
Jason M. O’Kane

Curriculum Vitæ

University of South Carolina
Department of Computer Science and Engineering

Storey Innovation Center 550 Assembly
Street
Columbia, SC 29209
United States
jokane@cse.sc.edu
<http://www.cse.sc.edu/~jokane>

1. *Research Interests*

The goal of my research is to enable robots, both individually and in teams, to operate autonomously in contexts that are unpredictable and inhospitable, while ensuring that the resulting systems are robust and inexpensive. Because sensing and uncertainty are central issues in robotics, I believe that it is essential to understand how to solve robotics problems when sensing is limited and uncertainty is great. My interests span sensor-based algorithmic robotics and related areas, including planning under uncertainty, artificial intelligence, computational geometry, sensor networks, and motion planning.

2. *Education*

Ph.D. in Computer Science, University of Illinois, Urbana-Champaign, 2007.
M.S. in Computer Science, University of Illinois, Urbana-Champaign, 2005.
B.S. *summa cum laude* in Computer Science, Taylor University, Upland, Indiana, 2001.

3. *Professional Experience*

Associate Professor, University of South Carolina, August 2013–present.
Assistant Professor, University of South Carolina, August 2007–August 2013.
Research Assistant, University of Illinois, August 2002–July 2007.
Visiting Lecturer, University of Illinois, June 2002–August 2002.
Teaching Assistant, University of Illinois, August 2001–May 2002.

4. *Awards*

USC Breakthrough Star (1 of 6 awards across the University of South Carolina), 2015.
National Science Foundation CAREER Award, 2010–2015.
Member of DARPA Computer Science Study Group (1 of 12 awards nationwide), 2010.
Best Student Paper Award finalist for “On Comparing the Power of Mobile Robots,” *Robotics: Science and Systems*, 2006.
Roy J. Carver Fellowship, University of Illinois, 2001–2002.
Outstanding Computer Science Graduate, Taylor University, 2001.
President’s Scholarship, Taylor University, 1997–2001.
Professor for Student Affordability recognition by University of South Carolina Student Government, 2017.

5. *Courses Taught*

Algorithms and Data Structures (csce350) at University of South Carolina.
Summer 2015, 13 students.
Spring 2015, 37 students.
Spring 2014, 15 students.
Fall 2010, 36 students.
Fall 2007, 24 students.
Robotic Applications and Design (csce374) at University of South Carolina.

Fall 2013, 18 students.

Fall 2012, 32 students.

Robotics (csce574) at University of South Carolina.

Spring 2014, 26 students.

Spring 2013, 26 students.

Spring 2012, 20 students.

Spring 2011, 20 students.

Spring 2010, 25 students.

Spring 2009, 14 students.

Spring 2008, 25 students.

Analysis of Algorithms (csce750) at University of South Carolina.

Fall 2017, 49 students.

Fall 2016, 56 students.

Fall 2015, 55 students.

Robotic Systems (csce774) at University of South Carolina.

Fall 2011, 3 students.

Fall 2009, 9 students.

Fall 2008, 18 students.

Planning Algorithms (csce790) at University of South Carolina.

Spring 2016, 12 students.

Applications in Field Robotics (csce790) at University of South Carolina.

Fall 2016, 13 students.

Seminar on Advances in Computing (csce791) at University of South Carolina.

Fall 2011, 31 students.

Computer Architecture I (cs231) at University of Illinois.

Summer 2002, 34 students.

6. Publications

6.1. Journal articles

- [J:12] Nicholas M. Stiffler, Jason M. O’Kane. Complete and Optimal Visibility-Based Pursuit-Evasion. *International Journal of Robotics Research*, 36:923–946, July 2017.
- [J:11] Glenn Robertson, Nirupam Roy, Phani Krishna Penumarthy, Srihari Nelakuditi, Jason M. O’Kane. Loop-Free Convergence with Unordered Updates. *IEEE Transactions on Network and Service Management*, 14(2):373–385, June 2017.
- [J:10] Fatemeh Zahra Saberifar, Ali Mohades, Mohammadreza Razzazi, Jason M. O’Kane. Combinatorial Filter Reduction: Special Cases, Approximation, and Fixed-Parameter Tractability. *Journal of Computer and System Sciences*, 85:74–92, May 2017.
- [J:09] Jason M. O’Kane, Dylan Shell. Concise planning and filtering: hardness and algorithms. *IEEE Transactions on Automation Science and Engineering*, 14:1666–1681, October 2017.
- [J:08] Laura Boccanfuso, Sarah Scarborough, Ruth K. Abramson, Alicia V. Hall, Harry H. Wright, Jason M. O’Kane. A Low-Cost Socially Assistive Robot and Robot-Assisted Intervention for Children with Autism Spectrum Disorder: Field Trials and Lessons Learned. *Autonomous Robots*, 2016.
- [J:07] Jeremy S. Lewis, Jason M. O’Kane. Planning for provably reliable navigation using an unreliable, nearly sensorless robot. *International Journal of Robotics Research*, 32(11):1339–1354, September 2013.

