

LIAM PAULL

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Citizenship: Canadian

Languages: English (mother tongue) and French (fluent)

Education

2008 - 2013 Ph.D., Electrical and Computer Engineering
University of New Brunswick (UNB)
Advisors: Dr. Mae Seto, Dr. Liuchen Chang, and Dr. Howard Li
Thesis: "Robust Online Adaptive Sensor-Driven Survey Planning for Single and Multiple Autonomous Underwater Vehicles"

2007 - 2008 M.Sc., Electrical and Computer Engineering (Not Completed)
University of New Brunswick (UNB)
Note: Fast-tracked to Ph.D. Results were published in [J12]

2001 - 2004 B.Sc., Computer Engineering
McGill University (Dean's Honour List)

Work Experience

2017 - present Assistant Professor (Université de Montréal) - Département d'Informatique et de Recherche Opérationnelle

2017 - present Faculty Fellow - Element AI

2015 - present Chief Operating Officer - Duckietown Engineering Co.

2015 - 2017 Research Scientist (MIT) - Technical Lead CSAIL/Toyota Driverless Car Project

2013 - 2015 Postdoctoral Associate (MIT) - Marine Robotics Group

2010 - 2012 Research Assistant - Defense R&D Canada

2009 Research Assistant - Sustainable Power Research Group, UNB

Teaching Experience

Winter 2018 Instructor - Systèmes d'exploitation (Operating Systems) (Université de Montréal IFT2245)

Fall 2017, 2018 Developer and Lecturer - Autonomous Vehicles (a.k.a. Duckietown) (Université de Montréal IFT6080, IFT6757)

Spring 2016 Developer and Lecturer - Autonomous Vehicles (a.k.a Duckietown) (MIT 2.166)

Spring 2014,15 Teaching Assistant - Marine Vehicle Autonomy (MIT 2.680)

Advisory Experience

Leadership:

2017 - present Founding member of the Montreal Robotics group at Université de Montréal

2015 - present Founder and director of the Duckietown Foundation [C6][C9].

2015 - 2017 Lead of a team of three software/hardware engineers, three postdocs and four graduate students
CSAIL/Toyota autonomous car project [C3][C4][C7][J3].

2013 - 2014 Co-led the MIT RobotX team that won first place at the inaugural RobotX competition in Singapore in Oct. 2014 [C16].

2011 Student lead of the COBRA Unmanned Systems Canada unmanned ground vehicle competition team (first place).

Mentor / Advising Graduate Students and Postdocs:

(degree, location, advising status) indicated for each student/postdoc followed by project title if available

Starting Jan. 2019 Florian Golemo (PostDoc, Montreal, co-advisor with Aaron Courville)

Starting Jan. 2019 Bhairav Mehta (MSc, Montreal, co-advisor with Chris Pal) - Building a Differentiable Simulator

2017 - present	Maxime Chevalier-Boisvert (Research scientist, Montreal, co-advisor with Yoshua Bengio)
2017 - present	Sai Krishna Gottipati (MSc, Montreal, advisor) - Learning map representations for active SLAM
2017 - present	Nithin Visisth (MSc, Montreal, advisor) - Disentangling factors of variation for sim-to-real reinforcement learning
2017 - present	Breandan Considine (MSc, Montreal, co-advisor with Michalis Famelis) - Programming models for machine learning with applications in robotics
2018 - present	J. Krishna Murthy (PhD, Montreal, advisor) - Self-supervision for learning perceptual representations [C2]
2018 - present	Vincent Mai (PhD, Montreal, advisor) - Multi-agent surveillance. Previous work published in [J1]
2018 - present	Ruixiang Zhang (PhD, Montreal, co-advisor with Yoshua Bengio)
2018 - present	Gunshi Gupta (MSc, Montreal, advisor)
2018 - present	Manfred Diaz (PhD, Montreal, advisor) - Uncertainty estimation for interactive online imitation learning
2016 - present	Teddy Ort (PhD, MIT, mentor) - Autonomous vehicle localization based on laser intensity [C4]
2017 - 2018	Manfred Diaz (MSc, Concordia, co-advisor with Thomas Fevens) - Interactive and Uncertainty-aware Imitation Learning: Theory and Applications
2017	Veronica Lane (MEng MIT, mentor) - Obstacle Detection and Tracking in an Urban Environment Using 3D LiDAR and a Mobileye 560
2017	Bethany LaPenta (MEng MIT, advisor) - The Ducklingbot – a Self-Driving Robot on a Pi Zero
2014-16	Beipeng Mu (MEng MIT, mentor) - Task-driven Navigation and Mapping with Resource Constraints [J4][C15][C11][C10]
2013-15	Ross Finman (Ph.D. MIT, mentor) - 3D object-based mapping [C18]
2013-15	Janille Maragh (MSc MIT, mentor) - Cooperative localization of AUVs

