

# Sarah (“Sae”) Schatz, Ph.D.

3100 Technology Pkwy Orlando, FL 32826 | Cell: 407-920-4981 | Work: 407-882-1483 | sschatz@ist.ucf.edu

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Dr. Sae Schatz is a Research Associate with the University of Central Florida Institute for Simulation & Training’s (UCF-IST) Applied Cognition and Training in Immersive Virtual Environments (ACTIVE) laboratory. The ACTIVE lab, directed by Dr. Denise Nicholson, engages in applied research and development for the analysis and improvement of human performance. Among its many other activities, the lab leads several modeling and simulation (M&S) projects for defense agencies, including the United States Army, Navy, and Marine Corps. In support of these efforts, Dr. Schatz performs applied research in scenario-based training, adaptive instruction, individual differences, and cultural modeling. Dr. Schatz is experienced with both social and technological sciences, including human factors, human-computer interaction, educational psychology, computer programming, and instructional technology. Before joining ACTIVE, she served as an instructor in the UCF Digital Media Department, where she taught design philosophy, graphic arts, and web development.

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## **EDUCATION** Human Systems in Modeling and Simulation, Ph.D.

University of Central Florida, August 2008

Advisor: Clint A. Bowers, Ph.D.

Dissertation: *Trait arousability and its impact on adaptive multimedia training*

## **Human Systems in Modeling and Simulation, M.S.**

University of Central Florida, April 2006

Advisor: Clint A. Bowers, Ph.D.

## **Computer Information Technology, B.S.**

University of Central Florida, Summa Cum Laude, with Honors, December 2002

Minor in Applied Computer Science and an emphasis in Graphic Design

## **EMPLOYMENT** Post Doctoral Research Associate

University of Central Florida, Institute for Simulation and Training

August 2008–Present

## **Instructor of Digital Media**

School of Film & Digital Media, University of Central Florida

August 2006–August 2008

## **Environmental Design Consultant**

Group for Organizational Effectiveness (gOE)

March 2004–August 2006

## **Assistant Director of Academic Promotions**

College of Arts & Sciences, University of Central Florida

August 2003–August 2006

## **CITIZENSHIP** United States of America

Military Security Clearance (Obtained 2008)

## ADJUNCTIVE ACTIVITIES

- OTHER ACTIVITIES**
- **Organizing Chair**, SBT Track, Military Modeling & Simulation Symposium (2010)
  - **Subcommittee Member**, I/ITSEC Training Subcommittee (2009)
  - **Co-Editor**, *Warfighter Enhancement Activities* magazine (2007–Present)
  - **Division Editor**, American Psychological Association Division 34 Bulletin (2005–2007)
  - **Editor and Designer**, *Quest* magazine, UCF College of Arts & Sciences (2004–2005)
  - **Closing the Gap program evaluation team member**, State of Florida (2003–2005)

**GRANTS WRITTEN** **Modeling the Effects of Temperament on Society (METS) (September 2009)**

Submitted to the Office of Naval Research, Code 30  
Technical Area: Human Social Cultural Behavioral (HSCB) Sciences  
ONR BAA#09-001  
Amount requested: \$917,709  
Co-PIs: Denise Nicholson and Sae Schatz  
Status: Under Review

**Military Simulation Scenario Developers' (MS<sup>2</sup>D) symposium (November 2008)**

Submitted to the Joint Training Integration and Evaluation Center  
Amount requested: \$99,989  
Co-PIs: Denise Nicholson, Clint Bowers, and Sae Schatz  
Status: Not funded

**Integration, Visualization, and Excellence in Naval Training (August 2008)**

Submitted to the Defense University Research Instrumentation Program (DURIP)  
AFOSR-BAA-2008-5  
Amount requested: \$499,449  
Co-PIs: Denise Nicholson, Clint Bowers, and Sae Schatz  
Status: Not funded

## REFEREED PUBLICATIONS

**ARTICLES** **Schatz, S., Bowers, C., & Nicholson, D.** (Under Review). Arousal: An individual difference all human factors professionals should know. *Ergonomics in Design*.

**Schatz, S., Bowers, C., Nicholson, D., & Goldberg, B.** (Under Review). Components of the Highly Sensitive Person and Trait Arousal Scales. *Personality and Individual Differences*.

Fidopiastis, C. M., **Schatz, S., & Nicholson, D.** (2009). A brief look: AugCog Past and Future. *Frontiers in Neuroscience*, 3(1): 140–141.

Chertoff, D., **Schatz, S., McDaniel, R. & Bowers, C.** (2008). Improving presence theory through experiential design. *Presence: Teleoperators and Virtual Environments*, 17(4), 405–413.

