Daniel M. Lofaro Ph.D 2022-03-01

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Research Interests

Swarm Robotics, Autonomy, Emergent Behaviors, Human Robot/System Interaction, Robot Design, Real-World Human/Robot Interaction, Humanoid Robotics, Complex Control Systems, Secure Robotics, Cloud Robotics, Unique Musical Instrument Design, Real-Time Systems, and Artificial Intelligence.

Clearance: "S" - **Languages (Native):** English - **(Limited):** Japanese, Korean, and Mandarin (Chinese)

Call Sign: KB3YZR

Education

Drexel University	Ph.D	Electrical and Computer Engineering in Control Systems and Robotics. Dissertation Title: *Unified Algorithmic Framework for High Degree of Freedom Complex Systems and Humanoid Robots* Advisor: Paul Oh	2008-2013
Drexel University	M.S.	Electrical and Computer Engineering in Control Systems Thesis Title: *Control Design to Reduce the Effects of Torsional Resonance in Coupled Systems - Honors School* graduate Advisors: Tom Chmielewski and Paul Kalata	2006-2008
Drexel University	B.S.	Electrical and Computer Engineering in Control Systems *Cum Laude* and *Honors School* graduate	2003-2008

Work Experience

Office of Naval Research Global Science Director *Roppongi, Tokyo, Japan*	Science Director at the Office of Naval Research Global with a focus on Autonomy/Robotics. This multi year synergistic detail between NRL and ONR promotes U.S. collaboration with international scientists, and science advisors identify fleet/force needs and implement technology solutions. They serve as the chief of naval research's science ambassadors abroad.	2022 - Present
U.S. Naval Research Laboratory Research Scientist *Washington D.C., USA*	Roboticists and Electrical Engineer at the U.S. Naval Research Laboratory (NRL) in the Navy Center for Applied Research in Artificial Intelligence (NCARAI) within the Laboratory for Autonomous Systems Research (LASR)	2017 - Present
University of Maryland Professor/Lecturer *College Park, MD, USA*	Teach graduate level courses on robot software design, unit testing software for robotics, ROS/ROS2.0, and different software design processes including the agile iterative process (also known as AIP or "Agile").	2020 - Present
George Mason University Affiliate Professor *Fairfax, VA, USA*	Affiliate Professor in School of Business and Electrical Engineering Department at George Mason University.	2021 - Present

George Mason University Laboratory Director *Fairfax, VA, USA*	Director of the Lofaro Labs Robotics and the DASL Autonomous Systems Lab (DASL) at George Mason University. The primary focus of the lab is robotics including Humanoids, Complex Control Systems, Robot Design, and Cloud Robotics. **(On temporary hold while on ONR Global Detail)**	2014 - 2021
George Mason University Assistant Professor *Fairfax, VA, USA*	Assistant Professor in Robotics at George Mason University in the Electrical and Computer Engineering Department.	2014 - 2021
ExPlus Automation Consultant *Sterling, VA*	Create automation software for animated and interactive museum displays.	2015 - 2016
DARPA Research Lead *Philadelphia, PA*	Research Lead and Systems Engineer for the Track-A DARPA Robotics Challenge team DRC-Hubo. In collaboration Gerogia Tech I lead the developed of the needed open-source, Linux based, BSD licensed controller for humanoid robots. Our software is the primary control system for the DRC-Hubo team and is currently being used by MIT, WPI, Purdue, Ohio State, Swarthmore College, Georgia Tech, and Drexel University.	2012 - 2014
Drexel Autonomous Systems Lab Research Assistant *Philadelphia, PA*	Researching Complex Control Systems and Robotics. Daniel's dissertation topic is end-effector velocity control for bipedal robots, also known as throwing. Primary care taker of the full-size humanoid robot Jaemi Hubo.	2008 - 2013
Dragonfly Incorporated Engineer *Philadelphia, PA*	Testing and modeling of linear actuators for dual rotor unmanned aerial vehicles.	2011 - 2013
Drexel University Teaching Assistant *Philadelphia, PA*	Assist professor with electrical engineering lab courses as well as organizing and maintaing Senior Design for the electrical and computer engineering dept.	2008 - 2013
IEEE (ICRA-2012) Web Designer *Piscataway, NJ*	Design and maintain events and website for the International Conference on Robotics and Automation.	2011 - 2012
NATO (ASI-2012) Workshop Chair *Cesme, Turkey*	Organize and maintain 6 workshops for an international audience with participation from 23 countries	2011 - 2012
FIRST Robotics Mentor, Judge, and Volunteer *Villanova, PA*	Coach/mentors for the all girls high school, Agnes Irwin School (Bryn Mawr, PA), FIRST Robotics team and Philadelphia Regional Competition volunteer.	2006 - 2010

Moog Component Group Assistant Design Engineer *Springfield, PA*	Temperature response testing - Error analysis on positional and rotational actuators - Fault detection circuit design and implementation for positional and rotator actuators - PCB trace verification, Trained in MIL-SPEC soldering.	2005 - 2006
Evaporated Coatings Inc. Assistant Design Engineer *Willow Grove, PA*	Design and implementation of vacuum deposited tin films for the control of optical, thermal and electrical surface properties, design using computer simulations. Implementation via vacuum deposition using electron beam gun.	2004 - 2005

Honors, Awards, and Professional Recognitions

U.S. - UK Science and Technology Cooperation Award Winners	Received the U.S. - UK Science and Technology (S&T) Cooperation award from the U.S. Department of Defense and the UK Ministry of Defense. The award is a testament to the broad range of bilateral scientific and technical cooperation between the U.S. and UK defense organizations.	2020
Best Paper Award IEEE CIS-RAM	Received a best paper award for our paper entitled "Multi-agent Time-based A* Path Planning on Lighter Thank Air Autonomous Agents" at IEEE-CIS-RAM 2019	2019
Consistently Featured in the News	Work is consistently in the news (print, web, and televised). Venues include The Washington Post, WUSA-9, RoboHub, All Hands (U.S. Navy Magazine), and other like news sources.	2014-2021
Office of Naval Research - SFRP	The Office of Naval Research - Summer Faculty Research Program and Sabbatical Leave Program provides science and engineering faculty members from institutions of higher education the opportunity to participate in research of mutual interest to the faculty member and peers at U.S. Navy Laboratories	2015-2016
Career Connection Faculty Award Nominee	The George Mason University Career Connection Faculty Award is an annual award celebrating Mason faculty and staff who make a positive impact on students' career goals, employment plans, or graduate school preparation.	2015
NSF-GRFP Honorable Mention	The program recognizes and supports outstanding graduate students in NSF-supported science, technology, engineering, and mathematics disciplines who are pursuing research-based master's and doctoral degrees in the U.S. and abroad.	2009
NSF-EAPSI Fellow	The primary goals of EAPSI are to introduce students to East Asia and Pacific science and engineering in the context of a research setting, and to help students initiate scientific relationships that will better enable future collaboration with foreign counterparts.	2008
Lester Kraus Award	Awarded to Electrical Engineering student who has shown the greatest promise of developing into a creative and socially responsible engineer.	2008
Dean's Fellowship	Non-need-based award for full-time graduate students designed to assist outstanding applicants.	2008