Mentor / Advisor Undergraduate Projects:

2018	Zihan Wang (intern, Montreal, co-advisor with Yoshua Bengio)
2018	Bhairav Mehta (intern, Montreal, co-advisor with Chris Pal)
2018	Sarthak Sharma (intern, Montreal, advisor)
2018	Homanga Bharadhwaj (intern, Montreal, co-advisor with Yoshua Bengio)
2018	Adam Sigal (intern, Montreal, advisor) - recipient of IVADO Undergraduate Research Scholarship
2018	Abdelhakim Qbaich (intern, Montreal, advisor) - recipient of NSERC Undergraduate Student Research Award (USRA)
2018	Dhaivat Bhatt (intern, Montreal, advisor)
2016 - 2017	Alexander Amini (Undergrad, MIT, mentor) - Distributed end-to-end deep learning for autonomous driving [C3]
2016 - 2017	Tom Yan (Undergrad, MIT, advisor) - Road segmentation with deep learning
2016	Chandon Subedi (Undergrad, MIT, advisor) - Autonomous Duckiebot detection
2014-15	Ernesto Ramirez (Undergrad, MIT, advisor) - Multi-robot mapping with turtlebots
2012	Denise Sweet (Undergrad, UNB, mentor) - Fusing RGB and thermal imagery
2011	Scott Mallais (Undergrad, UNB, mentor) - Underwater acoustic communications
2010	Yao Kok and Shang Yang (Undergrad, UNB, mentor) - Hexagon cell decomposition for convex polygons
2009	Derek McKay (Undergrad, UNB, mentor) - Testing of a domestic electric water heater model

Accepted Grant Applications

- “Teaching Robots How to Build Maps with Deep Reinforcement Learning” Fonds de recherche nature et technologies Quebec (FQNRT) – Établissement de nouveaux chercheurs et de nouvelles chercheuses universitaires. 2018-2020. Total value \$50 800.
- “Learning Representations for Autonomous Mobile Robotics to Enable Complex Tasks.” NSERC Discovery Grant. Principal investigator. 2018-2023. Total value \$140 000.
- “Autonomous Mobile Robotics” Canadian Foundation for Innovation. Principal investigator. 2018-2023. Total value \$372 230.
- “Next Generation Deep Learning: from pattern recognition to AI - Lifelong SLAM for Indoor and Autonomous Vehicle Navigation ” Samsung Advanced Institute of Technology. Co-Principal investigator with Yoshua Bengio (lead PI), Aaron Courville, Pascal Vincent, Christopher Pal, Simon Lacoste-Julien, and Laurent Charlin. 2018-2021. Total value for entire project \$1 650 000. \$300 000 allocated to Liam Paull.

- “Resource Constrained Cooperative Underwater Localization and Mapping.” Office of Naval Research under Code 32. 2016. Co-written with Prof. John J. Leonard.

Research Collaborations

2017-present	Université de Montréal - Montreal institute for Learning Algorithms
2017-present	Massachusetts Institute of Technology - Daniela Rus
2017-present	ETZ Zurich - Andrea Censi
2017-present	Concordia University - Thomas Fevens
2018-present	IIT Hyderabad - J. Madhava Krishna
2018-present	Univerité de Montréal - Michalis Famelis

