

Alberto Rodriguez

Associate Professor

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PROFESSIONAL APPOINTMENTS

Massachusetts Institute of Technology

2019 - present Associate Professor without tenure (AWOT), Department of Mechanical Engineering
2016 - 2019 Walter Henry Gale (1929) Career Development Professor
2014 - 2018 Assistant Professor, Department of Mechanical Engineering

ABB Inc.

Summer 2009 Research Intern, US Corporate Research Center, Windsor, CT, USA

Polytechnic University of Catalonia

2004 - 2006 Research Assistant, Department of Automatic Control, ESAT, Barcelona, Spain

EDUCATION

Massachusetts Institute of Technology

2013 - 2014 Postdoctoral Associate (advised by Prof. Russ Tedrake)

Carnegie Mellon University

2013 PhD Robotics, Thesis “Shape for Contact” (advised by Prof. Matthew Mason)

Polytechnic University of Catalonia

2006 Degree in Telecommunications Engineering
2005 Degree in Mathematics

AWARDS AND HONORS

Paper Awards

2019 RSS [Best Systems Paper Award](#), *TossingBot: Learning to Throw Arbitrary Objects with Residual Physics*
2018 IROS [Best Cognitive Paper Award](#), *Augmenting Physical Simulators with Stochastic Neural Networks: Case Study of Planar Pushing and Bouncing*
2018 IROS [Finalist Best Cognitive Paper Award](#), *Learning Synergies between Pushing and Grasping with Self-Supervised Deep Reinforcement Learning*
2018 Amazon [Best Systems Paper Award in Manipulation](#), *Robotic Pick-And-Place of Novel Objects in Clutter with Multi-Affordance Grasping and Cross-Domain Image Matching*
2018 Amazon [Finalist Best Technical Paper Award in Manipulation](#), *GelSlim: A High-Resolution, Compact, Robust, and Calibrated Tactile-sensing Finger*
2018 RSS [Best Student Paper Award](#), *In-Hand Manipulation via Motion Cones*
2016 IROS [Finalist Best Paper Award](#), *More than a Million Ways to be Pushed: A High-Fidelity Experimental Data Set of Planar Pushing*
2014 ICRA [Finalist Best Video Award](#), *Regrasping Objects with Extrinsic Dexterity*
2013 ICRA [Best Student Paper Award](#), *Effector Form Design for 1DOF Planar Act.*
2011 RSS [Best Student Paper Award](#), *From Caging to Grasping*

Other

2020 IEEE Early Academic Career Award in Robotics and Automation.
2020 Google Faculty Research Award.
2019 Amazon Research Award.
2018 Amazon Research Award.

2017	Amazon Robotics Challenge 2017, Stowing task, 1st place.
2016	Walter Henry Gale (1929) Career Development Professor
2016	Amazon Picking Challenge 2016, 3rd and 4th place
2015	Amazon Picking Challenge 2015, 2nd place

LEADERSHIP AND SERVICE ACTIVITIES

Massachusetts Institute of Technology

2018 - present	Organize MIT Robotics Seminar
2016 - present	Associate Head of House in graduate dorm Sydney-Pacific, MIT.
2013 - present	Graduate Admissions Committee, MechE, MIT.
2016	Controls and Dynamics Curriculum Revision Committee, MechE, MIT

Workshop Organization

2020	ICRA 2020 “Uncertainty in Contact Interactions: Methods and Representations”
2018	ICRA 2018 “Advances in Robotic Warehouse Automation”
2017	RSS 2017 “Empirically Data-driven Robotic Manipulation”
2017	ICRA 2017 “Warehouse Picking Automation Workshop 2017: Solutions, Experience, Learnings and Outlook of the Amazon Picking Challenge”
2016	CASE 2016 “Automation for Warehouse Logistics”
2015	NSF “Locomotion and Manipulation: Why the Great Divide?”
2013	ICRA 2013 “Caging and its Applications in Grasping/Multi-agent Cooperation.”
2013	RSS 2013 “Common Platforms in Robotic Manipulation.”