Funded Projects

[1] D. Lofaro, "Rapidly constructible lta3 platforms for emergent behavior development and swarming," in *Office of Naval Research (Code 34)*, 2020-2021, $500k

[2] D. Lofaro, "Doctoral consortium at the 2017 ieee/ras international conference on intelligent robotics and systems (iros) 2017," in *National Science Foundation (NSF)*, 2017-2018, $25k

[3] D. M. Lofaro, "Amazon robotics challenge - team gmu-bgu," in *Autonomous Robotic Manipulation and Stowing System for Warhorse Settings - Amazon Inc.*, 2017, $20k

[4] D. Lofaro, "Smart hive," in *Institute of Electrical and Electronics Engineers (IEEE)*, 2017, $3k

[5] D. M. Lofaro, "Instruments in the attic (collaborator)," in *Potomac Arts Academy*, 2014 - Ongoing, $10k/year

Competitions

[1] E. Dessalene, B. Hofgard, G. Georgios, R. Alimoor, M. Vu, Y. Ovcharik, and D. Lofaro, "Team robo patriots gmu/bgu," in *Amazon Robotics Challenge, Nagoya, Japan*, 2017

[2] E. Dessalene and D. Lofaro, "Team robo patriots," in *Grasping and Manipulation Challenge at IEEE-ICRA, Daejeon, South Korea*, 2016

[3] D. Wicke, C. Ward, L. Hovatte, E. Wei, K. Andrea, K. Russell, S. Luke, and D. Lofaro, "Team robo patriots," in *RoboCup (Child-Size Humanoid League), Hefi, China*, 2015

[4] D. Lofaro, D. Berenson, S. Chernova, G. Lee, M. Stilman, J. Oh, and P. Oh, "Team drc-hubo," in *DARPA Robotics Challenge, USA*, 2012-2014

Publications

Total number of publications, 50+ (plus more in review). Lofaro has presented at nearly 50 invited talks/live demonstrations, Five (5) robotics related museum installations/exhibition, four (4) international robotics competitions. A technical tutorial website with **over 10M** hits. Additionally, Lofaro has been featured in 35+ external news reports (print and TV).

Referred Journal Papers

[1] L. Calkins, J. Lingevitch, J. Coffin, L. McGuire, J. Geder, M. Kelly, M. Zavlanos, D. Sofge, and D. Lofaro, "Distance estimation using self-induced noise of an aerial vehicle," in *In IEEE Robotics and Automation Letters (RA-L)*, 2021

[2] T. Haus, M. Orsag, A. P. Nunez, S. Bogdan, and D. Lofaro, "Centroid vectoring for attitude control of floating base robots: From maritime to aerial applications," *IEEE Access*, vol. 7, pp. 16 021–16 031, 2019 - Impact Factor: 4.098

[3] J. Gibson, T. Schuler, D. Sofge, and D. Lofaro, "Swarm and multi-agent time-based path planning for lta3 systems," in *World Scientific: Unmanned Systems*, 2019, pp. 1–8 – Impact Factor: 0.760 (page numbers TBD)

[4] D. Lofaro, M. Bugajska, and D. Sofge, "Extending the Life of Legacy Robots : MDS-Ach via x-Ach," *Advances in Science, Technology and Engineering Systems Journal*, vol. 4, no. 1, pp. 50–72, 2019 - Impact Factor: 1.76

[5] C. Phillips-Grafflin, H. B. Suay, J. Mainprice, N. Alunni, D. Lofaro, D. Berenson, S. Chernova, R. W. Lindeman, and P. Oh, "From autonomy to cooperative traded control of humanoid manipulation tasks with unreliable communication," *Journal of Intelligent & Robotic Systems*, vol. 82, no. 3, pp. 341–361, 2016 - Impact Factor: 2.020

[6] N. Dantam, D. Lofaro, A. Hereid, P. Oh, A. Ames, and M. Stilman, "The ach library: A new framework for real-time communication," *Robotics Automation Magazine, IEEE*, vol. 22, no. 1, pp. 76–85, 2015 - Impact Factor: 4.816

Book Chapters

[1] E. Dessalene and D. Lofaro, "Complete robotic systems for the iros grasping and manipulation challenge," in *Robotic Grasping and Manipulation.* Springer, 2018, pp. 172–179

Referred Conference/Workshop Proceedings

[1] R. Hall, D. Sofge, and D. Lofaro, "Emergent behavior in swarms with on-board sensing," in *SSCI 2021 : IEEE Symposium Series on Computational Intelligence*, 2021

[2] A. Maxseiner, D. Lofaro, and D. Sofge, "Visible light communications with inherent agent localization and simultaneous message receiving capabilities for robotic swarms," in *18th International Conference on Ubiquitous Robots (UR)*, 2021

[3] L. Calkins, J. Lingevitch, J. Coffin, L. McGuire, J. Geder, M. Kelly, M. Zavlanos, D. Sofge, and D. Lofaro, "Distance estimation using self-induced noise of an aerial vehicle," in *In Proceedings of IEEE International Conference on Robotics and Automation (IEEE-ICRA 2021)*, 2021

[4] C. Wu, D. Lofaro, and D. Sofge, "A learned encircling strategy for robot swarm pursuit-evasion against a superior evader," in *The 15th International Symposium on Distributed Autonomous Robotic Systems (DARS)*, 2021

[5] A. Sharma, W. Calkins, D. Lofaro, J. Lingevitch, J. Geder, M. Kelly, M. M. Zavlanos, A. Evans, and D. Sofge, "Bat-inspired wall distance estimation from self-induced motor-propeller noise using deep convolutional networks," in *Fifth Annual Workshop on Naval Applications of Machine Learning (NAML 2021), 2021*, 2021

[6] R. Hall, D. Sofge, and D. Lofaro, "Emergent behavior in swarms with on-board sensing using universal global inputs," in *The 4th International Symposium on Swarm Behavior and Bio-Inspired Robotics (SWARM)*, 2021

[7] A. Maxseiner, D. Lofaro, and D. Sofge, "Visible light communication for robotic swarms," in *The 4th International Symposium on Swarm Behavior and Bio-Inspired Robotics (SWARM)*, 2021

[8] J. Kelly, D. Sofge, and D. Lofaro, "Persistent area coverage for swarms utilizing deployment entropy with potential fields," in *2020 17th International Conference on Ubiquitous Robots (UR)*, 2020, pp. 479–486

[9] G. Singh, D. Sofge, and D. Lofaro, "Tackling the pursuit-evasion problem with the actor-critic model-free multi-agent deep deterministic policy gradient(maddpg) method on a decentralized robotic swarm in continuous state space and action space via deep reinforcement learning," in *Fourth Annual NIWC Pacific Workshop on Naval Applications of Machine Learning (NAML)*, 2020

[10] T. Lin, D. M. Lofaro, and D. A. Sofge, "Cooperative emergent swarming through deep reinforcement learning," in *2020 IEEE 16th International Conference on Control Automation (ICCA)*, 2020, pp. 1354–1359

