KEITH J. O'HARA

kohara@bard.edu
http://drablab.org/keithohara/

Bard College
Annandale-on-Hudson, NY 12504
(845) 752-2359

Professional Preparation

Georgia Institute of Technology — Atlanta, GA
Ph.D., Computer Science (Interactive Computing) — December 2011

Adviser: Tucker Balch
Thesis: Leveraging Distribution and Heterogeneity in Robot Systems Architecture

Georgia Institute of Technology — Atlanta, GA
M.S., Computer Science — December 2005

Rowan University — Glassboro, NJ
B.S., Computer Science (Mathematics Minor) — May 2002

Appointments

Swarthmore College — Swarthmore, PA
Visiting Associate Professor of Computer Science — July 2022 – Present

Bard College — Annandale-on-Hudson, NY
Associate Professor of Computer Science — July 2015 – Present
Coulter '51 House Professor (Bard Houses Program) — July 2017 – July 2022
Director of the Computer Science Program — July 2015 – July 2022
Assistant Professor of Computer Science — July 2009 – June 2015

Research Experience

The draB Lab – Bard College — Annandale-on-Hudson, NY
Director — September 2009 – Present

The IMP – An experiment in novel forms of mixed-reality and human robot interaction that combines recent advances in mobile robot and projector-camera systems research; adding robotic mobility to a projector-camera system enables a new class of interfaces.

Bird's Eye – A collaboration with colleagues in Dance, this interactive dance piece explores perspective, sensing, time and memory. The performance uses a projector-camera system to track the dancer and provide live visualizations of the past, present and future states of the dance.

IPRE – The Institute for Personal Robots in Education aims to apply and evaluate robotics as a context for computer science education. Our lab has contributed embedded software, curriculum development, and support for upper-level robotics (e.g., ROS).

The BORG Lab (Balch) – Georgia Institute of Technology — Atlanta, GA
Graduate Research Assistant — August 2003 – August 2009

Researched distributed robot computing systems, including educational robotics, sensor networks, and multi-robot teams. Specifically, heterogeneous robot computing systems composed of sensor networks and mobile robots

The Mobile Robot Lab (Arkin) – Georgia Institute of Technology — Atlanta, GA
Graduate Research Assistant — August 2002 – May 2003

Investigated the use of wireless communication models in multi-robot behaviors and planning for teams of autonomous unmanned vehicles as part of DARPA MARS-2020.

KEITH J. O'HARA
kohara@bard.edu
http://drablab.org/keithohara/

Bard College
Annandale-on-Hudson, NY 12504
(845) 752-2359

Lockheed Martin Advanced Technology Laboratories Cherry Hill, NJ
Intern (During Breaks) May 2000 – August 2004

Distributed Processing Lab – Researched distributed real-time systems, focusing on technologies for reliable, timely, and deterministic distributed object computing.

Artificial Intelligence Lab – Researched human-robot teaming. Specifically, we built a testbed of multiple mobile robots to showcase technologies developed by the laboratory.

Teaching Experience

Swarthmore College Swarthmore, PA
Computer Science Department July 2022 – Present

Classes: Introduction to Computer Science; Games Systems: Platforms, Programs & Power; The Computational Image

Bard College Annandale-on-Hudson, NY
Computer Science Program July 2009 – Present

Classes: Craft of Computing; Data Visualization; (De-)Coding the Drone; Games at Work: Procedure, Participation & Play; Introduction to Computing: Interactive Systems; Object-Oriented Programming; Object-Oriented Programming with Robots; Object-Oriented Programming Workshop; Data Structures; Principles of Computer Systems; The Computational Image; Distributed Systems; Embedded Operating Systems; Intelligent Robotics and Perception; Games Systems: Platforms, Programs & Power; and Design of Programming Languages

Tutorials: Robotic Musicianship; Intelligent Mobile Projectors; Embedded Systems; Computational Perception for Performance; Micro-learning; Notebook-based Computing; Reinforcement Learning; Cultural Analytics; Robot Prototyping

Bard Prison Initiative Woodbourne, NY
Instructor for Object Oriented Programming June 2019 – August 2019
Instructor for Intro to Computing: Interactive Systems June 2015 – August 2015

Georgia Institute of Technology Atlanta, GA
Graduate Teaching Assistant August 2008 – July 2009

Responsible for grading, quizzes, guest lectures, and office hours for the Computing & Society and Autonomous Multi-Robot Systems classes.

