

Resume
J. Michael Moshell
University of Central Florida
February 2012

Education

1971-1975: Ph.D, Computer Science, Ohio State University
1964-1968: B. S. Physics, Georgia Institute of Technology

Employment

At the University of Central Florida (Orlando, Florida)

2004: Interim Director, *Florida Interactive Entertainment Academy*
2004-2005: Head, *Digital Media Division, School of Film and Digital Media*
2000-2003: *Founder & Director, Digital Media Program (Arts & Sciences)*
2000-present: Professor, Digital Media, College of Arts & Humanities
1996-2000: Professor, Computer Science
1990-1997: *Founder and Chief Scientist, Visual Systems Laboratory*
UCF Institute for Simulation & Training
1984-1996: Associate Professor, Computer Science

At the University of Tennessee (Knoxville, Tennessee)

1981-1984: Associate Professor, Computer Science
1975-1981: Assistant Professor, Computer Science

In the United States Peace Corps

1968-1970: High School Teacher, Kolej Tunku Kurshiah, Seremban, Malaysia

Professional Activity

President, *International Digital Media and Arts Association (iDMAa)*, 2005-6.

Chair, iDMAa Conference, March 16-18 2005, Orlando, Florida.

Chair, iDMAa Conference, March 14-16 2004, Orlando, Florida.

Member, National Research Council Panel on Virtual Reality 1992-1994. Produced *Virtual Reality: Scientific and Technological Challenges*. Washington, DC. September 1994.

Graduate Educational Activity

Graduate Courses Taught in Last Five Years

DIG 5565c - Digital Asset Management Systems - Fall 2007

DIG 5647 - Science and Technology of Dynamic Media (Now DIG 6647) - Spring 2008

DIG 6546 - Previsualization and Concept Development - Fall 2010

DIG 6551 - Applied Interactive Story - Fall 2009, Fall 2011

DIG 6946 - DM Perspectives - Fall 2008

Reviewer for:

Simulation: Transactions of the Society for Modeling and Simulation

NARST: National Association for Research in Science Teaching Annual Conference

Research Funding

National Science Foundation(NSF), Informal Science Education. \$1,430,253. Sept. 2011-Aug. 2014. PI: Robb Lindgren. (Moshell is one of three co-PI.) *Metaphor-Based Learning of Physics Concepts through Whole-Body Interaction in a Mixed Reality Science Center Exhibit*

Army Research Institute (ARI), subcontract via Global Assessment LLC, \$29,903. Oct. 2007-March 2008. *NOVEL: A Non-verbal Learning Tool for Arabic-American Communication.*

Grants and contracts from U. S. Army, U. S. Navy, DARPA, National Science Foundation, National Institutes of Health: \$4.8 million, 1975-2000.

Academic Funding

State of Florida: *Florida Interactive Entertainment Academy*. \$4.2 million startup funds, \$1 million/year recurring funds. June 2004. I wrote the proposal and served as FIEA's first Director.

Recent Publications

Lindgren, R., & **Moshell, J. M.** (accepted, April 2012). Interviews, diagrams, and movement analysis: Assessing learning in a mixed reality simulation of planetary astronomy. *Symposium paper to be presented at the annual meeting of the American Education Research Association, Vancouver, BC.*

Lindgren, R., & **Moshell, J. M.** An immersive mixed reality game for learning physics concepts through body-based metaphors. *Presentation at the 7th annual Gaming + Learning + Society Conference, June 15, 2011. Madison, WI.*

Zhu, Jichen; Ingraham, Kenneth; **Moshell, J. Michael** and Ontanon, Santiago. "Toward a Computational Model of Character Status in Interactive Storytelling". *Proceedings, ACM Creativity and Cognition Conference, Nov. 3-6, 2011, Atlanta, GA, USA.*

Lindgren, Robb and **Moshell, J. Michael.** "Supporting Children's Learning with Body-based Metaphors in a Mixed Reality Environment". *Proceedings, IDC (Interaction Design and Children) Conference, June 20-23, 2011. Ann Arbor, MI, USA, 177-180*

Lindgren, Robb; Smith, Eileen; and **Moshell, J. Michael.** "Expanding the Depth of Informal Learning with Mixed Reality at Science Centers". *Poster session at NARST (National Association for Research in Science Teaching) Conference, April 3-11, 2011, Orlando, Florida.*