- [J:06] Jason M. O’Kane, Wenyuan Xu. Energy-Efficient Information Routing in Sensor Networks for Robotic Target Tracking. *Wireless Networks*, 18(6):713–733, 2012.
- [J:05] Laura Boccanfuso, Jason M. O’Kane. CHARLIE: An Adaptive Robot Design with Hand and Face Tracking for Use in Autism Therapy. *International Journal of Social Robotics*, 3(4):337–347, 2011.
- [J:04] Chase Gray, Chuan Qin, Jason M. O’Kane, Srihari Nelakuditi. Movement strategies for intelligent mobile routers. *Mobile Computing and Communications Review*, 14(2):19–21, 2010.
- [J:03] Jason M. O’Kane, Steven M. LaValle. On comparing the power of robots. *International Journal of Robotics Research*, 27(1):5–23, January 2008.
- [J:02] Jason M. O’Kane, Steven M. LaValle. Localization with limited sensing. *IEEE Transactions on Robotics*, 23(4):704–716, August 2007.
- [J:01] Robert Ghrist, Jason M. O’Kane, Steven M. LaValle. Computing pareto optimal coordinations on roadmaps. *International Journal of Robotics Research*, 24(11):997-1010, November 2005.

6.2. Journal articles under review

- [J:xx] Fatemeh Zahra Saberifar, Shervin Ghasemlou, Dylan A. Shell, Jason M. O’Kane. Toward a language-theoretic foundation for planning and filtering. Submitted to *International Journal of Robotics Research*, 2017. Under review.

6.3. Book

- [B:01] Jason M. O’Kane. *A Gentle Introduction to ROS*. ISBN 978-1492143239. Independently published, October 2013. Available at <http://www.cse.sc.edu/~jokane/agitr/>.

6.4. Refereed conference papers

- [C:41] Hazhar Rahmani, Jason M. O’Kane. On the relationship between bisimulation and combinatorial filter reduction. In *Proc. IEEE International Conference on Robotics and Automation*, 2018. To appear.
- [C:40] Nare Karapetyan, Jason Moulton, Jeremy S. Lewis, Alberto Quattrini Li, Jason M. O’Kane, Ioannis Rekleitis. Multi-robot Dubins coverage with autonomous surface vehicles. In *Proc. IEEE International Conference on Robotics and Automation*, 2018. To appear.
- [C:39] Phani Krishna Penumarthi, Alberto Quattrini Li, Jacopo Banfi, Nicola Basilico, Francesco Amigoni, Ioannis Rekleitis, Jason M. O’Kane, Srihari Nelakuditi. Multirobot Exploration for Building Communication Maps with Prior from Communication Models. In *Proc. IEEE International Symposium on Multi-Robot and Multi-Agent Systems*, 2017.
- [C:38] Fatemeh Zahra Saberifar, Jason M. O’Kane, Dylan Shell. Inconsequential Improperities: Filter Reduction in Probabilistic Worlds. In *Proc. IEEE/RSJ International Conference on Intelligent Robots and Systems*, 2017.
- [C:37] Jeremy S. Lewis, William Edwards, Kelly Benson, Ioannis Rekleitis, Jason M. O’Kane. Semi-Boustrophedon Coverage with a Dubins Vehicle. In *Proc. IEEE/RSJ International Conference on Intelligent Robots and Systems*, 2017.
- [C:36] Nicholas M. Stiffler, Andreas Kolling, Jason M. O’Kane. Persistent pursuit-evasion: The case of the preoccupied pursuer. In *Proc. IEEE International Conference on Robotics and Automation*, 2017.

