

# Marc Destefano

Lecturer of Cognitive Science  
Associate Director, CogWorks Laboratory  
Game and Simulation Arts & Sciences Program  
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## Present Position:

- Lecturer of Cognitive Science
- Associate, Game and Simulation Arts & Sciences Program
- Associate Director, CogWorks Laboratory

## Education:

- Ph.D., Cognitive Science. Rensselaer Polytechnic Institute, Troy NY, 2010. Dissertation: *The Mechanics of Multitasking: The Choreography of Perception, Action and Cognition over 7.05 Orders of Magnitude*. Advisor: Wayne D. Gray
- M.S., Psychology. Rensselaer Polytechnic Institute, Troy NY, 2001.
- B.S., Computer Science and Psychology. Rensselaer Polytechnic Institute, Troy NY, 1998.

## Professional Experience:

- 2009-2010: Chair, Game and Simulation Arts & Sciences Program, School of Humanities, Arts, and Social Sciences, Rensselaer Polytechnic Institute, Troy NY
- 2004-2011: Clinical Assistant Professor, Department of Cognitive Science, Rensselaer Polytechnic Institute, Troy NY
- 2004-2008: Associate, Social and Behavioral Research Laboratory, Rensselaer Polytechnic Institute, Troy NY
- 2001-2004: Technical Director, Rensselaer Artificial Intelligence and Reasoning Laboratory, Rensselaer Polytechnic Institute, Troy NY
- 2003-2004: Adjunct Professor, Department of Cognitive Science, Rensselaer Polytechnic Institute, Troy NY
- 2001-2002: Lecturer, Department of Philosophy, Psychology and Cognitive Science, Rensselaer Polytechnic Institute, Troy NY
- 1997-1999: Undergraduate Researcher, Minds & Machines Laboratory, Rensselaer Polytechnic Institute, Troy NY

## Grants and Consulting:

- 2010: Researcher, "Cognitive Workload in Multimodal Task Environments," Office of Naval Research
- 2007-2012: Consultant, "Complex learning and skill transfer with video games", Multidisciplinary University Research Initiative (MURI) award, Office of Naval Research

- 2002-2006. Subcontractor on Contract #MDA-904-03-C-0408 to Booz Allen Hamilton from the Advanced Research and Development Activity, Novel Intelligence from Massive Data Program

### **Journal Editorial Activity**

- Game Studies
- International Journal of Human-Computer Studies
- Acta Psychologica

### **Book Publisher Editorial Activity**

- John Wiley & Sons
- McGraw-Hill

### **Professional Affiliations:**

- Cognitive Science Society
- International Game Developers Association
- Digital Games Research Association

### **Teaching:**

Core Game and Simulation Arts & Sciences Courses:

- Game Design, Fall Semester. 2002-Present
- Game Mechanics, Spring Semester. 2005-Present
- Game Development I, Fall Semester. 2001-Present
- Game Development II, Spring Semester. 2007-2010, 2012
- Game Architecture, Spring Semester. 2011-Present

Other Undergraduate Courses:

- Introduction to Cognition and Gaming
- Advanced Game Design
- Advanced Game Development
- Independent Games Festival
- 3D Game Programming
- Game AI
- Advanced Game Architecture
- GSAS Research Project

Thesis Supervision

- Jason Wodicka, M.S., 2004. *Bard: A System for Dynamic Interactive Storytelling*
- Ryan Hatlelid, B.S., 2010
- Niholas Korn, B.S., 2010

- Nathanael Newby-Kew, B.S., 2010
- Dan Nottingham, B.S., 2009
- Nadav Pechthold, B.S., 2008
- Jennifer Ash, B.S., 2008
- Erin Spencer, B.S., 2007
- Sylvia Luxemburg, B.S., 2006
- Brian Gibson, B.S., 2005
- Nicholas Cooper, B.S., 2005
- Robert Davis, B.S., 2005
- Cory McWilliams, B.S., 2005
- Timothy Sweeney, B.S., 2004
- John Puccino, B.S., 2004