**Schatz, S. & Bowers, C. A.** (2005). Ten questions on room color: Answers for workplace design. *Ergonomics in Design: The Quarterly of Human Factors Applications*, 13(4), 21–27.

**BOOK CHAPTERS** McDaniel, R. & **Schatz**, S. (in press). From cyberspaces to cyberplaces: Image, narrative, and the psychology of place. In Bradley Dilger and Jeff Rice, Eds. *From A to <A>: Keywords in HTML and writing*.

**Schatz**, S., Cannon-Bowers, J. A., Bowers, C. A. (2005). An introduction to data visualizations and their effects on group decision-making and cognitive sharing. In E. Salas, C. Bowers, and F. Jentsch (Eds.) *Creating High Tech Teams*. APA: Washington, D.C.

**PROCEEDINGS** **Schatz**, S., Bowers, C.A., & Nicholson, D. (2009). Advanced situated tutors: Design, philosophy, and a review of existing systems. *Proceedings of the 53rd Annual Conference of the Human Factors and Ergonomics Society*. Santa Monica, CA: Human Factors and Ergonomics Society.

Martin, G., **Schatz**, S., Bowers, C.A., Hughes, C. E., Fowlkes, J. & Nicholson, D. (2009). Automatic scenario generation through procedural modeling for scenario-based training. *Proceedings of the 53rd Annual Conference of the Human Factors and Ergonomics Society*. Santa Monica, CA: Human Factors and Ergonomics Society.

Fowlkes, J., Norman, J. W., **Schatz**, S., & Stagl, K. C. (2009). Contrasting cases: A strategy for advanced learning using simulation-based training. *Proceedings of the 53rd Annual Conference of the Human Factors and Ergonomics Society*. Santa Monica, CA: Human Factors and Ergonomics Society.

Nicholson, N., Fiore, S. Vogel-Walcutt, J. J., & **Schatz**, S. (2009). Advancing the science of training in simulation-based training [Session Abstract]. *Proceedings of the 53rd Annual Conference of the Human Factors and Ergonomics Society*. Santa Monica, CA: Human Factors and Ergonomics Society.

Vogel-Walcutt, J. J., **Schatz**, S., Sciarini, L., Beatriz, J., Bowers, C.A., & Nicholson, D. (2008). Varying Workload: A validation of the DVTE system. *Proceedings of the 52nd Annual Conference of the Human Factors and Ergonomics Society*. Santa Monica, CA: Human Factors and Ergonomics Society.

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

Vogel-Walcutt, J. J., **Schatz**, S., Bowers, C.A., & Nicholson, D. (2008). Learning efficiency in complex domains: Implications from cognitive load theory. *Proceedings of the 2nd International Conference on Applied Ergonomics*.

**SESSION CHAIR** Nicholson, D., Fiore, S., Vogel-Walcutt, J. J., & **Schatz**, S. (2009, October). Advancing the science of training in simulation-based training. Symposium presented at the 53rd Annual Conference of the Human Factors and Ergonomics Society, San Antonio, TX, October 19-23, 2009.

**Schatz**, S. (2007, August). Being an “us” instead of a “them”: An interdisciplinary panel investigates the facilitation of teamness. Session presented at the 115th annual meeting of the American Psychological Association, San Francisco, CA, August 17-20, 2007.

- PRESENTATIONS** **Schatz, S., Bowers, C. A., & Nicholson, D.** (2009, October). Advanced situated tutors: design, philosophy, and a review of existing systems. Paper presented at the 53rd Annual Conference of the Human Factors and Ergonomics Society, San Antonio, TX, October 19-23, 2009.
- Martin, G., **Schatz, S., Bowers, C., Hughes, C. E., Fowlkes, J., and Nicholson, D.** (2009, October). Automatic scenario generation through procedural modeling for scenario-based training. Paper presented at the 53rd Annual Conference of the Human Factors and Ergonomics Society, San Antonio, TX, October 19-23, 2009.
- Fowlkes, J., Norman, J., Stagl, K., & **Schatz, S.** (2009, October). Contrasting cases: A strategy for advanced learning using simulation-based training. Paper to be presented at the 53rd Annual Conference of the Human Factors and Ergonomics Society, San Antonio, TX, October 19-23, 2009.
- Schatz, S., Nicholson, D., Shuffler, M. L.** Temperament as a lens for culture. Paper presented at the Human Social Culture Behavior Modeling (HSCB) Focus 2010 Conference, Chantilly, VA, August 5-7, 2009.
- Schatz, S., Bowers, C. A., & Nicholson, D.** (2009, March). Conceptual and architectural design process of an SBT-AID training system. Poster presented at the 18th Annual Conference on Behavior Representation in Modeling and Simulation (BRIMS), Sundance, UT, March 31-April 2, 2009.
- Schatz, S. & Bowers, C.** (2009, March). Defining the critical components of a scenario to support higher-order KSA training. In Denise Nicholson (Chair) Developing adaptive, intelligent scenarios to support enhanced operations training. Session presented at the 2009 Military Modeling and Simulation Symposium (MMS'09), San Diego, CA, March 22-27, 2009.
- Fowlkes, J., Norman, J. & **Schatz, S.** (2009, March). Making the most of practice: Enhancing scenario-based training with adaptive instructional strategies. In Denise Nicholson (Chair) Developing adaptive, intelligent scenarios to support enhanced operations training. Session presented at the 2009 Military Modeling and Simulation Symposium (MMS'09), San Diego, CA, March 22-27, 2009.
- Vogel-Walcutt, J. J., **Schatz, S., Sciarini, L., Beatriz, J., Bowers, C.A., & Nicholson, D.** (2008, September). Varying Workload: A validation of the DVTE system. Paper presented at the 52nd Annual Conference of the Human Factors and Ergonomics Society, New York, NY, September 22-26.
- 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. Paper presented at the 2nd International Conference on Applied Ergonomics, Las Vegas, NV, July 14-17, 2008.
- Vogel-Walcutt, J. J., **Schatz, S., Bowers, C.A., & Nicholson, D.** (2008, July). Learning efficiency in complex domains: Implications from cognitive load theory. Paper presented at the 2nd International Conference on Applied Ergonomics, Las Vegas, NV, July 14-17, 2008.