Selected Publications

For complete list please visit people.csail.mit.edu/lpaul

Journal Articles

- [J1] Vincent Mai, Mina Kamel, Matthias Krebs, Andreas Schaffner, Daniel Meier, Liam Paull, Roland Siegwart. “Local Positioning System Using UWB Range Measurements for an Unmanned Blimp” *Robotics and Automation - Letters*. In press. 2018.
- [J2] Liam Paull, Mae Seto, John J. Leonard, Howard Li. “Probabilistic Cooperative Mobile Robot Area Coverage and its Application to Autonomous Seabed Mapping” *International Journal of Robotics Research*. 37(1). p. 21-45. 2018.
- [J3] Wilko Schwarting, Javier Alonso-Mora, Liam Paull, Sertac Karaman, Daniela Rus “Safe Nonlinear Trajectory Generation for Parallel Autonomy with a Dynamic Vehicle Model.” *IEEE Transactions on Intelligent Transportation Systems*. Early Access. p. 1 - 15. 2018.
- [J4] Beipeng Mu, Liam Paull, Aliakbar Agha-Mohammadi, John J. Leonard, Jonathan P. How. “Two-Stage Focused Inference for Resource-Constrained Collision-Averse Navigation.” *IEEE Transactions on Robotics*. 33(1). p. 124-140. 2017.
- [J5] Liam Paull, Carl Thibault, Amr Nagaty, Mae Seto, Howard Li. “Sensor-Driven Area Coverage for an Autonomous Fixed-Wing Unmanned Aerial Vehicle.” *IEEE Transactions on Cybernetics*. 44(9). p. 1605-1618. 2014.
- [J6] Liam Paull, Sajad Saeedi, Mae Seto, Howard Li. “AUV Navigation and Localization - A Review.” *IEEE Journal of Oceanic Engineering*. 39(1). p. 131-149. 2014.
- [J7] Sajad Saeedi, Liam Paull, Michael Trentini, and Howard Li. “Group Mapping: A Topological Approach to Map Merging for Multiple Robots.” *IEEE Robotics and Automation Magazine*. 21(2). p. 60-72. 2014.
- [J8] Sajad Saeedi, Liam Paull, Michael Trentini, Mae Seto, and Howard Li. “Map Merging for Multiple Robots using Hough Peak Matching.” *Robotics and Autonomous Systems*. 62(10). p. 1408-1424. 2014.
- [J9] Sajad Saeedi, Liam Paull, Michael Trentini, and Howard Li. “Occupancy Grid Map Merging for Multiple-robot Simultaneous Localization and Mapping.” *International Journal of Robotics and Automation*. 30(2), 149-157. 2014.
- [J10] Liam Paull, Sajad Saeedi, Mae Seto, Howard Li. “Sensor-Driven Online Coverage Planning for Autonomous Underwater Vehicles.” *IEEE/ASME Transactions on Mechatronics*. 18(6). p. 1827-1838. 2013.
- [J11] Sajad Saeedi, Liam Paull, Mike Trentini, Howard Li. “Neural Network-based Multiple Robot Simultaneous Localization and Mapping”. *IEEE Transactions on Neural Networks*. 22(12), p. 2376-2387. 2012.
- [J12] Liam Paull, Howard Li, Liuchen Chang. “A Novel Domestic Electric Water Heater Model for a Multi-Objective Demand Side Management Program.” *Electric Power Systems Research*. 80(12), p. 1446-1451. 2010.
- [J13] Howard Li, Liam Paull, Yevgen Biletskiy, Simon Yang. “Document Classification Using Information Theory and a fast Back-Propagation Neural Network.” *Intelligent Automation and Soft Computing*. 16(1), p. 25-38. 2010.

Book Chapters

- [B1] Liam Paull, Mae Seto, Sajad Saeedi, John Leonard. “Navigation for Underwater Vehicles” in *Encyclopedia of Robotics*. Springer 2018. In production.
- [B2] Liam Paull, Sajad Saeedi, Howard Li. “Path Planning for Autonomous Underwater Vehicles.” in *Marine Robot Autonomy*. Springer 2012. p. 177-224.
- [B3] M.L. Seto, L. Paull, S. Saeedi. “Introduction to Autonomy for Marine Robots.” in *Marine Robot Autonomy*. Springer 2012. p. 1-46.