Georgia Institute of Technology Atlanta, GA
Instructor for Introduction to Computing (CS1301) August 2007 – December 2007

Senior Projects Advised

¿Quién soy yo? [Who am I?]: Exploring Identity through Analyzing Afro-Cuban Poetry and Creative Coding in a Post-Secondary Spanish Literature Classroom. F. Megumi Kivuva. 2022.

Fourth-Dimensional Education in Virtual Reality. Jesse P. Hamlin-Navias. 2022.

Heroes, Villains, and the In-Between: A Natural Language Processing Approach to Fairy Tales. Ruby Ostrow. co-advised with Sven Anderson. 2022.

Bard College
Annandale-on-Hudson, NY 12504
(845) 752-2359

An Accessible Approach to Exploring Space through Augmented Reality. Eden Rorabaugh. 2022.

Using Mixed Reality to Better Develop Computational Thinking Skills in CS2. Samuel Rallis. 2022.

Eliciting & Visualizing Bias in Hiring Practices. Tsitsi Mambo. 2021.

Self && Self. Shuang Cai. 2021.

The Development of a Collaborative Tool to Teach Debugging. Samuel Furr. 2020.

The Use of Virtual Manipulatives in Teaching Sorting Algorithms. Olivia Witanowska. 2020.

A Mixed Reality System for Learning Data Structures. Cullen Drissell. 2020.

The Impact Of Live Coding Within An Educational and Performance Setting. Alexus Foster. co-advised with John Esposito. 2020

From Rural to Urban. R. Owen Hartman. co-advised with Greg Moynahan. 2020.

Carbon Footprint or Machine Learning Algorithms. Gigi Hsueh. 2020.

Programs for the Fabrication of 3D Structures via Two-Photon Polymerization. Ariadne Sinnis-Bourozikas 2020.

Rhythm Quest: Creating a Music Video Game. Tanner Cohan. 2020.

Geometric Correction for a Spherical Mirror Projection on a Nonplanar Surface. Methuen Bell-Isaac. 2019

Programming Proletarian Literature: Kobayashi Takiji's "Kani Kosen" and Gaming as Reading. Jacob Fisher. co-advised with Nate Shockey. 2019.

¿Puedes Anagramar?: A Game That Helps Heritage Speakers Master Spanish. co-advised with Sven Anderson. José Alexander. 2018.

Tracking Pose Using Common Mobile Phone Sensors. Drew Carlson. co-advised with Bob McGrail. 2018.

Is there Joy Beyond the Joystick?: Immersive Potential of Brain-Computer Interfaces. Elias Posen. co-advised with Sven Anderson. 2018.

A Study of Neural Networks for the Quantum Many-Body Problem. Liam Schramm. co-advised with Sven Anderson and Paul Caden-Zimansky. 2018.

Geometry of Projections on a Non-Planar Surface. Darren Tirto. co-advised with Stefan Mendez-Diez. 2018.

Go With the Flow: An Exploration of Distributed Network Flow for Robot Pathfinding. co-advised with Maria Belk. Marley Alford. 2017.

Bard College
Annandale-on-Hudson, NY 12504
(845) 752-2359

An Evaluation of Constituency-based Hyponymy Extraction from Privacy Policies. Morgan Evans. 2017.

Beyond Homographies: Exploration and Analysis of Image Warping for Projection in a Dome. Kai Malowany. 2017

Content-Aware Image Resizing. Race Morel. 2017

The Disciple: A Talking Platformer. co-advised with Sven Anderson. Ben Sernau. 2017.

Computing Language and Thinking: Analysis. Design. and Assessment of Introductory Computer Science Workshops in the Liberal Arts Experience. Katie Burke. 2016.

Algorithmic Music Composition and Accompaniment using Neural Networks. Daniel Risdon. 2016.

Branching Boogaloo: Botanical Adventures in Multi-Mediated Morphologies. Diana Ruggiero. 2016.

FLD: A FIFO/LRU decision algorithm for managing L1 private cache in heterogeneous processors. Ameer Shalabi. 2016.

Phyro: Exploring an Untethered Model for Robots in CS-1. Philip Franchi-Pereira. 2016.

Exploring a Learning Approach for Social Humanoid Robots through Handwriting Reproduction. Manon Escoffier. 2015.

Development and Optimization of a Two-View Model for Anamorphic Projections on Planar Surfaces. co-advised with Jim Belk. Van Mai Nguyen Thi. 2015.

Feature Extraction and Texture Analysis in the Classification of Paintings. Jacob Fauber. 2015.

The Effects of Robots on Computer Science Perceptions. Shanon Gray. 2014.