Wirth, Jeff; Norris, Anne E.; Mapes, Dan; Ingraham, Kenneth and **Moshell, J. Michael.** "Dramatic Improvisation in a Mixed Reality Environment for Learning". *Proceedings, HCI (Human-Computer Interaction) International 2011. 9-14 July 2011, Orlando. FL, USA.*

Moshell, J. Michael; Wirth, Jeff and Ingraham, Kate. "The Multi-Player Story Engine." *International Digital Media and Arts Association Annual Conference, Muncie Indiana, 7-10 November 2009.*

Moshell, J. Michael. "Dancing the Earth: Whole-body motion and learning in projective virtual environments". Presented at the *International Digital Media and Arts Association Annual Conference, Savannah, Georgia, 6-8 November, 2008.*

Samman, S. N., **Moshell, M.**, Clark. B., Abbe, A., & Brathwaite, C. (2008). Cross-cultural nonverbal cue immersive training. *Proceedings of the Army Science Conference.* Orlando, FL.

Moshell, J. Michael. "Shall we make the Everglades Holy?" Invited presentation, SIGGRAPH 2007 Art Gallery Panel, San Diego, California. Association for Computing Machinery: Special Interest Group on Computer Graphics and Interactive Applications. 9 August 2007.

Moshell, J. Michael; McDaniel, Rudy; Makwana, Alpesh P. and Wei, Li . "Managing Actors in Serious Games". *Proceedings: GAMEON North America Conference, Gainesville, FL 11-13 Sept 07. Available as Technical Report UCF-DM-2007.3.*

Moshell, J. Michael. "Principles and Meta-Principles for Digital Media as an Academic Discipline." Presented at the iDMAa Conference 2006 (International Digital Media and Arts Association), San Diego, California, November 9-11, 2006. Available as Technical

Report UCF-SFDM-2006.3.

Gibson, Ian and **Moshell, J. Michael**. "Digital Asset Management Systems in Academia". Presented at the iDMAa Conference 2006 (International Digital Media and Arts Association), San Diego, California, November 9-11, 2006. Available as Technical Report UCF-SFDM-2006.4.

Wirth, Jeff; Ingraham, K. and **Moshell, J. Michael**. "Digital Media and Environmental Interactive Performance". Presented at the iDMAa+IMS Conference 2006 (International Digital Media and Arts Association), Oxford, OH, April 6-8, 2006. Available as Technical Report UCF-SFDM-2006.2.

Hughes, Darin E., Thropp, Jennifer; Holmquist, John, and **Moshell, J. Michael**. "Spatial perception and expectations: factors in acoustical awareness for MOUT training.". Army Science Conference 2004, Orlando, Florida, November 28-December 2, 2004.

Micikivicius, P., Hughes, C. E., **Moshell, J. M.**, Sims, V. K. and Smith, H. "Perceptual Evaluation of an Interactive Forest Walk-Through". *VR Usability Workshop: Designing and Evaluating VR Systems*, Nottingham, England, January 22-23, 2004.

Stapleton, C. B., Hughes, C. E. and **Moshell, J. M.** "Mixed Fantasy." *Second ACM and IEEE International Symposium on Mixed and Augmented Reality (ISMAR)* Tokyo. October 8-10, 2003.

Hughes, C. E., Stapleton, C. B., **Moshell, J. M.**, Micikevicius, P., Garrity, P. and Dumanoir, P. "Challenges and Opportunities Simulating Future Combat Systems via Mixed Reality." *23rd Army Science Conference (ASC 2002)*, Orlando, FL, December 2-5, 2002.

Stapleton, C. B., Hughes, C. E., **Moshell, J. M.**, Micikevicius, P. and Altman, M. "Applying Mixed Reality to Entertainment." *IEEE Computer* 35(12), pp. 122-124, December 2002.

Sims, V. K. **Moshell, J. M.**, Hughes, C. E., Cotton, J. E. and Xiao, J. "Recognition of Computer-Generated Trees". Proceedings of the Human Factors and Ergonomics Society, 46, Baltimore, MD, Sept. 30-Oct. 4, 2002.

Hughes, C. E., Burnett, J., **Moshell, J. M.**, Stapleton, C. B. and Mauer, B. "Space-based Middleware for Loosely-Coupled Distributed Systems." *Proceedings of SPIE*, Volume 4862, pp. 70-79; presented at *ITCOM2002: Multimedia Networks and Management Systems*, Boston, 29 July-2 August 2002.