[11] R. Kramer, J. Geder, J. Lingevitch, W. Calkins, D. Lofaro, M. Kelly, L. McGuire, A. Evans, and D. Sofge, "Unsupervised explainable artificial intelligence architectures for acoustic sensing in micro-air vehicles," in *Fourth Annual NIWC Pacific Workshop on Naval Applications of Machine Learning (NAML)*, 2020

[12] L. Calkins, J. Lingevitch, L. McGuire, J. Geder, M. Kelly, M. M. Zavlanos, D. Sofge, and D. M. Lofaro, "Bio-inspired distance estimation using the self-induced acoustic signature of a motor-propeller system," in *2020 IEEE International Conference on Robotics and Automation (ICRA)*, 2020, pp. 5047–5053

[13] D. Srivastava, D. Lofaro, T. Schuler, and D. Sofge, "Hidden markov model trained gesture-based interfacefor multiagent and swarm formation control," in *Fourth Annual NIWC Pacific Workshop on Naval Applications of Machine Learning (NAML)*, 2020

[14] J. Gibson, T. Schuler, D. Sofge, and D. Lofaro, "Multi-agent time-based a* path planning on lighter-than-air autonomous agents," in *IEEE International Conference on Cybernetics and Intelligent Systems, and Robotics, Automation and Mechatronics (CIS-RAM)*, 2019, pp. 1–6 (actual page numbers TBD)

[15] C. Taylor, C. Ward, D. Sofge, and D. Lofaro, "Lps: A local positioning system for homogeneous and heterogeneous robot-robot teams, robot-human teams, and swarms," in *2019 16th IEEE International Conference on Ubiquitous Robots (UR)*, 2019, pp. 200–207

[16] D. Lofaro, D. Wallace, and D. Sofge, "Shibboleth-based trust enhancement between humans and humanoid robots using gesture and contact focused dialog," in *Workshop on Symbiotic Human Robot Interaction at the Intelligent Robots and Systems (IROS 2018), 2018 IEEE/RSJ International Conference on*, 2018, pp. 56–60, (Acceptance Rate: 30%–40%)(#5 Robotics Conference rated by Google Scholar)

[17] D. Lofaro and D. Sofge, "Multimodal control of lighter-than-air agents," in *Proceedings of the 20th ACM International Conference on Multimodal Interaction*, ser. ACM-ICMI, 2018, pp. 555–565

[18] K. Nishimura, M. Bugajska, D. Sofge, P. Oh, and D. Lofaro, "On humanoid co-robot locomotion when mechanically coupled to a human partner," in *2018 15th IEEE International Conference on Ubiquitous Robots (UR)*, 2018, pp. 412–419

[19] A. Perez, M. Orsag, and D. Lofaro, "Design, implementation, and control of the underwater legged robot aquashoko for low-signature underwater exploration," in *2018 15th IEEE International Conference on Ubiquitous Robots (UR)*, 2018, pp. 228–234

[20] E. Wiese, P. Weis, and D. Lofaro, "Embodied social robots trigger gaze following in real-time hri," in *2018 15th IEEE International Conference on Ubiquitous Robots (UR)*, 2018, pp. 477–482

[21] A. Perez, G. Hernandez, N. Folta, R. Regalado, S. McElwain, and D. Lofaro, "Designing an autonomous vehicle lean recovery system for motorcycles," in *2018 15th IEEE International Conference on Ubiquitous Robots (UR)*, 2018, pp. 693–698

[22] E. Dessalene, C. Korpela, and D. Lofaro, "Push grasping with anthropomorphic hands," in *2018 15th IEEE International Conference on Ubiquitous Robots (UR)*, 2018, pp. 737–742

[23] D. Lofaro, C. Ward, M. Bugajska, and D. Sofge, "Extending the life of legacy robots: Mds-ach, a real-time, process based, networked, secure middleware based on the x-ach methodology," in *15th International Workshop on Advanced Motion Control (IEEE-AMC)*, 2018, pp. 72–77

[24] D. Lofaro, F. Lee, E. Endress, and C. Park, "Augmented musical reality via smart connected pianos," in *Workshop on Robotics in Virtual Reality at the Robotics and Automation (ICRA), 2018 IEEE International Conference on*, 2018, pp. 1–5, (Acceptance Rate: 30%–40%)(#1 Robotics Conference rated by Google Scholar)

[25] E. Dessalene, G. Georgakis, M. Reza, Y. Li, Y. Ovcharik, A. Shapiro, J. Kosecka, and D. Lofaro, "A contact exploitative approach to the amazon robotics challenge," in *2017 IEEE International Conference on Robotics and Automation (ICRA) - Warehouse Picking Automation Workshop*, 2017, pp. 108–111, (Acceptance Rate: 30%–40%)(#1 Robotics Conference rated by Google Scholar)

[26] D. Lofaro, C. Taylor, R. Tse, and D. Sofge, "Wearable interactive display for the local positioning system (lps)," in *19th ACM International Conference on Multimodal Interaction*, 2017, pp. 522–523

[27] D. Lofaro, K. Nishimura, M. Bugajska, P. Oh, and D. Sofge, "Experimental setup and approach for co-robot locomotion when mechanically coupled to a human partner," in *2017 IEEE-RAS 17th International Conference on Humanoid Robots (Humanoids)*, 2017, pp. 1–5, (#1 for Humanoid Robotics and #19 for all Robotics Conference rated by Google Scholar)

[28] E. Wiese, T. Shaw, D. Lofaro, and C. Baldwin, "Designing artificial agents as social companions," in *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*, vol. 61, no. 1, 2017, pp. 1604–1608

[29] D. Lofaro, "The honey bee initiative - smart hive," in *2017 14th International Conference on Ubiquitous Robots and Ambient Intelligence (URAI)*, 2017, pp. 446–447

[30] D. Lofaro, "Utilizing the android robot controller for robots, wearable apps, and the hotel room of the future," in *2017 14th International Conference on Ubiquitous Robots and Ambient Intelligence (URAI)*, 2017, pp. 570–575

[31] D. Lofaro, P. Weis, and E. Wiese, "Experiments confirming gaze triggered effects in embodied social robots," in *2017 IEEE-RAS 17th International Conference on Humanoid Robots (Humanoids)*, 2017, pp. 1–6, (#1 for Humanoid Robotics and #19 for all Robotics Conference rated by Google Scholar)

[32] D. Lofaro and A. Asokan, "Low latency bounty hunting and geographically adjacent server configuration for real-time cloud control," in *2016 IEEE International Conference on Robotics and Automation (ICRA)*, 2016, pp. 5277–5282 (#1 Robotics Conference rated by Google Scholar)

[33] D. Lofaro, "Secure robotics," in *2016 13th International Conference on Ubiquitous Robots and Ambient Intelligence (URAI)*, 2016, pp. 311–313