### **Publications:**

- Destefano, M., Lindstedt, J. K., & Gray, W. D. (2011). Use of complementary actions decreases with expertise. In L. Carlson, C. Hölscher & T. Shipley (Eds.), *Proceedings of the 33rd Annual Conference of the Cognitive Science Society* (pp. 2709-2014). Austin, TX: Cognitive Science Society.
- Destefano, M. (2010). The Mechanics of Multitasking: The Choreography of Perception, Action, and Cognition over 7.05 Orders of Magnitude. Rensselaer Polytechnic Institute, Troy, NY.
- Changizi, M.A., Destefano, M. (2009) Common scaling laws for city highway systems and the mammalian neocortex. *Complexity* 15: 11-18.
- Destefano, M., Gray, W.D. (2008) An integrated model of action video game play. In V. Sloutsky, B. Love & K. McRae (Eds.), Poster presented at the 30th Annual Meeting of the Cognitive Science Society (pp. 2016). Austin, TX: Cognitive Science Society.
- Destefano, M. (2008) Rapid inter-process communication between ACT-R and external simulations. Presented at the 15th Annual ACT-R Workshop, Pittsburgh, PA.
- Destefano, M., Gray, W.D. (2007) Use of Complementary Actions Decreases with Expertise. Poster presented at the 29th Annual Meeting of the Cognitive Science Society, Nashville, TN.
- Bringsjord, S., Khemlani, S., Arkoudas, K., McEvoy, C., Destefano M., Daigle, M. (2005) Advanced Synthetic Characters, Evil, and E\*. Proceedings of the 6<sup>th</sup> Annual European GAME-ON Conference. De Montfort University, Leicester, United Kingdom.
- Noble, R., Ruiz, K., Destefano, M., Mintz, J. (2003) Terms of Engagement. Proceedings of Level Up, the 1st International Conference of the Digital Games Research Association. University of Utrecht, The Netherlands

### **Presentations:**

- Destefano, M. The Choreography of Cognition. Naval Undersea Warfare Center, Newport, RI. 4/15/10

- Destefano, M. The Mechanics of Multitasking. Issues in Cognitive Science Series, Rensselaer. 9/30/09
- Destefano, M., Gray, W.D. *Space Fortress* and Cognitive Control. Office of Naval Research. 4/29/09
- Destefano, M. Choreographing Cognition, Perception, and Motor Control over 7.03 Orders of Magnitude. Issues in Cognitive Science Series, Rensselaer. 10/15/08
- Kantrowitz, N., Destefano, M. Pygame: Modern Game Development. PyCon, Chicago IL. 3/13/08
- Destefano, M., Mintz, J. The New Bachelor of Science Degree in GSAS. Rensselaer Alumni Weekend. 2/8/07
- Destefano, M. The Cognition of Engagement. 12/6/05
- Destefano, M. Minds, Machines, and Games. Guest Lecture, Minds & Machines, Rensselaer. 9/8/05
- Panel member, IBM Game Industry Press Briefing, Hawthorne Industry Solutions Lab, 8/11/04
- Destefano, M. AI in Games. Guest Lecture, Artificial Intelligence, Rensselaer. 4/21/05
- Bringsjord, S., Arkoudas, K., Yang, Y., Shilliday, A., Taylor, J., Destefano, M. New Architectures, Algorithms, and Designs that Lead to Implemented Machine Reasoning over Knowledge in Epistemic and Deontic Formats, in the Service of Wargaming. AFRL Rome, 2/23/05
- Destefano, M. Getting into the Game. Drexel University, 5/24/04
- Destefano, M. Random Ramblings on AI in games. Guest Lecture, Cognitive Engineering. 4/15/04
- Destefano, M. A Ludologist Admits (Partial!) Defeat. Rensselaer Minds & Machines Seminar, 4/14/04
- Destefano, M. Creating an Ontology of 'A Game World'. Rensselaer Minds & Machines Seminar. 2/04/04
- Bringsjord, S., Shilliday, A., Taylor, J., Khemlani, S., Destefano, M., Arkoudas, K. The Status of *Slate*. ARDA Review, University of Maryland, College Park. 4/5/04
- Bringsjord, S., Shilliday, A., Taylor, J., Destefano, M. What the RAIR Lab Offers for Wargaming. Air Force Research Lab, Rome, NY, 1/7/04
- Bringsjord, S., Shilliday, A., Taylor, J., Wodicka, J., Destefano, M. Status Update of RAIR Lab's NIMD/Sage R&D. ARDA review, San Diego, CA. 11/12/03
- Destefano, M. Towards a Formal Understanding of Games. Rensselaer Minds & Machines Seminar. 3/19/03
- Destefano, M., Bringsjord, S. Philosophical Robotics. SUNY Stony Brook. 11/20/02