Hughes, C. E.; **Moshell, J. M.**; Reed, Dean; "Internet-Based Virtual Environments" in *Handbook of Virtual Environments: Design, Implementation, and Applications* (K. M. Stanney, Ed.) Lawrence Erlbaum Associates, 2001.

Moshell, J. M. and Hughes, C. E. "Virtual Environments as a Tool for Academic Learning" in *Handbook of Virtual Environments: Design, Implementation, and Applications* (K. M. Stanney, Ed.) Lawrence Erlbaum Associates, 2001

Hughes, C. E.; **Moshell, J. M.**; Reed, Dean; Chase, Diane; and Chase, Arlen. "The Caracol Time Travel Project," Visual 2000: 3rd International Conference on Visual Computing, Mexico City, 18-22 September 2000. appeared in *Journal of Visualization & Computer Animation* 12(4) 203-214 (2001).

Hughes, C. E.; **Moshell, J. M.**; Sims, Valerie and Yu, QingYi. "Dynamic Computation of Levels of Detail in Complex Outdoor Environments," Visual 2000: 3rd International Conference on Visual Computing, Mexico City, 18-22 September 2000.

Moshell, J. M.; Hughes, C. E.; Reed, Dean; Chase, Diane; and Chase, Arlen. "Virtual Drama as a Learning Medium: The Caracol Time Travel Project," IEEE VR2000 (Poster Session), New Brunswick, NJ, 18-22 March 2000.

Morelos-Borja, H.; Wang, A.; **Moshell, J. Michael** and Hughes, C. E. "Agents for the Matching of Peer Tutors with Distance Learners." AACE-WebNet 98 Conference Proceedings, Orlando, FL. Nov. 1998.

Hughes, C. E.; **Moshell, J. Michael** and Pullen, M. "Two dimensional Shared Virtual Worlds in Middle and Elementary Schools: Lessons Learned," Virtual Worlds and Simulation Conference, pp. 139-144, San Diego, January, 1998.

Chen, J. X., Lobo, N., Hughes, C. E., and **Moshell, J. M.** "Real-time Fluid Simulation in a Networked Virtual Environment." *IEEE Computer Graphics and Applications* 17(3), pp. 52-61, May-June 1997.

Hughes, Charles E. and **Moshell, J. Michael.** "Shared Virtual Worlds for Education: The ExploreNet Experiment." *ACM Multimedia* 5(2), pp.145-154, March 1997.

Moshell, J. Michael and Hughes, Charles E. "The Virtual Academy: A Simulated Environment for Constructionist Learning." *International Journal of Human-Computer Interaction* 8(1), pp. 95-110, 1996.

Companion, Michael A.; Tarr, Ronald W.; Jacobs, John W.; and **Moshell, J. Michael.** "Collaborative Learning: Migration of distributed interactive simulation to educational applications." *Proceedings of SPIE '95* Orlando, FL. April 1995.

Chen, J. X., Lobo, N., Hughes, C. E. and **Moshell, J. M.** "Simulation and Synchronization of Fluids in a DIS." *First Workshop on Simulation and Interaction in Virtual Environments (SIVE)*, University of Iowa, Iowa City, Iowa, July 13-15, 1995.

Li, Xin; Hua, Kien A. and **Moshell, J. Michael**. "Distributed Database Designs and Computation Strategies for Networked Interactive Simulations. *Journal of Parallel and Distributed Computing* **25**, 72-90. 1995.

Mapes, Daniel P; and **Moshell, J. Michael**. "A Two Handed Interface for Object Manipulation in Virtual Environments." *PRESENCE: The Journal of Teleoperators and Virtual Environments*. **4:4**, Fall 1995, pp. 403-416.

Moshell, J. Michael, Cortes, Art; Clark, Tom; Abel, Kimberly C.; Kilby, Mark; Lisle, Curtis R.; Mapes, Daniel P. and Morie, Jacquelyn Ford. "Research in Virtual Environments and Simulation at the Institute for Simulation and Training of the University of Central Florida." *PRESENCE* **4:2**, Spring 1995. 209-217.