[34] D. Lofaro, M. Bula, P. Early, E. Eide, and M. Javid, "Archr - apparatus for remote control of humanoid robots," in *2015 IEEE-RAS 15th International Conference on Humanoid Robots (Humanoids)*, 2015, pp. 229–236, (#1 for Humanoid Robotics and #19 for all Robotics Conference rated by Google Scholar)

[35] D. Lofaro, A. Asokan, and E. Roderik, "Feasibility of cloud enabled humanoid robots: Development of low latency geographically adjacent real-time cloud control," in *Humanoid Robots (Humanoids), 2015 15th IEEE-RAS International Conference on*, 2015, pp. 519–526, (#1 for Humanoid Robotics and #19 for all Robotics Conference rated by Google Scholar)

[36] W. Hilton, D. Lofaro, and Y. Kim, "A lightweight, cross-platform, multiuser robot visualization using the cloud," in *Intelligent Robots and Systems (IROS 2014), 2014 IEEE/RSJ International Conference on*, 2014, pp. 1570–1575 (#5 Robotics Conference rated by Google Scholar)

[37] J. Mainprice, C. Phillips-Grafflin, H. Suay, N. Alunni, D. Lofaro, D. Berenson, S. Chernova, R. Lindeman, and P. Oh, "From autonomy to cooperative traded control of humanoid manipulation tasks with unreliable communication: System design and lessons learned," in *Intelligent Robots and Systems (IROS 2014), 2014 IEEE/RSJ International Conference on*, 2014, pp. 3767–3774 (#5 Robotics Conference rated by Google Scholar)

[38] N. Alunni, H. Bener Suay, C. Phillips-Grafflin, J. Mainprice, D. Berenson, S. Chernova, R. Lindeman, D. Lofaro, and P. Oh, "Darpa robotics challenge: Towards a user-guided manipulation framework for high-dof robots," in *Robotics and Automation (ICRA), 2014 IEEE International Conference on*, 2014, pp. 2088–2088 (#1 Robotics Conference rated by Google Scholar)

[39] N. Alunni, C. Phillips-Grafftin, H. Suay, D. Lofaro, D. Berenson, S. Chernova, R. Lindeman, and P. Oh, "Toward a user-guided manipulation framework for high-dof robots with limited communication," in *Technologies for Practical Robot Applications (TePRA), 2013 IEEE International Conference on*, 2013, pp. 1–6

[40] M. Grey, N. Dantam, D. Lofaro, A. Bobick, M. Egerstedt, P. Oh, and M. Stilman, "Multi-process control software for hubo2 plus robot," in *Technologies for Practical Robot Applications (TePRA), 2013 IEEE International Conference on*, 2013, pp. 1–6

[41] D. Lofaro, "Unified algorithmic framework for high degree of freedom complex systems and humanoid robots," in *Ph.D. dissertation, Drexel University, College of Engineering, Electrical and Computer Engineering Department*, 2013, pp. 1–207

[42] D. Lofaro and P. Oh, "Humanoid throws inaugural pitch at major league baseball game: Challenges, approach, implementation and lessons learned," in *Ubiquitous Robots and Ambient Intelligence (URAI), 2012 9th International Conference on*, 2012, pp. 153–157

[43] D. Lofaro, R. Ellenberg, P. Oh, and J. Oh, "Humanoid throwing: Design of collision-free trajectories with sparse reachable maps," in *Intelligent Robots and Systems (IROS), 2012 IEEE/RSJ International Conference on*, 2012, pp. 1519–1524 (#5 Robotics Conference rated by Google Scholar)

[44] K. Lynch, D. Lofaro, and P. Oh, "A n-dimensional convex hull approach for fault detection and mitigation for high degree of freedom robots humanoid robots," in *Control, Automation and Systems (ICCAS), 2012 12th International Conference on*, 2012, pp. 790–797

[45] D. Lofaro, C. Sun, and P. Oh, "Humanoid pitching at a major league baseball game: Challenges, approach, implementation and lessons learned," in *Humanoid Robots (Humanoids), 2012 12th IEEE-RAS International Conference on*, 2012, pp. 423–428 (#1 for Humanoid Robotics and #19 for all Robotics Conference rated by Google Scholar)

[46] D. Grunberg, D. Lofaro, P. Oh, and Y. Kim, "Robot audition and beat identification in noisy environments," in *Intelligent Robots and Systems (IROS), 2011 IEEE/RSJ International Conference on*, 2011, pp. 2916–2921 (#5 Robotics Conference rated by Google Scholar)

[47] Y. Kim, D. Grunberg, A. Batula, D. Lofaro, J. Oh, and P. Oh, "Enabling humanoid musical interaction and performance," in *Collaboration Technologies and Systems (CTS), 2011 International Conference on*, 2011, pp. 212–215

[48] D. Lofaro, R. Ellenberg, and P. Oh, "Interactive games with humanoids: Playing with jaemi hubo," *Humanoid Robots (Humanoids)*, pp. 1–6 (#1 for Humanoid Robotics and #19 for all Robotics Conference rated by Google Scholar), 2010

[49] D. Lofaro, P. Oh, J. Oh, and Y. Kim, "Interactive musical participation with humanoid robots through the use of novel musical tempo and beat tracking techniques in the absence of auditory cues," in *Humanoid Robots (Humanoids), 2010 10th IEEE-RAS International Conference on*, 2010, pp. 436–441 (#1 for Humanoid Robotics and #19 for all Robotics Conference rated by Google Scholar)

[50] D. Lofaro, T. Le, and P. Oh, "Mechatronics education: From paper design to product prototype using lego nxt parts," in *Progress in Robotics: FIRA RoboWorld Congress 2009, Incheon, Korea, August 16-20, 2009. Proceedings*. Berlin, Heidelberg: Springer Berlin Heidelberg, 2009, pp. 232–239

[51] D. Lofaro, "Control design to reduce the effects of torsional resonance in coupled systems," in *Masters Thesis, Drexel University, College of Engineering, Electrical and Computer Engineering Department*, 2008, pp. 1–84

Other Publications: Website

[1] D. Lofaro and Various Students et. al., "Lofaro labs robotics wiki tutorial page," in *http://wiki.lofarolabs.com*, 2014-2019 - Hits: 2.1M+

Other Publications: Museum Installations and Exhibitions

[1] D. Lofaro and E. Knox, "Synthetic human rules," in *Location: National Museum of Emerging Science and Innovation - Miraikan, Tokyo, Japan*, 2019-2020 - Duration: 4 Months (*Scheduled*)

[2] D. Lofaro and G. Biver, "The narrative machine: Poem-drum," in *Location: NIMBUS FUSE Ensemble, Washington DC, USA*, 2019 - Duration: 2 days debut + ongoing

[3] D. Lofaro and E. Endress, "How can we access truth?: The narrative machine," in *Location: Inter-American Development Bank (IDB), Washington DC, USA*, 2018-2019 - Duration: 5 Months

[4] E. Endress and D. Lofaro, "Acts of storytelling," in *Location: Acts of Sensing & Hearing Exhibition in the Marshall's Visual Arts Center, Huntington, West Virginia, USA*, 2018 - Duration: 3 Weeks