Program Committee and Editorial

2020-19	Area Chair (Manipulation) RSS 2020, 2019
2020-18	Program Committee WAFR 2020, 2018, 2016
2020	Local Arrangements Chair CoRL 2020
2019	Associate Editor ISRR 2019
2018-14	Program Committee RSS 2018, 2017, 2015, 2014
2016	Co-editor Robotics and Automation Magazine Special issue “Open Source and Widely-Disseminated Robot Hardware”.
2014	Program Committee ISER 2014

TEACHING EXPERIENCE

Spring 2019	2.003 Dynamics and Controls I
Fall 2018	2.003 Dynamics and Controls I
Spring 2018	2.003 Dynamics and Controls I
Fall 2017	2.003 Dynamics and Controls I, (recitation instructor)
Spring 2017	2.003 Dynamics and Controls I, (recitation instructor)
Fall 2016	2.12 Introduction to Robotics
Spring 2016	2.003 Dynamics and Controls I, (recitation instructor)
Fall 2015	2.003 Dynamics and Controls I
Spring 2015	2.003 Dynamics and Controls I
Fall 2014	2.003 Dynamics and Controls I, (recitation instructor)

INTELLECTUAL PROPERTY

2018 Aug	Patent (pending) “Shape-Shifting Fingers for Robotic Grippers” Application number: 62/765,285 (US) PCT/US2019/046768 (International)
2018 Aug	Patent (pending) “Robotic Manipulation of Objects for Grip Adjustment” Application number: 62/765,278 (US) PCT/US2019/046771 (International)
2018 Aug	Patent (pending) “Robotic Manipulation of Objects Using External Contacts” Application number: 62/765,255 (US) PCT/US2019/046780 (International)
2017 Feb	Patent “Two-Phase Gripper to Reorient and Grasp” Publication number: US20170036354 A1

- 2014 Nov Patent “Method and Apparatus for Using Post Assembly Process Interaction Signatures to Detect Assembly Failures”
 Publication numbers: WO2014160760 A3, CN105229548 A

PUBLICATIONS UNDER REVIEW

- [C60] 2020 RSS *A Global Quasi-Dynamic Model for Contact-Trajectory Optimization*
 Aceituno-Cabezas B. and A. Rodriguez
- [C59] 2020 RSS *Object Pose Estimation with Geometric Tactile Rendering and Tactile Image Matching*
 Bauza M. , E. Valls, B. Lim, T. Sechopoulos and A. Rodriguez
- [C58] 2020 RSS *Inference and Planning with Virtual and Physical Constraints for Object Manipulation*
 Loula J., N. Fazeli, K. Allen, A. Rodriguez and J. Tenenbaum
- [C57] 2020 RSS *Cable Manipulation with a Tactile-Reactive Gripper*
 She Y., S. Wang, S. Dong, N. Sunil, A. Rodriguez and E. Adelson