Refereed Conference and Workshop Publications

- [C1] Andrea Censi, Liam Paull, Jacopo Tani, Thomas Ackermann, Oscar Beijbom, Berabi Berkai, Gianmarco Bernasconi, Anne Kirsten Bowser, Simon Bing, Pin-Wei David Chen, Yu-Chen Chen, Maxime Chevalier-Boisvert, Brendan Considine, Justin De Castri, Maurilio Di Cicco, Manfred Diaz, Paul Aurel Diederichs, Florian Golemo, Ruslan Hristov, Lily Hsu, Yi-Wei Daniel Huang, Chen-Hao Peter Hung, Qing-Shan Jia, Julien Kindle, Dzenan Lapandic, Cheng-Lung Lu, Sunil Mallya, Bhairav Mehta, Aurel Neff, Eryk Nice, Yang-Hung Allen Ou, Abdelhakim Qbaich, Josefine Quack, Claudio Ruch, Adam Sigal, Niklas Stolz, Alejandro Unghia, Ben Weber, Sean Wilson, Zi-Xiang Xia, Timothius Victorio Yasin, Nivethan Yogarajah, Julian Zilly, Yoshua Bengio, Tao Zhang, Hsueh-Cheng Wang, Stefano Soatto, Magnus Egerstedt, Emilio Frazzoli. “The AI Driving Olympics at NIPS 2018” *Robotics: Science and Systems Workshop on New Benchmarks, Metrics, and Competitions for Robotic Learning* 1-9. 2018.
- [C2] Ganesh Iyer, J. Krishna Murthy, Gunshi Gupta, K. Madhava Krishna, Liam Paull. “Geometric Consistency for Self-Supervised End-to-End Visual Odometry” *Computer Vision and Pattern Recognition 1st International Workshop on Deep Learning for Visual SLAM*. 1-8. 2018.
- [C3] Alexander Amini, Liam Paull, Thomas Balch, Sertac Karaman, Daniela Rus. “Learning Steering Bounds for Parallel Autonomous Systems” *IEEE International Conference on Robotics and Automation (ICRA)*. 2018. Accepted.
- [C4] Teddy Ort, Liam Paull, Daniela Rus. “Autonomous Vehicle Navigation in Rural Environments without Detailed Prior Maps” *IEEE International Conference on Robotics and Automation (ICRA)*. 2018. Accepted.
- [C5] Guy Rosman, Liam Paull, Daniela Rus. “Hybrid Control and Learning with Coresets for Autonomous Vehicles” *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*. 2017.
- [C6] Liam Paull, Jacopo Tani, Heejin Ahn, Javier Alonso-Mora, Luca Carlone, Michal Cap, Yu Fan Chen, Changhyun Choi, Jeff Dusek, Daniel Hoehener, Shih-Yuan Liu, Michael Novitzky, Igor Franzoni Okuyama, Jason Pazis, Guy Rosman, Valerio Varricchio, Hsueh-Cheng Wang, Dmitry Yershov, Hang Zhao, Michael Benjamin, Christopher Carr, Maria Zuber, Sertac Karaman, Emilio Frazzoli, Domitilla Del Vecchio, Daniela Rus, Jonathan How, John Leonard, Andrea Censi. “Duckietown: an Open, Inexpensive and Flexible Platform for Autonomy Education and Research” *IEEE Conference on Robotics and Automation*. 2017.
- [C7] Wilko Schwarting, Javier Alonso-Mora, Liam Paull, Sertac Karaman, Daniela Rus “Parallel Autonomy in Automated Vehicles: Trajectory Generation with Real-time Obstacle Avoidance and Human Input Optimization” *IEEE Conference on Robotics and Automation*. 2017.
- [C8] Felix Naser, David Dorhout, Stephen Proulx, Scott Drew Pendleton, Hans Andersen, Wilko Schwarting, Liam Paull, Javier Alonso-Mora, Marcelo H. Ang Jr., Sertac Karaman, Russ Tedrake, John Leonard, Daniela Rus. “A Parallel Autonomy Research Platform” *IEEE Intelligent Vehicles Symposium*. 2017.
- [C9] Jacopo Tani, Liam Paull, Andrea Censi, Maria Zuber, Daniela Rus, Jonathan How and John Leonard. “Duckietown: an Innovative Way to Teach Autonomy.” *EduRobotics Conference*. 2016.
- [C10] Beipeng Mu, Matthew Giamou, Liam Paull, Ali-akbar Agha-mohammadi, John J. Leonard, Jonathan P. How. “Information-based Active SLAM via Topological Feature Graphs.” *IEEE Conference on Decision and Control*. 2016.
- [C11] Beipeng Mu, Shih-Yuan Liu, Liam Paull, John Leonard, Jonathan How. “SLAM with Objects using a Nonparametric Pose Graph.” *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*. 2016.
- [C12] Kevin Ekenhoff, Liam Paull, Guoquan Huang. “Decoupled, Consistent Node Removal and Edge Sparsification for Graph-based SLAM ” *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*. 2016.