[5] D. Lofaro and E. Endress, "The narrative machine," in *Location: George Mason University Center for the Arts, Fairfax, VA, USA*, 2017-2018 - Duration: 6 Months

Invited Talks and Demonstrations

[1] D. Lofaro and T. Schuler, "Reactive autonomous autonomous agents," in *Navy League - Sea Air Space, Washington DC Metro Area*, 2021

[2] D. Lofaro and A. Maxseiner, "Family robotics day: Reactive autonomous agents and battle bots," in *National Museum of the Marine Corps, Triangle, VA*, 2021

[3] D. Lofaro and A. Maxseiner, "Reactive swarming autonomy," in *Cheif of Naval Research (CNR) Demo, Washington, DC*, 2020

[4] D. Lofaro, "Robotics swarming and emergent behavior," in *University of Zagreb, Zagreb, Croatia*, 2019

[5] D. Lofaro and T. Schuler, "Lighter than air autonomous agents," in *Navy League - Sea Air Space, Washington DC Metro Area*, 2019

[6] D. Lofaro and A. Maxseiner, "Semper force," in *National Museum of the Marine Corps, Triangle, VA*, 2018

[7] D. Lofaro, "Robotics in politics and business," in *Breaking the Surface - BTS, International Interdisciplinary Field Workshop of Marine Robotics and Applications, Biograd na Moru, Croatia*, 2018

[8] D. Lofaro, A. Maxseiner, G. Galindo, and G. Tummala, "Robotics day: In the field and at home," in *National Museum of the Marine Corps, Triangle, VA*, 2018

[9] D. Lofaro, A. Maxseiner, and G. Tummala, "Robotics, an overview," in *International Visitor Leadership Program (IVLP) sponsored by the Department of State - Washington D.C.*, 2017

[10] D. Lofaro, A. Maxseiner, and G. Tummala, "Demonstration: Showed the inner-workings of 3d printed humanoid robots to the do it yourself (dyi) community." in *Impact Design Summit with Autodesk and DARPA Tech Shop-Building Museum, Washington D.C.*, 2017

[11] D. Lofaro, C. Ward, and A. Perez, "Children's' day - robotics," in *National Museum of the Marine Corps - Virginia (DC Metro Area)*, 2017

[12] D. Lofaro, "The future of drones," in *Escape Velocity Convention - Washington, DC*, 2017

[13] D. Lofaro, "The robots are coming," in *University of Bridgeport Engineering Department - Bridgeport, CT*, 2017

[14] D. Lofaro, "I can robot and you can too," in *Presidential Inauguration Leadership Summit - IEEE Robotics & Automation Society - Washington, DC*, 2017

[15] D. Lofaro, "Demonstration: Showed the inner-workings of 3d printed humanoid robots to the do it yourself (dyi) community." in *IEEE Robotics & Automation Society - Presidential Inauguration Leadership Summit 'Drones, Clones, and Genomes' - Fairfax, VA*, 2017

[16] D. Lofaro, C. Ward, and A. Asokan, "Design, implementation, and control of disaster relief humanoid robots. demonstration: Showed the inner-workings of 3d printed humanoid robots to the do it yourself (dyi) community." in *Kickoff to National Robotics Week, Smithsonian's National Air and Space Museum - Washington, DC*, 2016

[17] D. Lofaro, "Robots in politics," in *National Maker Faire - Washington, DC*, 2016

[18] A. Asokan, A. Perez, G. Hernandez, N. Folta, and D. Lofaro, "Demonstration: Showed the inner-workings of 3d printed humanoid robots to the do it yourself (dyi) community and the human powered vehicle challenge vehicle made by the sponsored asme team at gmu." in *National Maker Faire - Washington, DC*, 2016

[19] D. Lofaro, "Secure robotics," in *Young Scholars in Robotics, Ubiquitous Robots and Ambient Intelligence (URAI) 2016 - Xi'an, China*, 2016

[20] D. Lofaro, "Robots in politics," in *IEEE Croatia Section lecture series, University of Zagreb - Zagreb, Croatia*, 2016

[21] D. Lofaro, C. Ward, and A. Asokan, "Robots in politics and demonstration. showed the inner-workings of 3d printed humanoid robots to the do it yourself (dyi) community." in *Maker Faire - Washington, DC*, 2016

[22] D. Lofaro, "Darpa robotics challenge - team drc-hubo," in *KAIST-KUSCO S&T Workshop Lecture - Vienna, VA*, 2016

[23] D. Lofaro, "Robots in politics," in *KUSCO S&T Policy Lecture Series - Vienna, VA*, 2016

[24] C. Ward, A. Asokan, A. Perez, G. Hernandez, N. Folta, R. Regalado, S. McElwain, and D. Lofaro, "Demonstration: Showed the inner-workings of 3d printed humanoid robots to the do it yourself (dyi) community." in *NoVA Mini Maker Faire - Fairfax, VA*, 2016

[25] D. Lofaro, "Team drc-hubo: The road to the darpa robotics challenge - lessons learned," in *Distinguished Lecture Series, George Mason University - Fairfax, VA*, 2015

[26] D. Lofaro, M. Bula, P. Early, E. Eide, and M. Javid, "Design, implementation, and control of disaster relief humanoid robots. demonstration: Showed the inner-workings of 3d printed humanoid robots to the do it yourself (dyi) community." in *Kkickoff to National Robotics Week, Smithsonian's National Air and Space Museum - Washington, DC*, 2015

[27] D. Lofaro, P. Early, M. Bula, E. Eide, and M. Javid, "Demonstration: Showed the inner-workings of 3d printed humanoid robots to the do it yourself (dyi) community." in *National Maker Faire - Washington, DC*, 2015

[28] D. Lofaro, M. Bula, P. Early, E. Eide, and M. Javid, "Demonstration: Showed the inner-workings of 3d printed humanoid robots to the do it yourself (dyi) community." in *NoVA Mini Maker Faire - Fairfax, VA*, 2015

[29] D. Lofaro, "Demonstration and training session: Seven day of jaemi hubo training," in *University of Nevada Las Vegas - Las Vegas, NV*, 2015

[30] D. Lofaro, "I can robot and you can too," in *IEEE-SPAC Student Professional Awareness Conference - Fairfax, VA*, 2014

[31] D. Lofaro, "Darpa robotics challenge, next steps forward," in *Disney Research - Pittsburgh, PA*, 2014

[32] D. Lofaro, "Team drc-hubo: International collaboration using a three phase design cycle," in *IEEE Croatia Section lecture series, University of Zagreb - Zagreb, Croatia*, 2014

[33] D. Lofaro, "Building a robot club from the ground up (part 2)," in *Bryn Mawr College - Bryn Mawr, PA*, 2014

[34] D. Lofaro, "I can robot, and you can too - a cheat sheet for getting your ph.d," in *Society of Woman in Engineering (SWE) Invited Talk - Fairfax, VA*, 2014

[35] D. Lofaro, "Team drc-hubo: International collaboration using a three phase design cycle," in *Los Alamos National Laboratories - Los Alamos, NV*, 2014