PUBLICATIONS

Refereed Journal Papers

- [J16] 2020 TRO *TossingBot: Learning to Throw Arbitrary Objects with Residual Physics*
 Zeng, A., S. Song, J. Lee, A. Rodriguez and T. Funkhouser
- [J15] 2020 IJRR *Reactive Planar Manipulation with Hybrid Model Predictive Control*
 Hogan, F. and A. Rodriguez
- [J14] 2019 A. Rob. *What are the Important Technologies for Bin Picking? Technology Analysis of Robots in Competitions based on a Set of Performance Metrics (Advanced Robotics)*
 Fujita M., Y. Domae, A. Noda, G. Garcia Ricardez, T. Nagatani, A. Zeng, S. Song, A. Rodriguez, A. Causo, I.M. Chen, and T. Ogasawara
- [J13] 2019 IJRR *Planar In-Hand Manipulation via Motion Cones*
 Chavan-Dafle, N., R. Holladay and A. Rodriguez
- [J12] 2019 IJRR *Robotic Pick-and-Place of Novel Objects in Clutter with Multi-Affordance Grasping and Cross-Domain Image Matching*
 Zeng, A., S. Song, K.-T. Yu, E. Donlon, F. Hogan, M. Bauza, D. Ma, O. Taylor, M. Liu, E. Romo, N. Fazeli, F. Alet, N. Chavan-Dafle, R. Holladay, I. Morona, P. Nair, D. Green, I. Taylor, W. Liu, T. Funkhouser and A. Rodriguez
- [J11] 2019 Science *See, feel, act: Hierarchical learning for complex manipulation skills with multisensory fusion (Science Robotics)*
 Fazeli, N., M. Oller, J. Wu, , Z. Wu, J. Tenenbaum and A. Rodriguez.
- [J10] 2018 TASE *Open Discussion of Robot Grasping Benchmarks, Protocols, and Metrics (Editorial)*
 Mahler, J., R. Platt, A. Rodriguez, M. Ciocarlie, A. Dollar, R. Detry, M. A. Roa, H. Yanco, A. Norton, J. Falco, K. van Wyk, E. Messina, J. Leitner, D. Morrison, M. Mason, O. Brock, L. Odhner, A. Kurenkov, M. Matl, and K. Goldberg
- [J9] 2018 AURO *Optimal Shape and Motion Planning for Dynamic Planar Manipulation*
 Taylor, O. and A. Rodriguez
- [J8] 2018 TASE *Analysis and Observations from the First Amazon Picking Challenge*
 Correll, N., K. Bekris, D. Berenson, O. Brock, A. Causo, K. Hauser, K. Okada, A. Rodriguez, J. Romano and P. Wurman
- [J7] 2018 RA-L *Friction Variability in Planar Pushing Data: Anisotropic Friction and Data-collection*
 Ma, D. and A. Rodriguez
- [J6] 2017 IJRR *Parameter and Contact Force Estimation of Planar Rigid-Bodies Undergoing Frictional Contact*
 Fazeli, N., R. Kolbert, R. Tedrake and A. Rodriguez
- [J5] 2014 IJRR *A Data-Driven Statistical Framework for Post-Grasp Manipulation*
 Paolini, R., A. Rodriguez, S. Srinivasa and M. Mason
- [J4] 2012 IJRR *Autonomous Manipulation with a General-Purpose Simple Hand*
 Mason, M., A. Rodriguez, S. Srinivasa and A. Vazquez
- [J3] 2012 IJRR *Grasp Invariance*

- [J2] 2012 TRO Rodriguez, A. and M. Mason
Path-Connectivity of the Free Space
- [J1] 2012 IJRR Rodriguez, A. and M. Mason
From Caging to Grasping
- Rodriguez, A., M. Mason and S. Ferry