- [C:35] Shervin Ghasemlou, Fatemeh Zahra Saberifar, Jason M. O’Kane, Dylan A. Shell. Beyond the planning potpourri: reasoning about label transformations on procrustean graphs. In *Proc. International Workshop on the Algorithmic Foundations of Robotics*, 2016.
- [C:34] Alberto Quattrini Li, Marios Xanthidis, Jason M. O’Kane, and Ioannis Rekleitis. Active Localization with Dynamic Obstacles. In *Proc. IEEE/RSJ International Conference on Intelligent Robots and Systems*, 2016.
- [C:33] Yang Song, Jason M. O’Kane. Forming Repeating Patterns of Mobile Robots: A Provably Correct Decentralized Algorithm. In *Proc. IEEE/RSJ International Conference on Intelligent Robots and Systems*, 2016.
- [C:32] Alberto Quattrini Li, Adem Coskun, Sean M. Doherty, Shervin Ghasemlou, Apoorv S. Jagtap, MD Modasshir, Sharmin Rahman, Akanksha Singh, Marios Xanthidis, Jason M. O’Kane, Ioannis Rekleitis. Experimental Comparison of open source Vision based State Estimation Algorithms. In *Proc. International Symposium on Experimental Robotics*, 2016.
- [C:31] Fatemeh Zahra Saberifar, Shervin Ghasemlou, Jason M. O’Kane, Dylan Shell. Set-labelled filters and sensor transformations. In *Proc. Robotics: Science and Systems*, 2016.
- [C:30] Nicholas M. Stiffler, Jason M. O’Kane. Pursuit-Evasion with Fixed Beams. In *Proc. IEEE International Conference on Robotics and Automation*, 2016.
- [C:29] Jason M. O’Kane, Dylan A. Shell. Automatic design of discreet discrete filters. In *Proc. IEEE International Conference on Robotics and Automation*, 2015.
- [C:28] Nicholas M. Stiffler, Jason M. O’Kane. Agent Classification using Implicit Models. In *Proc. IEEE International Conference on Robotics and Automation*, 2015.
- [C:27] Nicholas M. Stiffler, Jason M. O’Kane. A Sampling Based Algorithm for Multi-Robot Visibility-Based Pursuit-Evasion. In *Proc. IEEE/RSJ International Conference on Intelligent Robots and Systems*, 2014.
- [C:26] Nicholas M. Stiffler, Jason M. O’Kane. A Complete Algorithm for Visibility-Based Pursuit-Evasion with Multiple Pursuers. In *Proc. IEEE International Conference on Robotics and Automation*, 2014.
- [C:25] Yang Song, Jason M. O’Kane. Decentralized Formation of Arbitrary Multi-Robot Lattices. In *Proc. IEEE International Conference on Robotics and Automation*, 2014.
- [C:24] Jason M. O’Kane, Dylan A. Shell. Finding concise plans: Hardness and algorithms. In *Proc. IEEE/RSJ International Conference on Intelligent Robots and Systems*, 2013.
- [C:23] Jason M. O’Kane, Dylan A. Shell. Automatic Reduction of Combinatorial Filters. In *Proc. IEEE International Conference on Robotics and Automation*, 2013.
- [C:22] Laura Boccanfuso, Eva Juarez Perez, Myra Robinson, Jason M. O’Kane. Collecting Heart Rate Using a High Precision, Non-Contact, Single-Point Infrared Temperature Sensor. In *Proc. International Conference on Social Robotics*, 2012.
- [C:21] Laura Boccanfuso, Jason M. O’Kane. Remote Measurement of Breathing Rate Using a High Precision Single-Point Infrared Temperature Sensor. In *Proc. IEEE International Conference on Biomedical Robotics and Biomechatronics*, 2012.
- [C:20] Jeremy S. Lewis, Jason M. O’Kane. Reliable Indoor Navigation with an Unreliable Robot: Allowing Temporary Uncertainty for Maximum Mobility. In *Proc. IEEE International Conference on Robotics and Automation*, 2012.