[36] D. Lofaro, "Team drc-hubo: A us-korea collaboration," in *Chung-Ang University - Seoul, S. Korea*, 2014

[37] D. Lofaro, "Team drc-hubo: A us-korea collaboration," in *GMU Korea - Incheon, S. Korea*, 2014

[38] D. Lofaro, "Building a robot club from the ground up (part 1)," in *Bryn Mawr College - Bryn Mawr, PA*, 2014

[39] D. Lofaro, "Team drc-hubo: A road-map to the darpa robot challenge," in *Cornell University - Ithaca, NY*, 2013

[40] D. Lofaro, "Darpa robot challenge: The drc-hubo team - where we are and what we are doing." in *University of Pennsylvania - Philadelphia, PA*, 2013

[41] D. Lofaro, "Demonstration: Hands on demonstration of the hubo2+ humanoid robot. following the demonstration there was a in depth q&a session with the graduate and undergraduate students in the college of engineering." in *Columbia University - New York, NY*, 2012

[42] D. Lofaro, "Demonstration: Showed the inner-workings of hubo the humanoid robot to the do it yourself (dyi) community." in *Maker Faire - New York, NY*, 2012

[43] D. Lofaro, "Humanoid pitching at a major league baseball game: Challenges, approach, implementation and lessons learned," in *ASME - Drexel University - Philadelphia, PA*, 2012

[44] D. Lofaro, "Demonstration: Developed a system to make hubo become the first full-size humanoid robot to successfully throw the inaugural pitch at a major league baseball game, philadelphia phillies vs. chicago cubs. 45,196 spectators according to the usa today. video: http://danlofaro.com/projects/philliesgame/," in *Philadelphia Phillies and Philly Science Festival - Philadelphia, PA*, 2012

[45] D. Lofaro, "Humanoid robots, they are fun! included live hands-on demonstration of a miniature humanoid. purpose what to get the inner city students exposed to advanced robotics." in *Friends of the Free Library - Philadelphia, PA*, 2012

[46] D. Lofaro, "Demonstration: Hands on demonstration and interactive sessions of ground vehicles,
pick and place robots and miniature humanoids for elementary school students." in *Sugartown Elementary School - Sugartown, PA*, 2011

[47] D. Lofaro, "Humanoid robots, a step in the right direction? about philcon: Started in 1936, philcon features cutting-edge programming about literature, art, television, film, anime, comics, science, gaming, costuming and cosplay, music, and other topics of interest to fans of sci-fi, fantasy, and horror." in *Philcon 2011 - New Jersey, NJ*, 2011

[48] D. Lofaro, "Humanoid robots, past, present, future." in *State Senator Invitation - 5^{th}, Annual Carole I Smith Technology Symposium, Presented by State Senator LeAnna M. Washington, Temple University, Technology Symposium - Philadelphia, PA*, 2011

[49] D. Lofaro, "Interactive games with humanoids." in *Daegu Institute of Science and Technology - Daegu, South Korea*, 2011

[50] D. Lofaro, "Interactive musical participation with humanoid robots through the use of novel musical tempo and beat tracking techniques in the absence of auditory cues." in *Korean Advanced Institute of Science and Technology (KAIST), Daejeon, South Korea*, 2011

[51] D. Lofaro, "Visual beat tracking," in *Hanyang University - Seoul, South Korea*, 2011

[52] D. Lofaro, "Humanoid robots, past, present, future," in *MY Robotics Club, Bryn Mawr College - Bryn Mawr, PA*, 2010

[53] D. Lofaro, "Demonstration: Live hands on demonstration for children and adults ages 3 to 99." in *Philadelphia Please Touch Museum - Philadelphia, PA*, 2009

Other Publications: Media Coverage Featuring Daniel M. Lofaro

Daniel Lofaro and his work has been featured in 38+ print, web, and televised news articles.

[1] Robot News, Interview, July 20, 2020

[2] All Hands Magazine, U.S. Navy News, Aug 27, 2019

[3] Spectra, May Issue, 2019

[4] U.S. Naval Research Lab News, April 3, 2019

[5] Northern Virginia Magazine, June 14, 2018

[6] The Washington Post, February 18, 2018

[7] WUSA-9 News, March 1, 2018

[8] The George, January 24, 2018

[9] RoboHub, January 2, 2018

[10] Exel Magazine, January 05, 2014

[11] Geekadelphia, Sept 24, 2013

[12] Geekadelphia (video), Sept 24, 2013

[13] CBS, Sept 2, 2013

[14] NBC (Video), Aug 22, 2013

[15] NBC, Aug 22, 2013

[16] NewsWorks, Aug 19, 2013

[17] Technically Philly, Aug 06, 2013

[18] Drexel News Blog, July 31, 2013

[19] Redorbit, July 12, 2013

[20] Bloomberg News, July 22, 2013

[21] CNN.com, May 9, 2013

[22] WHYY "Friday Arts," April 5, 2013

[23] Design News, March 21, 2013

[24] NHK-TV, March 17, 2013

[25] Popular Science, February 1, 2013

[26] Philadelphia Inquirer, November 27, 2012

[27] NBCNews.com, October 24, 2012

[28] Technically Philly, October 24, 2012

[29] IEEE Spectrum, October 24, 2012

[30] Wired.com, October 24, 2012

[31] PC Mag, October 24, 2012

[32] New York Times, October 24, 2012

[33] New Scientist, October 25, 2012

[34] Gizmag, October 25, 2012

[35] Geekologie, October 25, 2012

[36] Ars Technica, October 25, 2012

[37] National Public Radio (online), October 26, 2012

[38] National Public Radio (audio), October 26, 2012

Teaching

Teaching Experience

Daniel Lofaro has recognition from his students multiple times for his teaching. Specifically please see:

- Received Patriot Success/Beacon Survey **"Person on campus who has helped them the most in the college success"** in 2018, 2016, and 2015.
- Also received the **Career Connection Faculty Award** (nominee) in 2015.

[1] *(UMD) ENPM-808X*, "Software development for robotics." - Graduate, Fall 2021

[2] *(UMD) ENPM-808X*, "Software development for robotics." - Graduate, Fall 2020

[3] *(GMU) ECE-370*, "Robot design." - Undergraduate, Fall 2020

[4] *(GMU) ECE-330*, "Circuit theory." - Undergraduate, Fall 2020

[5] *(GMU) ECE-301*, "Digital electronics/lab." - Undergraduate, Spring 2020

[6] *(GMU) ECE-498*, "Design for manufacturing." - Undergraduate, Fall 2019

[7] *(GMU) ECE-370*, "Robot design." - Undergraduate, Spring 2019

[8] *(GMU) ENGR-498*, "High dof aerial vehicle design and humanoid robotics." - Undergraduate, Spring 2019

[9] *(GMU) ECE-421/SYST-421*, "Classical systems and control theory." - Undergraduate, Fall 2018

[10] *(GMU) ECE-450*, "Mobile robots." - Undergraduate, Fall 2018

[11] *(GMU) ECE-370*, "Robot design." - Undergraduate, Spring 2018

[12] *(GMU) ECE-421/SYST-421*, "Classical systems and control theory." - Undergraduate, Spring 2018