- [C13] Liam Paull, Guoquan Huang, John Leonard. “A Unified Resource-Constrained Framework for Graph SLAM.” *IEEE International Conference on Robotics and Automation (ICRA)*. 2016.
- [C14] Hsueh-Cheng Wang, Chelsea Finn, Liam Paull, Michael Kaess, Ruth Rosenholtz, Seth Teller, and John Leonard. “Bridging Text Spotting and SLAM with Junction Features.” *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*. 2015.
- [C15] Beipeng Mu, Ali Agha, Liam Paull, Matt Graham, Jonathan How, John J Leonard. “Two-Stage Focused Inference for Resource-Constrained Collision-Free Navigation.” *Robotics: Science and Systems (RSS)*. 2015.
- [C16] Arthur Anderson, Erin Fischell, Thom Howe, Tom Miller, Arturo Parrales-Salinas, Nick Rypkema, David Barrett, Michael Benjamin, Alex Brennen, Michael DeFillipo, John Leonard, Liam Paull, Henrik Schmidt, Nick Wang, and Alon Yaari. “An Overview of MIT-Olin’s Approach in the AUVSI RobotX Competition.” *Field and Service Robotics (FSR)*. 2015.
- [C17] Liam Paull, Guoquan Huang, Mae Seto, John Leonard. “Communication-Constrained Multi-AUV Cooperative SLAM.” *IEEE International Conference on Robotics and Automation (ICRA)*. 2015.
- [C18] Ross Finman, Liam Paull, John Leonard. “Toward Object-based Place Recognition in Dense RGB-D Maps.” *IEEE International Conference on Robotics and Automation (ICRA) Workshop on Place Recognition in Changing Environments*. 2015.
- [C19] Liam Paull, Mae Seto, John Leonard. “Decentralized Cooperative Trajectory Estimation for Autonomous Underwater Vehicles.” *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*. 2014.
- [C20] Liam Paull, Mae Seto, Howard Li. “Area Coverage Planning that Accounts for Pose Uncertainty with an AUV Seabed Surveying Application.” *IEEE International Conference on Robotics and Automation (ICRA)*. 2014.
- [C21] Ross Finman, Thomas Whelan, Liam Paull, John Leonard. “Physical Words for Place Recognition in RGB-D Maps.” *International Conference on Robotics and Automation Workshop on Place Recognition in Changing Environments*. 2014.
- [C22] Liam Paull, Sajad Saeedi, Mae Seto, Howard Li. “Sensor Driven Online Coverage Planning for Autonomous Underwater Vehicles.” *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*. 2012.
- [C23] Liam Paull, Gaetan Severac, Guilherme V. Raffo, Julian M. Angel, Harold Boley, Maki K. Habib, Bao Nguyen, Veera R. S. Kumar, Sajad Saeedi G., Ricardo Sanz, Mae Seto, Aleksandar Stefanovski, Michael Trentini, Howard Li. “Towards An Ontology for Autonomous Robots.” *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*. 2012.
- [C24] Sajad Saeedi G., Liam Paull, Michael Trentini, Mae Seto, Howard Li. “Map Merging Using Hough Peak Matching.” *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*. 2012.
- [C25] Sajad Saeedi G., Liam Paull, Michael Trentini, Mae Seto, Howard Li. “Efficient Map Merging Using a Probabilistic Generalized Voronoi Diagram.” *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*. 2012.
- [C26] Sajad Saeedi G., Liam Paull, Michael Trentini, Howard Li. “Neural Network-based Multiple Robot Simultaneous Localization and Mapping.” *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*. 2011.
- [C27] Sajad Saeedi G., Liam Paull, Michael Trentini, Howard Li. “Multiple Robot Simultaneous Localization and Mapping.” *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*. 2011.
- [C28] Liam Paull, Sajad Saeedi G., Mae Seto, Howard Li. “A Multi-Agent Framework with MOOS-IvP for Autonomous Underwater Vehicles with Sidescan Sonar Sensors.” *International Conference on Autonomous and Intelligent Systems (ICAIS)*. 2011.
- [C29] Liam Paull, Sajad Saeedi, Howard Li, Vincent Myers. “An Information Gain Based Adaptive Path Planning Method for an Autonomous Underwater Vehicle Using Sidescan Sonar.” *IEEE Conference on Automation Science and Engineering (CASE)*. 2010.

Graduate Thesis

- [T1] “Robust Online Adaptive Sensor-Driven Survey Planning for Single and Multiple Autonomous Underwater Vehicles” University of New Brunswick. November 2013.