- [C:19] Yang Song, Jason M. O’Kane. Comparison of Constrained Geometric Approximation Strategies for Planar Information States. In *Proc. IEEE International Conference on Robotics and Automation*, 2012.
- [C:18] Nicholas M. Stiffler, Jason M. O’Kane. Shortest Paths for Visibility-Based Pursuit-Evasion. In *Proc. IEEE International Conference on Robotics and Automation*, 2012.
- [C:17] Miao Xu, Wenyuan Xu, Jason M. O’Kane. Content-Aware Data Dissemination for Enhancing Privacy and Availability in Wireless Sensor Networks. In *Proc. IEEE International Conference on Mobile Ad-hoc and Sensor Systems*, 2011.
- [C:16] Nicholas M. Stiffler, Jason M. O’Kane. Visibility-Based Pursuit-Evasion with Probabilistic Evader Models. In *Proc. IEEE International Conference on Robotics and Automation*, 2011.
- [C:15] Jason M. O’Kane. Decentralized Tracking of Indistinguishable Targets using Low-Resolution Sensors. In *Proc. IEEE International Conference on Robotics and Automation*, 2011.
- [C:14] Laura Boccanfuso, Jason M. O’Kane. Adaptive Robot-Assisted Autism Therapy Using a Robot with Hand and Face Tracking. In *Proc. International Conference on Social Robotics*, 2010.
- [C:13] Jason M. O’Kane, Wenyuan Xu. Network-assisted target tracking via smart local routing. In *Proc. IEEE/RSJ International Conference on Intelligent Robots and Systems*, 2010.
- [C:12] Jeremy S. Lewis, Jason M. O’Kane. Guaranteed navigation with an unreliable blind robot. In *Proc. IEEE International Conference on Robotics and Automation*, 2010.
- [C:11] Jason M. O’Kane, Wenyuan Xu. Energy-efficient target tracking with a sensorless robot and a network of unreliable one-bit proximity sensors. In *Proc. IEEE International Conference on Robotics and Automation*, 2009.
- [C:10] Jason M. O’Kane. On the value of ignorance: Balancing tracking and privacy using a two-bit sensor. In *Proc. International Workshop on the Algorithmic Foundations of Robotics*, 2008.
- [C:09] Hamid Chitsaz, Steven M. LaValle, Jason M. O’Kane. Exact Pareto-optimal coordination for two translating polygonal robots on a cyclic roadmap. In *Proc. Canadian Conference on Computational Geometry*, 2008.
- [C:08] Lawrence Erickson, Joseph Knuth, Jason M. O’Kane, Steven M. LaValle. Probabilistic localization with a blind robot. In *Proc. IEEE International Conference on Robotics and Automation*, 2008.
- [C:07] Jason M. O’Kane, Steven M. LaValle. Sloppy motors, flaky sensors, and virtual dirt: Comparing imperfect ill-informed robots. In *Proc. IEEE International Conference on Robotics and Automation*, 2007.
- [C:06] Jason M. O’Kane, Steven M. LaValle. Dominance and equivalence for sensor-based agents. In *Proc. AAAI Conference on Artificial Intelligence*, 2007.
- [C:05] Jason M. O’Kane, Steven M. LaValle. On comparing the power of mobile robots. In *Proc. Robotics: Science and Systems*, 2006.
- [C:04] Jason M. O’Kane. Global localization using odometry. In *Proc. IEEE International Conference on Robotics and Automation*, 2006.
- [C:03] Jason M. O’Kane, Steven M. LaValle. Almost-sensorless localization. In *Proc. IEEE International Conference on Robotics and Automation*, 2005.
- [C:02] Robert Ghrist, Jason M. O’Kane, Steven M. LaValle. Pareto optimal coordination on roadmaps. In *Proc. International Workshop on the Algorithmic Foundations of Robotics*, 2004.

- [C:01] Hamid Chitsaz, Jason M. O’Kane, Steven M. LaValle. Exact Pareto-optimal coordination for two translating polygonal robots on an acyclic roadmap. In *Proc. IEEE International Conference on Robotics and Automation*, 2004.

6.5. Book chapter

- [BC:01] Jason M. O’Kane, Benjamin Tovar, Peng Cheng, Steven M. LaValle. Algorithms for Planning Under Uncertainty in Prediction and Sensing. In S. S. Ge and F. L. Lewis, editors, *Autonomous Mobile Robots: Sensing, Control, Decision-Making, and Applications*, Series in Control Engineering, chapter 13, pages 501–547. Marcel Dekker, 2006.