**Schatz, S. & Bowers, C. A.** (2007, August). Can space be designed to enhance shared mental models? In Sae Lynne Schatz (Chair) Being an “us” instead of a “them”: An interdisciplinary panel investigates the facilitation of teamness. Session presented at the 115th annual meeting of the American Psychological Association, San Francisco, CA.

**Schatz, S. & Bowers, C. A.** (2007, March). Can lessons-learned from environmental psychology translate to virtual environments? In Rudy McDaniel (Chair) Cognitive fidelity in virtual worlds (a multidisciplinary approach). Session presented at the 3rd Annual UF Games and Digital Media Conference, Gainesville, FL, March 1-2, 2007.

**Schatz, S. & Bowers, C. A.** (2007, May). Seven essential teamwork competencies and how to design for them. Paper presented at the 38th annual meeting of the Environmental Design Research Association, Sacramento, CA.

**Schatz, S. & Bowers, C. A.** (2006, June) Using the (physical) environment to improve students’ attitudes: Methodological challenges, lessons, and an empirical example. In Frederick Grouzet (Chair). The interface between educational and environmental psychology. Session presented at the 67th annual Canadian Psychological Association convention, Calgary, Alberta, Canada.

**Schatz, S. & Bowers, C. A.** (2006, May) Improving students’ attitudes by altering the (physical) classroom. Paper presented at the 37th annual meeting of the Environmental Design Research Association, Atlanta, GA.

**Schatz, S., Bowers, C. A., & Lum, H.** (2005, September). Impact of environmental design features: Does color scheme influence transposed attributions? Poster presented at the 49th Annual Meeting of the Human Factors and Ergonomics Society, Environmental Design Technical Group, Orlando, FL.

**Bowers, C. A. & Schatz, S.** (2005, August). Designing for real experiences by real people in virtual worlds. In Mark E. Koltko-Rivera (Chair) 21st century psychology: selected issues, methods, and areas of focus. Session presented at the 113th annual American Psychological Association convention, Division 1, Washington, D.C.

**Schatz, S., Pillai, R., & Tran, T.** (2005, August). Presentational aspects of an illustration influence reactions to its content. Poster presented at the 113th annual American Psychological Association convention, Division 3, Washington, D.C.

## **INVITED ADDRESSES AND SPECIAL PUBLICATIONS**

**PRESENTATIONS** Nicholson, D., **Schatz, S.**, & Becker, W. (2009, November). S Individual differences in stress reactivity. Invited address presented at the 62nd meeting of the Department of Defense Human Factors Engineering Technical Advisory Group (DOD HFE TAG), Workload and Stress sub-TAG (Non-Referred), Department of Defense, Key West, FL, November 2-5, 2009.

**Schatz, S., Bowers, C. A., & Nicholson, D.** (2009, May). Scenario-Based Training Overview. (Encore Presentation). Invited address presented at the Naval Research Advisory

Committee (NRAC) Meeting (Non-Referred), Office of Naval Research, Washington, DC, May 19-20, 2009.

**Schatz, S., Bowers, C. A., & Nicholson, D.** (2009, March). Scenario-Based Training Overview. Invited address presented at the FITE JCTD Working Group Meeting (Non-Referred), Camp Pendleton Marine Corps Base, CA, March 31-April 2, 2009.