[13] *(GMU) ECE-421/SYST-421*, "Classical systems and control theory." - Undergraduate, Fall 2017

[14] *(GMU) ECE-590*, "Robot design and implementation." - Graduate, Spring 2017

[15] *(GMU) ECE-499*, "Robot design and implementation." - Undergraduate, Spring 2017

[16] *(GMU) ECE-429*, "Control systems lab." - Undergraduate, Spring 2017

[17] *(GMU) ECE-590*, "Introduction to humanoid robotics." - Graduate, Fall 2016

[18] *(GMU) ECE-470*, "Introduction to humanoid robotics." - Undergraduate, Fall 2016

[19] *(GMU) ECE-499*, "Robot design and implementation." - Undergraduate, Spring 2016

[20] *(GMU) ECE-590*, "Robot design and implementation." - Graduate, Spring 2016

[21] *(GMU) ECE-429*, "Control systems lab." - Undergraduate, Spring 2016

[22] *(GMU) ECE-499*, "Robot design and implementation." - Undergraduate, Fall 2015

[23] *(GMU) ECE-590*, "Robot design and implementation." - Graduate, Fall 2015

[24] *(GMU) ECE-429*, "Control systems lab." - Undergraduate, Spring 2015

[25] *(GMU) ECE-499*, "Humanoid robotics." - Undergraduate, Fall 2014

[26] *(GMU) ECE-590*, "Humanoid robotics." - Graduate, Fall 2014

[27] *(GMU) ECE-590*, "Humanoid robotics." - Graduate, Spring 2014

[28] *(GMU) ECE-499*, "Humanoid robotics." - Undergraduate, Spring 2014

Courses and Teaching Material Developed

[1] *Internet Tutorial*, "Lofaro labs robotics wiki tutorial page - instructions on how to build robots, electronics, programming, linux usage, and more." Level: http://wiki.lofarolabs.com, Started: Spring 2014 - Hits: 9.5M+

[2] *SHOP-101 (Unofficial Course)*, "Introduction to machining and design for machining." Level: Undergraduate/Graduate, Occurrences: 4 terms, First Offered: Fall 2017

[3] *ECE-370/ECE-590*, "Robot design." Level: Undergraduate/Graduate, Occurrences: 5 terms total (2 terms as ECE-370; 3 terms as ECE-499/590), First Offered: Fall 2015

[4] *ECE-470/ECE-590*, "Humanoid robotics."Level: Undergraduate/Graduate, Occurrences: 3 terms total (1 term as ECE-470; 2 terms as ECE-499/590), First Offered: Spring 2014

[5] *ECE-429*, "Redesign of control systems lab."Level: Undergraduate, Not implemented due to unexpected budget modifications, 2018

Professional Service, Boards, Committees, and Public Service

Edited Volumes / Editorship

Daniel Lofaro has been the Associate Editor for 15 conferences/edited volumes

[1] **Associate Editor**, IEEE-RAS International Conference on Robots and Automation, **IEEE-ICRA 2020**

[2] **Associate Editor**, IEEE-RAS International Conference on Intelligent Robots and Systems, **IEEE-IROS 2020**

[3] **Associate Editor**, IEEE-RAS Ubiquitous Robots (formerly URAI), **IEEE-UR 2020**

[4] **Associate Editor**, IEEE-RAS International Conference on Robots and Automation, **IEEE-ICRA 2019**

[5] **Associate Editor**, IEEE-RAS Ubiquitous Robots (formerly URAI), **IEEE-UR 2019**

[6] **Associate Editor**, IEEE-RAS International Conference on Robots and Automation, **IEEE-ICRA 2018**

[7] **Associate Editor**, IEEE-RAS International Conference on Humanoid Robots, **IEEE-Humanoids 2018**

[8] **Associate Editor**, IEEE-RAS Ubiquitous Robots (formerly URAI), **IEEE-UR 2018**

[9] **Associate Editor**, IEEE-RAS International Conference on Humanoid Robots, **IEEE-Humanoids 2017**

[10] **Associate Editor**, IEEE-RAS International Conference on Robots and Automation, **IEEE-ICRA 2017**

[11] **Associate Editor**, IEEE-RAS International Conference on Humanoid Robots, **IEEE-Humanoids 2016**

[12] **Associate Editor**, IEEE-RAS Ubiquitous Robots and Ambient Intelligence, **IEEE-URAI 2016**

[13] **Associate Editor**, IEEE-RAS International Conference on Humanoid Robots, **IEEE-Humanoids 2015**

[14] **Associate Editor**, IEEE-RAS Ubiquitous Robots and Ambient Intelligence, **IEEE-URAI 2015**

[15] **Associate Editor**, IEEE-RAS Ubiquitous Robots and Ambient Intelligence, **IEEE-URAI 2014**

Committees, Chairs, and Reviewing

Daniel Lofaro has been the Associate Editor and a reviewer for multiple conferences and publication. He has organized multiple workshops all around the world. He has been a chair within multiple conferences including being the treasurer and travel chair for IEEE-RAS conferences. He has been on multiple IEEE award committees and participated in numerous major STEM outreach events. Additionally he has participated in many STEM outreach events specifically for members of the U.S. Government (state and federal).

[1] **Co-Organizer**, Second Office of Naval Research (ONR) Virtual Early Applied Research Discovery & Innovation (D&I) Swarm Robotics Workshop, **2021**

[2] **Chair - Workshop**, Workshop on Robotic Swarms and Emergent Behavior, **IEEE-RAS UR 2021**

[3] **Co-Organizer**, Office of Naval Research (ONR) Virtual Early Applied Research Discovery & Innovation (D&I) Swarm Robotics Workshop, **2020**

[4] **Chair - Workshop**, Workshop on Future Trust in Robotics, Autonomous Systems, and Artificial Intelligence, **IEEE-RAS UR 2020**

[5] **Committee Member**, IEEE Medal for Environmental & Safety Technologies Committee, **2020**

[6] **Co-Organizer**, Co-Robot Workshop, **U.S. Embassy, Croatia 2019**

[7] **Chair - Treasurer**, IEEE-RAS International Conference on Humanoid Robots, **IEEE-Humanoids 2019**

[8] **Govt. Outreach**, Capital MakerFaire (U.S. Senate), **2019**

[9] **Workshop Organizer**, IEEE-RAS International Conference on Humanoid Robots, **IEEE-Humanoids 2019**

[10] **STEM-Outreach**, "Semper Force" at the Marine Corps Museum, **2019**

[11] **Reviewer**, IEEE-RAS International Conference on Humanoid Robots, **IEEE-Humanoids 2019**

[12] **Reviewer**, IEEE-RAS International Conference on Robots and Automation, **IEEE-ICRA 2019**

[13] **Reviewer**, IEEE-RAS International Conference on Intelligent Robots and Systems, **IEEE-IROS 2019**