6.6. M.S. thesis and Ph.D. dissertation

- [PhD] Jason M. O’Kane. *A theory for comparing robot systems*. Ph.D. thesis. University of Illinois, 2007.
[MS] Jason M. O’Kane. *Almost-sensorless localization*. Master’s thesis. University of Illinois, 2005.

6.7. Lightly-reviewed publications

- [O:04] A. Quattrini Li, A. Coskun, S. M. Doherty, S. Ghasemlou, A. S. Jagtap, M. Modasshir, S. Rahman, A. Singh, M. Xanthidis, J. M. O’Kane, I. Rekleitis. Vision-Based Shipwreck Mapping: On Evaluating Features Quality and Open Source State Estimation Packages. In *Proc. MTS/IEEE Oceans Monterey*, 2016.
[O:03] Jason M. O’Kane. Book Review: Maja J. Mataric, *The Robotics Primer*. *Autonomous Agents and Multi-Agent Systems*, 17:362–365, 2008.
[O:02] Benjamin Tovar, Anna Yershova, Jason M. O’Kane, Steven M. LaValle. Information Spaces for Mobile Robots. In *Proc. International Workshop on Robot Motion and Control*, 2005.
[O:01] Jason M. O’Kane, Steven M. LaValle. Sampling-based methods for discrete planning. In *Doctoral Consortium of the International Conference on Automated Planning and Scheduling*, 2004.

7. Research Supervision

7.1. Doctoral students (completed)

- Nicholas M. Stiffler**, Ph.D. in Computer Science and Engineering, 2016. *Visibility-Based Pursuit-Evasion in the Plane*. Currently at Rutgers University.
Yang Song, Ph.D. in Computer Science and Engineering, 2015. *Constrained Geometric Approximation Algorithm for Robot Planning and Distributed Multi-Robot Formation Algorithm*. Currently at Groupon.
Laura Boccanfuso, Ph.D. in Computer Science and Engineering, 2014. *CHARLIE: A New Robot Prototype for Improving Communication and Social Skills in Children with Autism and a new Single-Point Infrared Sensor Technique for Detecting Breathing and Heart Rate Remotely*. Currently at Yale University.

7.2. Doctoral students (current)

- Jeremy Lewis**, 2008–2012, 2015–present.
Shervin Ghasemlou, 2015–present.
Adem Coskun, 2016–present.
Hazhar Rahmani, 2017–present.

7.3. Master of Science students (completed)

Nicholas Stiffler, M.S. in Computer Science and Engineering, 2012. *Visibility-Based Pursuit-Evasion with Probabilistic Evader Models*.

Jeremy Lewis, M.S. in Computer Science and Engineering, 2011. *Guaranteed navigation with an unreliable blind robot*. Currently a Ph.D. student in my group.

7.4. Undergraduate research projects supervised

Ben Fine, 2007–2009.

Max Kuipers, 2008.

Philip Vander Broek, 2009.

Korrigan Clark, 2009–2011.

Stephen Bradley, 2011–2012.

Michael Reynolds, 2011–2013.

Caleb Braswell, 2012–2013.

Nicholas Elson, 2014.

Bradley Faircloth, 2014.

Asante Dawkins, 2014–2015.

William Edwards, 2015–present.

Steward Wallace, 2017.

Brook Thornell, 2017.

Xavier Osta, 2017.

Jodine Cruz, 2017.

7.5. Other research supervision

Shiva Srivastava, Honors thesis reader, 2008.

Benito Mendoza, Ph.D. committee member, 2009.

Jeremiah Shepherd, M.S. committee member, 2009.

Mikhail Simin, Ph.D. committee member, 2012.

Miao Xu, Ph.D. committee member, 2015.

Fatemeh Saberifar, External research advisor, 2015–2016.

Nicholas Weidner, M.S. committee member, 2017.

Shannon Hood, M.S. committee member, 2017.

8. Presentations

8.1. Invited Short Courses

Seventh Winter School on Computational Geometry at Amirkabir University, Tehran, Iran. Series of five lectures on “Automated Filtering and Planning for Simple Robots.” February 25–March 2, 2015.

8.2. Seminars and Colloquia at Universities

“Toward a Theory of Automated Design of Minimal Robots” Virginia Polytechnic Institute and State University, Department of Electrical and Computer Engineering, Blacksburg, Virginia. February 16, 2018.

