), (6 Dec 02).

Invited speaker – *Natural Agents for Autonomous Adaptation to complex Tasks in Varied Environments (NA3TIVE)* to DARPA IPTO Conference on Cognitive Science Exploratory Efforts, (15 Jul 02).

Invited speaker – *Cognitive Workload Assessment* to DARPA IPTO Augmented Cognition Workshop, (10 Jul 02).

Organizer & speaker – *Virtual Technology and Environments for Expeditionary Warfare* to ONR's Future Naval Capability VIRTE Program Executive Review Board, (11 Jun 02).

Repeated Invited Keynote - *Naval R&D Initiatives* to CGF & BR Conference (May 98, 99, 00, 01, 02)

Invited Keynote - *M&S for Naval Operations* to Institute of Industrial Engineers, Simulation Solutions, (9 Apr 02).

Invited Panelist - *M&S Technologies for Training Military Operations*. Society of Photo-Optical Instrumentation Engineers, Technologies, Systems, and Architectures for Trans-National Defense, (18 Apr 02).

Speaker - *Defense Technology Objective: HS-20 Virtual Technologies* to OSD Human Systems, (5 Mar 02).

Presenter - *NAVAIR R&D* - RADM Charles H. Johnston, Jr., Vice Commander, Naval Air Systems Command, (20 Feb 02).

Presenter - *NAVAIR R&D* - VADM Joseph W. Dyer, Commander, Naval Air Systems Command, (23 Jan 01).

Presenter - *NAVAIR R&D* - MCPON James L. Herdt, Master Chief Petty Officer of the Navy, (19 Dec 01).

Presenter - *NAVAIR R&D* - ADM William J. Fallon, Vice Chief of Naval Operations, (17 Dec 01).

Presenter - *NAVAIR R&D* - RADM Henry G. Ulrich III, Special Assistant to CNO for Task Force EXCEL, (10 Dec 01).

Presenter - *NAVAIR R&D* - ADM Vernon E. Clark, Chief of Naval Operations, (14 Nov 01).

Invited speaker - Advance Training with Synthetic Forces - CNO's Strategic Studies Group XX, (6 Feb 01).

Invited speaker - Navy Advanced Simulation Based Training R&D - N6M-NAVMSMO TIM, (5 Dec 00).

Invited presenter - SHIPMATE to SECNAV Danzig and VADM McGinn, 3rd Fleet (9 Sep 00)

Invited panelist - M&S for Training - Air Force M&S Conference, (25 Apr 00).

Invited speaker - Advanced Embedded Training at a PMS500 - Human Systems Integration showcase, (1 Apr 99).

CERTIFICATIONS

Certified Modeling and Simulation Professional (24 Nov 04)

Senior Executive Management Development Program (SEMDP) Graduate (27 Oct 04) - Courses included Executive Leadership and Career Development, Washington Arena Seminar, Capitol Hill Workshop, Contemporary Leadership Issues and Practices, and Politics of National Security

Department of Navy (DON) Acquisition Professional Community (1 Oct 99)

Defense Acquisition Workforce Improvement Act (DAWIA) Certified Level III, in Systems Planning, Research, Development and Engineering (11 Oct 94)

Secret Security Clearance (22 Sep 87)

SERVICE

UNIVERSITY OF CENTRAL FLORIDA SERVICE

2007	Chair, Search Committee, IST Associate in Robotic Simulation
2007	Chair, Search Committee, IST Associate in Game Based Simulation
2007	Member, Search Committee, IST Research Associate -Machine Learning
2007	Member, Search Committee, IST Coordinator, Research Program/Services
2006 – present	Member, Modeling and Simulation Graduate Admissions Committee
2006 – present	Member, Modeling and Simulation Graduate Assistantship Committee
2006 – present	Member, Institute for Simulation and Training Student Researcher of the Year Committee
2004 - present	Reviewer, Institute for Simulation and Training In-House Research Award

ACADEMIC ADVISORY BOARD SERVICE

University of Central Florida's Department of Industrial Engineering and Management Systems,
Department Advisory Board, Board Member, Aug 2000 - 2005

Naval Postgraduate School (NPS) Modeling, Virtual Environments, and Simulation (MOVES),
Advisory Board and Research Evaluator, 2001 - 2005

Mohawk Valley Community College (MVCC) Engineering Sciences Department, Technical
Advisory Board Member, 1990-1997