P2P Protest: Practical Adaptations of Epidemic Routing for Mobile Devices. Curtis Carmony. 2012.

Semi-Automated Creation of Cinemagraphs for the Exhibition *Still Moving*. co-advised with Stephen Shore. William Wissemann. 2012.

Modeling Environments through Range Scanning. Erik Shagdar. 2011.

The Effect of Tangible and Multitouch Interfaces on Game Performance. Michael Walker. 2011.

The Art of Retargetting (or Retargetting of Art): Fitting a Rectangular Peg into a Square Hole. co-advised with Mary Krembs. Ming Alrdich-Gan. 2010.

Using Visual Sensors for Bayesian Robot Localization. Robert McNevin. 2010.

KEITH J. O'HARA
kohara@bard.edu
http://drablab.org/keithohara/

Bard College
Annandale-on-Hudson, NY 12504
(845) 752-2359

Publications **Refereed Articles**

Hogan, E., Mir, D., Cencini, A., O'Hara, K., Soosai Raj, G., Griswold, W., and Porter, L. "Re-Instatement of Pell Grants for Incarcerated Students: Implications for CS Education." *Conference on Research in Equity and Sustained Participation in Engineering, Computing, and Technology (RESPECT)*. May 2024.

Kivuva, F., O'Hara, K., and Ko, A. "Exploring Identity through Computing Integration in a Spanish Language & Literature Class." *Conference on Research in Equity and Sustained Participation in Engineering, Computing, and Technology (RESPECT)*. June 2023.

O'Hara, K., Burke, K., Ruggiero, D., and Anderson, S. "Linking Language & Thinking with Code: Computing within a Writing-Intensive Introduction to the Liberal Arts." *ACM Conference on Innovation and Technology in Computer Science Education (ITiCSE)*. July 2017.

O'Hara, K., Blank, D., and Marshall, J. "Computational Notebooks for AI Education." *Twenty-Eighth International Florida Artificial Intelligence Research Society Conference (FLAIRS)*. May 2015. **[nominated for best paper]**

Blank, D., Kay, J.S., Marshall, J., O'Hara, K., and Russo, M. "Calico: A Multi-Programming-Language. Multi-Context Framework Designed for Computer Science Education." *ACM Technical Symposium on Computer Science Education (SIGCSE)*. March 2012.

O'Hara, K. "Towards Robot Systems Architecture" *AAAI Spring Symposium on Multi-Robot Systems and Physical Data Structures*. March 2011.

Summet, J., Kumar, D., O'Hara, K., Walker, D., Ni, L., Blank, D., and Balch, T. "Personalizing CS1 with Robots." *ACM Technical Symposium on Computer Science Education (SIGCSE)*. March 2009.

Blank, D., O'Hara, K., Tansley, S., Thomas, T., and Seralathan, M. "Humanoids in the Classroom." *International Conference on Ubiquitous Robots and Ambient Intelligence (URAI)*. November 2008.

O'Hara, K., Walker, D., and Balch, T. "Physical Path Planning Using a Pervasive Embedded Network." *IEEE Transactions on Robotics*. 24(3). June 2008.

Balch, T., Summet, J., Blank, D., Kumar, D., Guzdial, M., O'Hara, K., Walker, D., Sweat, M., Gupta, G., Tansley, S., Jackson, J., Gupta, M., Muhammad, M., Prashad, S., Eilbert, N., and Gavin, A. "Designing Personal Robots for Education: Hardware, Software, and Curriculum." *Pervasive Computing*. 7(2). April 2008.

Kumar, D., Blank, D., O'Hara, K., Tansley, S., Guzdial, M., and Balch, T. "Engaging Computing Students with AI and Robotics." *AAAI Spring Symposium on Using AI to Motivate Greater Participation in Computer Science*. March 2008.

Nathuji, R., O'Hara, K., Schwan, K., and Balch, T. "CompatPM: Enabling Energy Efficient Multimedia Workloads for Distributed Mobile Platforms." *Multimedia Computing and Networking Conference (MMCN)*. January 2007.

O'Hara, K., Nathuji, R., Raj, H., Schwan, K., and Balch, T. "AutoPower: Toward Energy-Aware Software Systems for Distributed Mobile Robots." *IEEE International Conference on Robotics and Automation (ICRA)*. May 2006.

O'Hara, K., Bigio, V., Whitt, S., Walker, D., and Balch, T. "Evaluation of a Large Scale Pervasive Embedded Network for Robot Path Planning." *IEEE International Conference on Robotics and Automation (ICRA)*. May 2006.