Refereed Conference Papers

- [C56] 2020 ICRA *Accurate Vision-based Manipulation through Contact Reasoning*
Kloss A., M. Bauza, J. Wu, J. Tenenbaum, A. Rodriguez and J. Bohg
- [C55] 2020 ICRA *Long-Horizon Prediction and Uncertainty Propagation with Residual Point Contact Learners*
Fazeli, N., A. Ajay, and A. Rodriguez
- [C54] 2020 ICRA *Hybrid Differential Dynamic Programming for Planar Manipulation Primitives*
Doshi, N., F. Hogan and A. Rodriguez
- [C53] 2020 ICRA *Tactile Dexterity: Manipulation Primitives with Tactile Feedback*
Hogan, F., J. Ballester, S. Dong and A. Rodriguez
- [C52] 2019 ISRR *Certified Grasping*
Aceituno-Cabezas, B., J. Ballester, and A. Rodriguez
- [C51] 2019 IROS *Force-and-Motion Constrained Planning for Tool Use*
Holladay, R., T. Lozano-Perez and A. Rodriguez
- [C50] 2019 IROS *Tactile-based Insertion for Dense Box-Packing*
Dong, S. and A. Rodriguez
- [C49] 2019 IROS *Omnipush: accurate, diverse, real-world dataset of pushing dynamics with RGB-D*
Bauza, M., F. Alet, Y-C. Lin, T. Lozano-Perez, L. Kaelbling and A. Rodriguez
- [C48] 2019 IROS *A Convex-Combinatorial Model for Planar Caging*
Aceituno-Cabezas, B., H. Dai and A. Rodriguez
- [C47] 2019 ICML *Graph Element Networks: adaptive, structured computation and memory*
Alet, F., A. Jaks, M. Bauza, A. Rodriguez, T. Lozano-Perez and L. Kaelbling
- [C46] 2019 RSS *TossingBot: Learning to Throw Arbitrary Objects with Residual Physics*
Zeng, A., S. Song, J. Lee, A. Rodriguez and T. Funkhouser
[RSS 2019 Best System Paper Award](#)
- [C45] 2019 ICRA *Tactile Mapping and Localization from High-Resolution Tactile Imprints*
Bauza M., O. Canal and A. Rodriguez
- [C44] 2019 ICRA *Dense Tactile Force Distribution Estimation using GelSlim and inverse FEM*
Ma, D., E. Donlon, S. Dong and A. Rodriguez
- [C43] 2019 ICRA *Maintaining Grasps within Slipping Bound by Monitoring Incipient Slip*
Dong, S., D. Ma, E. Donlon and A. Rodriguez
- [C42] 2019 ICRA *Combining Physical Simulators and Object-Based Networks for Control*
Ajay, A., M. Bauza, J. Wu, N. Fazeli, J. Tenenbaum, A. Rodriguez and L. Kaelbling
- [C41] 2018 WAFR *GP-SUM. Gaussian Process Filtering of non-Gaussian Beliefs*
Bauza, M. and A. Rodriguez
- [C40] 2018 CoRL *Data-Efficient Approach to Precise and Controlled Pushing*
Hogan, F., M. Bauza and A. Rodriguez
- [C39] 2018 IROS *Augmenting Physical Simulators with Stochastic Neural Networks: Case Study of Planar Pushing and Bouncing*
Ajay, A., J. Wu, N. Fazeli, M. Bauza, L. Kaelbling, J. Tenenbaum, and A. Rodriguez
[IROS 2018 Best Cognitive Paper Award](#)
- [C38] 2018 IROS *Tactile Regrasp: Grasp Adjustments via Simulated Tactile Transformations*
Hogan, F., M. Bauza, O. Canal, E. Donlon and A. Rodriguez
- [C37] 2018 IROS *Realtime State Estimation with Tactile and Visual Sensing for Inserting a Suction-held Object*
Yu, K.-T. and A. Rodriguez
- [C36] 2018 IROS *Learning Synergies between Pushing and Grasping with Self-supervised Deep Reinforcement Learning*