Durlach, Nathaniel I. and Mavor, Anne S. (Editors). Bryson, Steve; Hackerman, Norman; Hollerbach, John; Lackner, James ; **Moshell, J. Michael** ; Pausch, Randy ; Pew, Richard ; Robinett, Warren; Rosen, Joseph; Srinivasan, Mandayam ; Thomas, James ; van Dam, Andries ; Wenzel, Elizabeth ; Winget, James ; Witkin, Andrew ; Wong, Eugene; and Zyda, Michael. *Virtual Reality: Scientific and Technological Challenges*. A Report of the National Research Council, Washington, DC. September 1994.

Lampton, Donald R, Knerr, Bruce W., Goldberg, Steven L., Bliss, James P., **Moshell, J. Michael**, Blau, Brian S. "The Virtual Environment Performance Assessment Battery (VEPAB): Development and Evaluation." *PRESENCE: The Journal of Teleoperators and Virtual Environments*. **V3 #2**. Summer 1994.

Li, Xin and **Moshell, J. Michael**. "Realtime Graphical Simulation of Soil Slippage". *The Transactions of the Society for Computer Simulation* **V11, #3**. October 1994. pp.195-220.

Knerr, Bruce W.; Goldberg, Stephen L.; Lampton, Donald R.; Witmer, Bob G.; Bliss, James P.; **Moshell, J. Michael**; and Blau, Brian S. "Research in the Use of Virtual Environment Technology to Train Dismounted Soldiers." in *Journal of Interactive Instruction Development*. **6:4**, Spring 1994. pp. 9 20.

Moshell, J. Michael and Hughes, Charles E. "The Virtual Academy: Networked Simulation and the Future of Education." in *Proceedings of the IMAGINA Conference*, 6-18 February 1994, Monaco.

Chen J. X., **J. M. Moshell**, C. E. Hughes, B. Blau, Xin Li. "Distributed Virtual Environment Real-Time Simulation Network." in *Advances in Modeling and Analysis, B*, Vol. 31, No. 1, 1994, pp. 1-7. Summer 1994. Proceedings of the Annual Conference of the Organization and Association for the Advancement of Modeling and Simulation Techniques in Enterprises, Tassin-la-Demi-Lune, France.

Hughes, Charles E. and **Moshell, J. Michael**. "ExploreNet" in *Virtual Reality Casebook* (C. E. Loeffler and Tim Anderson, ed.) Van Nostrand Reinhold, New York, pp. 118-122, 1994.

Moshell, J. Michael; Blau, Brian; Li, Xin, and Lisle, Curtis. "Dynamic Terrain." *SIMULATION* 62:1. January 1994.

Li, Xin and **Moshell, J. Michael**. "Modeling Soil: Realtime Dynamic Models of Soil Slippage and Soil Manipulation." in *Computer Graphics* 24:4 (*Proceedings of the Siggraph 93 Conference* , appearing as an issue of the journal *Computer Graphics*), August 1993.

Lisle, Curtis R. and **Moshell, J. Michael**. "Object Oriented Physical Modeling." in *Journal of Systems Engineering* , 3:191-201. 1993.

Moshell, J. Michael and Dunn-Roberts, Richard. "Virtual Environments: Research in North America." in *Virtual Reality: An International Directory of Research Projects*. Jeremy Thompson, ed. Meckler Inc., Westport, Conn. 1993.

Pausch, Randy R.; Curtis, Pavel; and **Moshell, J. Michael**. "Virtual Reality: Three Views." *IEEE Computer* 36.2, February 1993.

Moshell, J. Michael, Blau, Brian S., Knerr, Bruce; Lampton, Donald and Bliss, James P. "A Research Testbed for Virtual Environment Training Applications". *Proceedings of the VRAIS '93 Conference* (Seattle, WA. September 1993).

Blau, Brian; **Moshell, J. Michael**, and McDonald, Bruce. "The DIS (Distributed Interactive Simulation) Protocols and their Application to Virtual Environments. in *Proceedings of the Fourth Annual Virtual Reality Conference and Exposition*, San Jose, CA. 19-21 May 1993. Meckler Inc., Westport, Conn

Hughes, Charles E. and **Moshell, J. Michael** "ExploreNet" in *Virtual Reality: Anthology of Industry and Culture* (C. E. Loeffler, ed.) Gijutsu Hyoron Sha, Tokyo, 1993.

Moshell, J. Michael and Hughes, Charles E. "Shared Virtual Worlds for Education", *Virtual World Review* 1.2, Nov./Dec. 1993.

+ 42 prior journal and proceedings papers and 3 software products.