PROFESSIONAL MEMBERSHIP AND SERVICE

Altrusa International, inducted June 2002

Augmented Cognition International (ACI)

Founding Member

Conference Chair, 4th International Conference on Augmented Cognition, Baltimore 2007
Program Committee, International Conferences on Augmented Cognition, 2005, 2006, 2007
Session Chair, International Conferences on Augmented Cognition, 2005, 2006, 2007
Reviewer, International Conferences on Augmented Cognition, 2005, 2006, 2007

Foundation for the Inspiration and Recognition of Science and Technology (FIRST)

Judge, 2006 FIRST Robotics Competition Regional, Orlando, FL

Institute of Electrical and Electronics Engineers (IEEE)

Conference Committee/Session Chair/Reviewer, IEEE Conference on Computer Generated Forces and Behavioral Representation, 1998 - 2003

Track Chair, Photonics, IEEE Dual-Use Conference, Marcy, NY, 1994-1996

Human Factors and Ergonomics Society (HFES)

Member

Founding Member, *new* Augmented Cognition Technical Group – 2007

Program Chair, Augmented Cognition Technical Group, 2007 - 2008

Reviewer, Training Technical Group, as needed 1997 - present

National Training and Simulation Association (NTSA)

Certified Member, 24 Nov 2004

Interservice/Industry Training, Simulation and Education Conference (I/ITSEC),

Member/reviewer, Tutorial Committee, 2006 and 2007

Session Chair, Tutorial, 2006 and 2007

Member/reviewer, Human Systems Integration Paper Committee, 2003 and 2004

Session Chair, Human Systems Integration, 2003 and 2004

Society for Optical Engineering (SPIE)

Member

Reviewer/Session Chair, SPIE Defense & Security Conference, intermittently 1989 – present

Tau Beta Pi, The Engineering Honors Society, inducted 1987

Toastmasters International, Craftmaster, completed 1996

Tomorrow's Women in Science and Technology (TWIST)

Mentor/Panelist, Annual Expanding Your Horizons Conferences, 1989, 1990, 1993-1997

PROPOSAL REVIEW BOARD SERVICE

ONR In house Laboratory Independent Research (ILIR) 6.1 Program Proposal Reviewer 2002, 2003, 2004, 2005

NASA Intelligent Systems Program, Proposal Reviewer, 2002, 2003, 2004

NSF Virtual Reality SBIR Program Proposal Reviewer 2002, 2003, 2004

DARPA Information Processing Technology Office (IPTO) Proposal Reviewer 2002, 2003

ONR Human Systems, Code 342: Computer Generated Forces/ Affordable Human Behavior Representations Program, Proposal Reviewer 1999 - 2004

SERVICE AS AN EXPERT ADVISOR FOR DoD AND INTERNATIONAL RESEARCH ORGANIZATIONS

ONR/NAVAIR Human Systems Detailee/Technical Development Agent, 2002 - 2005

NATO Human Factors and Medicine exploratory team on "Advances of Virtual Environments for Human Systems Interaction", Panel Member, May 2002 - 2005

The Technical Cooperation Programs (TTCP)* Human Resources and Performance (HUM) Group, Technical Panel 2 (TP-2) on Training Technology, OSD sponsored US Navy Member, 2002 - 2005

Defense Modeling and Simulation Office (DMSO) Tiger team on Human Behavior Modeling and Computer Generated Forces, 2002

OSD Office of the Director of Defense Research and Engineering (DDR&E), Human Systems Panel, Personnel, Training, and Leader Development Sub-Panel, Navy Lead/Action Officer, 2000 - 2005

TTCP* HUM Action Group-19 (AG-19) on Personnel and Human Performance Modeling, US Action Group Member, 2000 - 2002

NATO Long Term Scientific Study on HBR Technology (LTSS SAS-017) Technical Meeting participant, 10-14 Apr 2000

NAVAIR Business Case Development Embedded Training Team Member 2000 - 2003

ONR Virtual Environments UCF Fellowship Government Advisor, 1999 - 2005

Navy AEGIS Combat Training System (ACTS) & Battle Force Tactical Training (BFTT) Scenario Generation Working Group Member, 1998-2000

** TTCP is an international organization that collaborates in defense scientific and technical information exchange for five member nations: Australia, Canada, New Zealand, the United Kingdom and the United States.*