O'Hara, K., Bigio, V., Dodson, E., Irani, A., Walker, D., and Balch, T. "Physical Path Planning Using the GNATs." *IEEE International Conference on Robotics and Automation (ICRA)*. April 2005.

O'Hara, K. and Balch, T. "Pervasive Sensor-less Networks for Cooperative Multi-Robot Tasks." *International Symposium on Distributed Autonomous Robotic Systems (DARS)*. July 2004.

Thaker, G., Lardieri, P., Winter, C., Mulholland, E., O'Hara, K., and Naik, G. "Implementation Experience with OMG's SCIOP Mapping." *International Conference on Distributed Objects and Applications (DOA)*. November 2003.

O'Hara, K. and Kay, J. "Open Source Software and Computer Science Education." *The Journal of Computing Sciences in Colleges*. 18(3). February 2003.

O'Hara, K. and Kay, J. "Investigating Open Source Software and Educational Robotics." *The Journal of Computing Sciences in Colleges*. 18(3). February 2003.

Workshop Papers

Strauss, A., Zaman, A., and O'Hara, K. "The IMP: An Intelligent Mobile Projector." *2010 AAAI Exhibition and Robot Workshop*. Atlanta, GA. July 2010.

O'Hara, K., Blank, D., Hybinette, M., and Rus, D. "Workshop on Research in Robots for Education." *Robotics: Science and Systems Conference (Workshop Summary)*. June 2007.

Nathuji, R., O'Hara, K., Raj, H., Seshasayee, B., Balch, T., and Schwan, K. "Spirits: Using Virtualization and Pervasiveness to Manage Mobile Robot Software Systems." *IEEE International Workshop on Self-Managed Networks, Systems and Services (SelfMan)*. June 2006.

O'Hara, K. and Balch, T. "Pervasive Embedded Networks for Supporting Multi-Robot Activities." *AAAI-04 Workshop on Sensor Networks*. July 2004

Tutorials & Birds of a Feather

O'Hara, K. and Summet, V. "Life as a Liberal Arts CS Professor." ACM Richard Tapia Celebration of Diversity in Computing. September 2018.

Blank, D., Blankenship, L., Gavin, A., Marshall, J., Kay, S., O'Hara, K., Russo, M. "Computer Science with Calico." Computer Science Teachers Association (CSTA) Annual Conference. July 2013.

O'Hara, K., Summet, J., Balch, T., Blank, D., and Kumar, D. "Personal Robots as Vehicles for Introductory Computer Science and Beyond." *IEEE International Conference on Robotics and Automation (ICRA)*. May 2008.

Bard College
Annandale-on-Hudson, NY 12504
(845) 752-2359

Invited Workshop Presentation

O'Hara, K., and Balch, T. "Mobility and Pervasiveness in Physical Computing Systems." *Workshop on Mobility and Scalability in Wireless Sensor Networks (MSWSN) as part of the International Conference on Distributed Computing in Sensor Systems (DCOSS)*. June 2006.

Refereed Posters

Tirto, D., Hamme, A., O'Hara, K., and Anderson S., "Language, Thinking, Code: Interactive Essays with Twine." *ACM Technical Symposium on Computer Science Education (SIGCSE)*. Baltimore, MD. February 2018. **[received undergraduate poster award]**

O'Hara, K. "Pedagogical Explorations in Computational Perception for Performance." *The Third Symposium on Educational Advances in Artificial Intelligence (EAAI)*. Toronto, ON, Canada. July 2012.

O'Hara, K., Walker, D., and Balch, T. "The GNATs – Low-Cost Embedded Networks for Supporting Mobile Robots." *Third International Multi-Robot Systems Workshop*. March 2005.

O'Hara, K. and Balch, T. "Distributed Path Planning for Robots in Dynamic Environments Using a Pervasive Embedded Network." *3rd International Conference on Autonomous Agents and Multi-Agent Systems*. July 2004.

O'Hara, K. "Navigation Networks: Biological Inspiration for Large-Scale Multi-Robot Navigation" *2nd International Workshop on the Mathematics and Algorithms of Social Insects*. December 2003.

Workshop Presentations

Paulos, A., Dumitras, T., Narasimhan, P., Thaker, G. and O'Hara, K. "Empirical Evaluation of MEAD's Fault Tolerant CORBA Infrastructure." *The Fourth Workshop on The ACE ORB (TAO)*. Arlington, VA. 2004.