“Software and Algorithms for Minimal Autonomous Robots” University of Houston, Department of Electrical and Computer Engineering, Houston, Texas. April 27, 2017.

“Toward a Theory of Automated Design of Minimal Robots” Texas A&M University, Department of Computer Science and Engineering, College Station, Texas. April 24, 2017.

- “Algorithmic Questions on Combinatorial Filters, or: Bad News about Filter Minimization” University of South Carolina, Department of Mathematics, Columbia, South Carolina. November 18, 2016.
- “Forming Repeating Patterns of Mobile Robots,” Taylor University, Department of Computer Science and Engineering, Upland, Indiana, October 14, 2016.
- “Planning and Filtering with Limited Sensing” University of Sheffield, Department of Automatic Control and Systems Engineering, Sheffield, United Kingdom. March 8, 2016.
- “Minimal Robot Models for Localization and Navigation,” Sharif University, Department of Computer Engineering, Tehran, Iran. March 1, 2015.
- “Future Directions for Robot Software,” Shiraz University, Department of Computer Science and Engineering, Shiraz, Iran. February 23, 2015.
- “Robotic Planning with Limited Sensing,” Florida International University, Department of Computer Science, Miami, Florida. October 24, 2014.
- “Robotic Planning with Limited Sensing,” George Mason University, Department of Computer Science, Fairfax, Virginia. May 4, 2012.
- “Robotic Planning with Limited Sensing,” Rice University, Department of Computer Science, Houston, Texas. February 24, 2012.
- “Robotic Planning with Limited Sensing,” Texas A&M University, Department of Computer Science and Engineering College Station, Texas. February 22, 2012.
- “Robotic Planning with Limited Sensing,” Indiana University, School of Informatics. Bloomington, Indiana. October 17, 2011.
- “Graduate School, Research, and You,” Taylor University, Department of Computer Science and Engineering, Upland, Indiana. October 17, 2011.
- “Robotic Planning with Limited Sensing,” McGill University, Centre for Intelligent Machines. Montréal, Quebec, Canada. February 18, 2011.
- “Robotic Planning with Limited Sensing,” University of Colorado, Aerospace Engineering Sciences Department. Boulder, Colorado. December 6, 2010.
- “Planning and Reasoning for Simple Robots” Clemson University, Department of Electrical and Computer Engineering. Clemson, South Carolina. October 28, 2010.
- “Robotic target tracking using incomplete information,” University of Nevada at Reno, Computer Science Department. Reno, Nevada. July 26, 2010.
- “Robotic planning with limited sensing,” University of North Carolina Charlotte, Computer Science Department. Charlotte, North Carolina. February 27, 2009.
- “Computing Challenges in Robotics,” Benedict College, Mathematics and Computer Science Department. Columbia, South Carolina. March 7, 2008.
- “Planning and Analysis for Robot Systems with Limited Sensing,” Department of Computer Science and Engineering, University of South Carolina. Columbia, South Carolina. April 30, 2007.
- “Almost-Sensorless Localization,” Northwestern University, Department of Mechanical Engineering. Evanston, Illinois. April 11, 2005.
- “Minimalist Robots: Simple Designs for Complex Behavior,” Taylor University, Computing and System Sciences Department. Upland, Indiana. April 4, 2004.

9. Funding

9.1. Grants (active)

Dates	Title	Sponsor	Amount	Role
2015–2018	CRI: II-New: Acquisition of a Heterogeneous Team of Field Robots for Coastal Environments	NSF	\$520,981	Co-PI

Dates	Title	Sponsor	Amount	Role
2015–2018	RI: Small: Collaborative Research: Why is Automating the Design of Robot Controllers Hard, and What Can Be Done About It?	NSF	\$225,000	PI
2017–2020	REU Site: Applied Computational Robotics	NSF	\$360,000	PI

9.2. Grants (completed)

Dates	Title	Sponsor	Amount	Role
2008–2009	Computing Pursuit and Capture Strategies for Sensing-Limited Agents	USC	\$21,515	PI
2010–2011	Computer Science Study Panel	DARPA	\$99,957	PI
2010–2011	Adaptive Robot-Assisted Therapy for Autistic Children	SC DDC	\$15,080	PI
2014–2015	ASPIRE-III: A Platform for Basic and Applied Research in Personal Robotics	USC	\$53,000	PI
2010–2016	CAREER: Algorithms for Minimalist Robot Teams	NSF	\$464,466	PI
2015–2016	EU Collaboration: Robust Pursuit-Evasion with Simple Robots (<i>supplement to CAREER award</i>)	NSF	\$21,210	PI