[14] **Reviewer**, IEEE-RAS Ubiquitous Robots (formerly URAI), **IEEE-UR 2019**

[15] **Mentor**, Mentor to FIRST Robotics Team 6700 "X-Bots, " **2019**

[16] **STEM-Outreach**, Robotics Day at the Marine Corps Museum, **2019**

[17] **Reviewer**, IEEE-RAS International Conference on Humanoid Robots, **IEEE-Humanoids 2018**

[18] **Reviewer**, IEEE-RAS International Conference on Robots and Automation, **IEEE-ICRA 2018**

[19] **Committee Member**, IEEE Medal for Environmental & Safety Technologies Committee, **2018**

[20] **Reviewer**, IEEE-RAS International Conference on Intelligent Robots and Systems, **IEEE-IROS 2018**

[21] **STEM-Outreach**, "Semper Force" at the Marine Corps Museum, **2018**

[22] **Reviewer**, IEEE-RAS Ubiquitous Robots (formerly URAI), **IEEE-UR 2018**

[23] **Govt. Outreach**, Capital MakerFaire (U.S. Senate), **2018**

[24] **Workshop Organizer**, IEEE-RAS International Conference on Humanoid Robots, **IEEE-Humanoids 2018**

[25] **STEM-Outreach**, NoVA MakerFaire, **2018**

[26] **Mentor**, Mentor to FIRST Robotics Team 6700 "X-Bots, " **2018**

[27] **STEM-Outreach**, Robotics Day at the Marine Corps Museum, **2018**

[28] **Reviewer**, IEEE-RAS International Conference on Humanoid Robots, **IEEE-Humanoids 2017**

[29] **Reviewer**, IEEE-RAS International Conference on Robots and Automation, **IEEE-ICRA 2017**

[30] **Chair - Travel**, IEEE-RAS International Conference on Intelligent Robots and Systems, **IEEE-IROS 2017**

[31] **Reviewer**, IEEE-RAS International Conference on Intelligent Robots and Systems, **IEEE-IROS 2017**

[32] **Committee Member**, IEEE Medal for Environmental & Safety Technologies Committee, **2017**

[33] **STEM-Outreach**, NoVA MakerFaire, **2017**

[34] **STEM-Outreach**, Robotis Week Kickoff Demo at the Smithsonian, **2017**

[35] **Workshop Organizer**, IEEE-RAS International Conference on Humanoid Robots, **IEEE-Humanoids 2017**

[36] **Mentor**, Mentor to FIRST Robotics Team 6700 "X-Bots, " **2017**

[37] **STEM-Outreach**, Robotics Day at the Marine Corps Museum, **2017**

[38] **Reviewer**, IEEE-RAS International Conference on Humanoid Robots, **IEEE-Humanoids 2016**

[39] **Reviewer**, IEEE-RAS International Conference on Robots and Automation, **IEEE-ICRA 2016**

[40] **STEM-Outreach**, National MakerFaire, **2016**

[41] **Reviewer**, IEEE-RAS International Conference on Intelligent Robots and Systems, **IEEE-IROS 2016**

[42] **Chair - Video**, IEEE-RAS International Conference on Humanoid Robots, **IEEE-Humanoids 2016**

[43] **Reviewer**, IEEE-RAS Ubiquitous Robots and Ambient Intelligence, **IEEE-URAI 2016**

[44] **STEM-Outreach**, HayMaker Faire, **2016**

[45] **STEM-Outreach**, Robotis Week Kickoff Demo at the Smithsonian, **2016**

[46] **Workshop Organizer**, IEEE-RAS International Conference on Humanoid Robots, **IEEE-Humanoids 2016**

[47] **Committee**, NSF-DHS Policy for Autonomy Workshop, **2016**

[48] **STEM-Outreach**, NoVA MakerFaire, **2016**

[49] **STEM-Outreach**, NoVA Mini MakerFaire, **2016**

[50] **Mentor**, Mentor to FIRST Robotics Team 6700 "X-Bots, " **2016**

[51] **STEM-Outreach**, Robotics Day at the Marine Corps Museum, **2016**

[52] **Reviewer**, IEEE-RAS International Conference on Humanoid Robots, **IEEE-Humanoids 2015**

[53] **Reviewer**, IEEE-RAS International Conference on Robots and Automation, **IEEE-ICRA 2015**

[54] **STEM-Outreach**, K-12 STEM Symposium, **2015**

[55] **Reviewer**, IEEE-RAS International Conference on Intelligent Robots and Systems, **IEEE-IROS 2015**

[56] **Reviewer**, IEEE-RAS Ubiquitous Robots and Ambient Intelligence, **IEEE-URAI 2015**

[57] **STEM-Outreach**, HayMaker Faire, **2015**

[58] **STEM-Outreach**, National MakerFaire, **2015**

[59] **STEM-Outreach**, NoVA Mini MakerFaire, **2015**

[60] **Govt. Outreach**, Presentation to Virginia legislatures House Appropriations and Finance Committees, **2015**

[61] **STEM-Outreach**, Advisor to winning team at WearHacks, **2015**

[62] **Mentor**, Mentor to FIRST Robotics Team 6700 "X-Bots, " **2015**

[63] **STEM-Outreach**, Robotis Week Kickoff Demo at the Smithsonian, **2015**

[64] **STEM-Outreach**, NoVA MakerFaire, **2015**

[65] **Reviewer**, IEEE-RAS International Conference on Humanoid Robots, **IEEE-Humanoids 2014**

[66] **Reviewer**, IEEE-RAS International Conference on Robots and Automation, **IEEE-ICRA 2014**

[67] **STEM-Outreach**, NoVA Mini MakerFaire, **2014**

[68] **Reviewer**, IEEE-RAS International Conference on Intelligent Robots and Systems, **IEEE-IROS 2014**

[69] **STEM-Outreach**, NoVA MakerFaire, **2014**

[70] **Reviewer**, IEEE-RAS Ubiquitous Robots and Ambient Intelligence, **IEEE-URAI 2014**

[71] **Mentor**, Mentor to FIRST Robotics Team 6700 "X-Bots, " **2014**

[72] **Workshop Chair**, North Atlantic Treaty Organization (NATO) Advanced Study Institute on Unmanned Systems (ASI) in Cesme, Turkey, **NATO-ASI 2012**

[73] **STEM-Outreach**, NYC MakerFaire, **2012**

[74] **Web Designer**, IEEE-RAS International Conference on Robotics and Automation, **IEEE-ICRA 2012**

[75] **STEM-Outreach**, NYC MakerFaire, **2011**

[76] **Mentor**, All female FIRST Robotics Team 709 "Femme Tech Fatale", Agnis Irwin, **2006-2010**

[77] **STEM-Outreach**, Please Touch Museum, **2009**

[78] **STEM-Outreach**, Countless Live Humanoid Demos to K-12 Students, **2008-2013**

Professional Organisations/Society Memberships

[1] Institute of Electrical and Electronics Engineers (IEEE) - Applying for Senior Member Status

[2] Institute of Electrical and Electronics Engineers Robotics and Automation Socieity (IEEE-RAS)

[3] Association for Computing Machinery (ACM)