Academic Services

Conferences / Workshops Organized

- The AI Driving Olympics live competition at the Neural Information Processing Systems conference
- RSS 2016 Workshop organizer: Geometry and Beyond - Representations, Physics, and Scene Understanding for Robotics
- ICRA 2016 Workshop organizer: Marine Robot Navigation and Localization
- Northeastern Robotics Colloquium 2015 co-organizer
- MOOS-DAWG 2015 co-organizer

Grant Review Services

- IVADO Grant Selection Committee 2017
- NSERC Mitacs Accelerate Reviewer 2017-18
- National Science Foundation Ocean Technology and Interdisciplinary Coordination Program Reviewer

Conference Program/Editorial Committees

- Associate Editor: IROS 2017-18
- Associate Editor: Robotics and Automation Letters 2017-18
- Associate Editor: ICRA 2016
- Program Committee: Robotics: Science and Systems (RSS) 2015-18
- Program Committee: CVPR Workshop on Autonomous Driving (WAD2018)
- Program Committee: Computer and Robot Vision (CRV) 2018
- Program Committee: Canadian Conference on Computer and Electrical Engineering (CCECE) 2015

Selected Journals and Conferences Reviewed

- IEEE Transactions on {Robotics, Neural Networks and Learning Systems, Controls Systems Technology, Cybernetics, Aerospace and Electronic Systems}
- International Journal of Robotics Research
- Journal of Field Robotics
- IEEE Control Systems Magazine
- Journal of Guidance, Control, and Dynamics
- IEEE Journal of Oceanic Engineering
- IEEE International Conference on Robotics and Automation (ICRA)
- IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)
- Robotics: Science and Systems (RSS)

Graduate Thesis Committees

- Arnaud Shoentgen “Tools for Liquid Control in Computer Graphics” Predoc Exam 2018
- Kyle Kastner “Sequential Decision Modeling In Uncertain Conditions” Predoc Exam 2018
- Andre Phu-van Nguyen “Méthodes d’inspection automatique d’infrastructure par robot mobile” 2017.
- Beipeng Mu “Task-driven Navigation and Mapping with Resource Constraints” 2016.
- Matthew Graham “Robust Bayesian state estimation and mapping” 2015.
- Theodore Steiner “Utility-based map reduction for ground and flight vehicle navigation” 2015.

Other Committees and Activities

- Presenter at the Séjour informatique 2018
- DIRO Recruitment Committee 2017-present
- MIT EECS Graduate Admissions Committee 2017

Recent Invited Talks

6/2018 Element AI, Toronto

5/2018	Honeywell Symposium Keynote Address, Atlanta
4/2018	Fourth IEEE Research Boost, Montreal
4/2018	Google Brain, Montreal
1/2018	Université de Laval, Quebec City
1/2018	Let's Talk Science Canada2067
12/2017	McGill University SOCS Colloquium
4/2017	University of Massachusetts Boston MassIntelligence Conference
4/2017	University of Toronto Department of Computer Science
3/2017	Massachusetts Institute of Technology Mechanical Engineering Special Seminar
2/2017	Université de Montréal Département d'Informatique et de Recherche Opérationnelle
2/2017	University of New Hampshire Mechanical Engineering / Ocean Engineering
2/2017	MIT Media Lab MIT Technology Conference Moderator
1/2017	Stanford University Workshop on Human-Centric AI for Intelligent Machines
11/2015	Massachusetts Institute of Technology Campus-wide Robotics Seminar
11/2015	Woods Hole Oceanographic Institute WHOI AOPE Seminar

Affiliations and Certifications

- Diploma in University Teaching from University of New Brunswick
- IEEE member (since 2007)
- Unmanned Systems Canada member (since 2010)
- Association for Unmanned Vehicle Systems International (AUVSI) member (since 2011)

Media Coverage

- Learn to Program Self-Driving Cars (and Help Duckies Commute) With Duckietown - IEEE Spectrum (Aug 20, 2018)
- La Fondation canadienne pour l'innovation annonce un nouvel appui pour la recherche à l'UdeM - U de M nouvelles (April 11, 2018)
- Une ville de canards pour tester les véhicules - La Presse + (April, 8, 2018)
- En voiture, les canards! - U de M nouvelles (April 4, 2018)
- Why MIT's Duckietown uses adorable rubber toys to research self-driving cars - Boston.com (June 2, 2016)
- A tiny town of rubber ducks is laying the groundwork for the next generation of self-driving cars - Quartz (April 29, 2016)
- Meet the self-driving rubber duckie taxis of Duckietown - Popular Science (April 20, 2016)
- Self-driving cars, meet rubber duckies - CSAIL News (April 20, 2016)