Lardieri, P., Thaker, G., and O'Hara, K. "Tools for QoS Award Allocation and Depolyment of CCM Based Applications." *The Object Management Group's (OMG) Workshop on Distributed Object Computing for Real-Time and Embedded Systems*. Washington DC. July 2004.

Thaker, G., Lardieri, P., Winters, C., Mulholland, E., Cohen, J., and O'Hara, K. "SCIOP Implementation in a Real-time ORB Using an Extensible Transport Framework." *The Object Management Group's (OMG) Workshop on Distributed Object Computing for Real-time and Embedded Systems*. Arlington, VA. July 2003.

O'Hara, K., Lardieri P., Thaker, G., and Winters, C. "SCTP and its adaptation to TAO." *The Second Workshop on The ACE ORB (TAO)*. Arlington, VA. 2002.

Thaker, G., Lardieri P., Krecker, D., O'Hara, K., and Winters C. "Achieving Bounded End-to-End Latencies with Real-time Linux and Real-time CORBA." *The Object Management Group's (OMG) Real-Time and Embedded Distributed Object Computing Workshop*. Arlington, VA. 2002.

KEITH J. O'HARA
kohara@bard.edu
http://drablab.org/keithohara/

Bard College
Annandale-on-Hudson, NY 12504
(845) 752-2359

Demos and Performances

Burke, K., Escoffier, M., King, M., Ma, Y., and O'Hara, K. "The Intelligent Mobile Projector (IMP)." *Maker Faire 2013*. Flushing, New York. September 2013.

Anzuoni, M., Hossain, N., Ma, Y., and O'Hara, K. "The Intelligent Mobile Projector (IMP)." *AAAI Robotics and Multimedia Fair*. Toronto, ON, Canada. July 2012.

Florin, P., O'Hara, K. and Wolk. B. "Bird's Eye." *Bard College Faculty Dance Concert*. May 2011.

Panelist

"Coded Bias." Science on the Screen (Rosendale Theater). January 2021.

"Team-Teaching with Colleagues in the Arts and Humanities." *ACM Technical Symposium on Computer Science Education (SIGCSE)*. Baltimore, MD. February 2018.

"Educational Robotics." *The Third Symposium on Educational Advances in Artificial Intelligence (EAAI)*. Toronto, ON, Canada. July 2012.

"Beyond First Impressions and Fine Farewells: Electronic Tangibles throughout the Curriculum." *AAAI Spring Symposium on Educational Robotics and Beyond: Design and Evaluation*. Palo Alto, CA. March 2010.

"Future of Robots in Education: The Next Generation." *Future of Robots in Education Pre-Symposium (SIGCSE 2009)*. Chattanooga, TN. March 2009.

Invited Speaker

"Reading and Writing Data Visualizations." *Bard Lifelong Learning Institute.* Annandale-on-Hudson, NY. October 2016.

"Beyond Code by Language: (The) Changing (the) Way We Command Computers" *The Language and Thinking Lecture Series at Bard College*. Annandale-on-Hudson, NY. August 2016.

"What Does it Mean for a Machine to Learn?" with Sven Anderson. *The Language and Thinking Lecture Series at Bard College*. Annandale-on-Hudson, NY. August 2015.

"Deterministic Indeterminacy: Turing & Cage @ 101." *Bard Lifelong Learning Institute.* Annandale-on-Hudson, NY. October 2013.

"Intelligent Mobile Projectors: An Autonomous Approach to Mobile Mixed Reality." *Bryn Mawr College.* Bryn Mawr, PA. April 2013.

"Path Planning from Prof to Prof: Distributed Robotics and Beyond." *Rowan University.* Glassboro, NJ. February 2013.

"Mixed Reality: A Visual Bridge between the Physical and Virtual Worlds." *Bard College Faculty Seminar Series.* Annandale-on-Hudson, NY. October 2011.

"(Re-)Introducing Computing with Robots." *Bard Lifelong Learning Institute.* Annandale-on-Hudson, NY. September 2011.

Multi-Robot Systems and Physical Data Structures Plenary Speaker. *AAAI Spring Symposium*. Palo Alto, CA. March 2011.

"On Computing and Simulation". *The Language and Thinking Lecture Series at Bard College*. Annandale-on-Hudson, NY. August 2010.

"Introducing Computing with Personal Robots." *Microsoft Research Latin American Faculty Summit*. Buenos Aires, Argentina. May 2009.

"Adventures in Robot Architecture: Locality Principles, Scaling Laws, and Amdahl's Rule of Thumb for Robots." Bryn Mawr College. April 2008.