10. Service

10.1. Internal service at University of South Carolina

Department level

Graduate Committee, 2007–present.
 Chair, Faculty Search Committee, 2013–2014.
 Associate Graduate Director, 2013–2017.
 Qualifying Exam Committee, 2014–2017.
 Faculty Senator, 2015–present.
 Graduate Director, 2017–2018.
 Associate Chair for Academics, 2018–present.

College level

CSE Chair Search Committee, 2010, 2014.
 Horizon 2 Space Committee, 2015–2017.
 Chair, Faculty Search Committee, 2016–2017.

University level

SPARC Graduate Fellowship review committee, 2012–2013.
 ASPIRE grant review committee, 2014.
 Magellan review committee, 2014, 2016.
 Carolina Scholar mentor, 2015–present.
 Invited panelist, “Grant Basics Workshop”, sponsored by University of South Carolina, Office of Research, September 2017.
 Invited panelist, “Preparing for Graduate School”, sponsored by University of South Carolina, Office of Research, June 2017.

10.2. Professional service

Associate Editor, IEEE Robotics and Automation Letters, 2017–present.
 Associate Editor, ICRA Conference Editorial Board, 2009–2013, 2017.
 Associate Editor, IROS Conference Editorial Board, 2011–2012, 2014–2016.
 Program Committee, AAAI Conference on Artificial Intelligence, 2015.
 Program Committee, International Conference on Simulation, Modeling, and Programming for Autonomous Robots, 2014, 2016.
 Program Committee, Robotics: Science and Systems, 2008, 2010, 2012, 2014–2017.
 Area Chair, Robotics Science and Systems, 2018.
 Program Committee, Workshop on the Algorithmic Foundations of Robotics, 2014–2016.
 Panelist, National Science Foundation, 2009, 2010, 2011, 2015, 2017.
 Co-organizer (with Andrea Censi and Dylan Shell), RSS 2016 Workshop on Minimality and Design Automation. Ann Arbor, Michigan. June 18, 2016.
 Co-organizer (with Aaron Becker and Dylan Shell), CASE 2016 Workshop on Multi-Robot Systems in Automation: Topics in Planning and Control. Fort Worth, Texas. August 21, 2016.
 Co-organizer (with Hadas Kress-Gazit, Andrea Censi, and Alexandra Nilles), RSS 2017 Workshop on Minimality and Trade-offs in Automated Robot Design. Cambridge, Massachusetts. July 16, 2017.

10.3. Reviews

Automatica
 Autonomous Robots
 AAAI National Conference on Artificial Intelligence
 ACM Symposium on Computational Geometry
 AI Communications
 IEEE Conference on Decision and Control
 IEEE International Conference on Automation Science and Engineering
 IEEE International Conference on Robotics and Automation
 IEEE/RSJ International Conference on Intelligent Robots and Systems
 IEEE Transactions on Robotics
 IEEE Transactions on Robotics and Automation
 IEEE Transactions on Automation Science and Engineering
 IEEE Transactions on Cybernetics
 International Conference on Simulation, Modeling, and Programming for Autonomous Robots
 International Journal of Robotics Research
 International Symposium on Visual Computing
 Intelligent Service Robotics
 Journal of Artificial Intelligence Research
 Journal of Intelligent and Robotic Systems
 Journal of Information Science and Engineering
 Robotica
 Robotics: Science and Systems
 Theory of Computing Systems
 Workshop on the Algorithmic Foundations of Robotics
 Wireless Communications and Mobile Computing

11. Professional society memberships

Institute of Electrical and Electronics Engineers (IEEE), 2004–present.
 Senior member, 2013–present.
 Member, 2007–2013.
 Student member, 2004–2007.

IEEE Robotics and Automation Society (RAS), 2004–present.
Association for the Advancement of Artificial Intelligence (AAAI), 2007.
Society for Industrial and Applied Mathematics (SIAM), 2004–2007.

12. Citizenship

United States