Grants

"The Intelligent Mobile Projector v.3.0" and "The Calico Project." Bard Summer Research Institute (BSRI). Summer 2013. $\$9,000$.

"The Intelligent Mobile Projector 2.0." BSRI. Summer 2012. $\$5,500$.

"Creating a Campus-Wide Computation Initiative: Hacking the Metamedium in Media Studies." with Maria Cecire. Subaward under Union College & Lafayette College NSF CPATH (IIS-0722203). $\$4,500$

"The Intelligent Mobile Projector (IMP)." BSRI. Summer 2010. $\$5,000$.

"Personal Robots for CS1: Next Steps for an Engaging Pedagogical Framework." Subaward under Georgia Tech & Brynmawr College NSF CCLI (DUE-0920655). December 2009. $\$24,160$.

Organizer

IPRE SIGCSE-2010 Pre-Symposium Workshop (March 2010)
IPRE Summer Faculty Enhancement Workshop (June 2008)
SIGCSE IPRE Exhibition (March 2008)
ICRA Tutorial on Personal Robots as Vehicles for Introductory CS and Beyond (May 2008)
RSS Workshop on Research in Robots for Education (June 2007)

Senior Project Boards

Frattarelli, Hogan, Kelly, Newman, Wren. 2017.
Belk, Eldar (Psych), Garcia, King, Martinez (Film), Segal, Shuai (CS & Math). 2016
Doing (BIO & CS), Reich. 2015.
Bruce, Ma, Myers. 2014.
Baca (Psych), Howard, Hartog (Psych), Jia (Math), Mitkov (Math), Sheshashayee. 2012
Stoica, McGrath (Math), Tu (Math), Saquib (Physics). 2011
Bow, Stojanov, Jin (Math), Ruisi-Besares (Math), Valdoi (Math). 2010

College Committees

Science, Mathematics & Computing Research Committee (F2015–)
Experimental Humanities Steering Committee (S2014–)
Faculty Evaluation & Review Committee (F2018–S2019)
College Evaluation Committee (F2016–F2017)
Bard Blended Learning Exploratory Committee (F2012–S2014)
Bard Institutional Review Board (F2011–F2012)
Bard Diversity Committee (F2010–S2014)

Program Commitees

EAAI: Educational Advances in Artificial Intelligence (2011–2019)
Fifth International Joint Conference on Autonomous Agents and Multiagent Systems (2006)

KEITH J. O'HARA
kohara@bard.edu
http://drablab.org/keithohara/

Bard College
Annandale-on-Hudson, NY 12504
(845) 752-2359

Reviewer Tapia(2016–2020), EAAI(2011–2019), SIGCSE(2012–2019), SUNY New Paltz External Review of CS Department (2018), ITICSE(2014–2017), Grace Hopper Scholarships (2012–2015), Swarm Intelligence (2012), IEEE Transactions on Robotics (2011), Robotica(2010), Neural Computing and Applications (2010), International Conference on Robotics and Automation (2010), Transactions on Computing Education (2009, 2016), IEEE Transactions on Instrumentation & Measurement (2009), Autonomous Robots (2009, 2008), Swarm Intelligence (2008), International Joint Conference on Autonomous Agents and Multiagent Systems (2007, 2006), AAAI Symposium on Robots in AI and CS education (2007), Robotics: Science and Systems (2005), International Joint Conference on Artificial Intelligence (2005), EuroSys (2005), International Conference on Architecture of Computing Systems - System Aspects in Organic Computing (2005), Journal of Robotics and Autonomous Systems (2005), International Symposium on Distributed Autonomous Robotic Systems (2004), International Conference on the Simulation of Adaptive Behavior Swarm Robotics Workshop (2004), Special Issue of the Journal of Adaptive Behavior (2004)

Professional Organizations
Association for Computing Machinery (ACM)
Institute of Electrical and Electronics Engineers (IEEE) Computer Society
Association for the Advancement of Artificial Intelligence (AAAI)

Honors
Intel Foundation Fellowship (Georgia Tech, 2006)
Presidential Fellowship (Georgia Tech, 2006)
Summa Cum Laude (Rowan University, 2002)
Dean of Arts and Sciences Scholar for Computer Science (Rowan University, 2002)
Honors Program (Rowan University, 1998–2002)
Presidential Scholarship (Rowan University, 1998–2002)

Research Interests robotics, interactive systems, multi-robot systems, sensor networks, distributed systems, embedded systems, projector-camera systems, computing and robotics education