- Zeng, A., S. Song, S. Welker, J. Lee, A. Rodriguez, and T. Funkhouser
[IROS 2018 Finalist Best Cognitive Paper Award](#)
- [C35] 2018 IROS *GelSlim: A High-Resolution, Compact, Robust, and Calibrated Tactile-sensing Finger*
 Donlon, E., S. Dong, M. Liu, J. Li, E. Adelson and A. Rodriguez
[Finalist Amazon Best Technical Paper Award in Manipulation](#)
- [C34] 2018 CASE *Regrasping by Fixtureless Fixturing*
 Chavan-Dafle N. and A. Rodriguez
- [C33] 2018 CASE *Pneumatic Shape-shifting Fingers to Reorient and Grasp*
 Chavan-Dafle N., K. Lee and A. Rodriguez
- [C32] 2018 RSS *In-Hand Manipulation via Motion Cones*
 Chavan-Dafle, N., R. Holladay and A. Rodriguez
[RSS 2018 Best Student Paper Award](#)
- [C31] 2018 ICRA *Stable Prehensile Pushing: In-Hand Manipulation with Alternating Sticking Contacts*
 Chavan-Dafle, N. and A. Rodriguez
- [C30] 2018 ICRA *Realtime State Estimation with Tactile and Visual sensing. Planar Manipulation*
 Yu, K.-T. and A. Rodriguez
- [C29] 2018 ICRA *Reactive Planar Manipulation with Convex Hybrid MPC*
 Hogan, F., E. Romo and A. Rodriguez
- [C28] 2018 ICRA *Robotic Pick-and-Place of Novel Objects in Clutter with Multi-Affordance Grasping and Cross-Domain Image Matching*
 Zeng, A., S. Song, K.-T. Yu, E. Donlon, F. Hogan, M. Bauza, D. Ma, O. Taylor, M. Liu, E. Romo, N. Fazeli, F. Alet, N. Chavan-Dafle, R. Holladay, I. Morona, P. Nair, D. Green, I. Taylor, W. Liu, T. Funkhouser and A. Rodriguez
[Amazon Best System Paper Award in Manipulation](#)
- [C27] 2017 ISRR *Fundamental Limitations in Performance and Interpretability of Common Planar Rigid-Body Contact Models*, Fazeli, N., S. Zapolsky, E. Drumwright and A. Rodriguez
- [C26] 2017 ISRR *Sampling-based Planning of In-Hand Manipulation with External Pushes*
 Chavan-Dafle, N. and A. Rodriguez
- [C25] 2017 CoRL *Learning Data-Efficient Rigid-Body Contact Models: Case Study of Planar Impact*
 Fazeli, N., S. Zapolsky, E. Drumwright and A. Rodriguez
- [C24] 2017 Human. *The Complexities of Grasping in the Wild*
 Nakamura, Y., D. Troniak, A. Rodriguez, M. Mason and N. Pollard
- [C23] 2017 RSS *Optimal Shape and Motion Planning for Dynamic Planar Manipulation*
 Taylor O. and A. Rodriguez
- [C22] 2017 ICRA *Empirical Evaluation of Common Impact Models on a Planar Impact Task*
 Fazeli N., E. Donlon, E. Drumwright and A. Rodriguez A
- [C21] 2017 ICRA *A Probabilistic Data-Driven Model for Planar Pushing*
 Bauza, M. and A. Rodriguez
- [C20] 2017 ICRA *Multi-view Self-supervised Deep Learning for 6D Pose Estimation in the Amazon Picking Challenge*
 Zeng, A., K.T. Yu, S. Song, D. Suo, E. Walker Jr., A. Rodriguez, and J. Xiao
- [C19] 2016 WAFR *Feedback Control of the Pusher-Slider System: A Story Hybrid and Underactuated Contact Dynamics*
 Hogan, F. and A. Rodriguez
- [C18] 2016 ISER *Experimental Validation of Contact Dynamic Models for In-hand Manipulation*
 Kolbert, R., N. Chavan-Dafle and A. Rodriguez
- [C17] 2016 IROS *More than a Millions Ways to be Pushed. A Comprehensive and High-Fidelity Data Set of Planar Pushing*
 Yu, K.T., M. Bauza, N. Fazeli and A. Rodriguez
[IROS 2016 Finalist Best Paper Award](#)
- [C16] 2015 ISRR *Identifiability Analysis of Rigid Body Frictional Contact*
 N. Fazeli, R. Tedrake and A. Rodriguez
- [C15] 2015 IROS *Shape and Pose Recovery from Planar Pushing*
 Yu, K.T., J. Leonard and A. Rodriguez

- [C14] 2015 IROS *A Novel Nonlinear Compliant Link on Simple Grippers*
Zhang, Z., A. Rodriguez and M. Mason
- [C13] 2015 IROS *Prehensile Pushing: In-hand Manipulation with Push-Primitives*
Chavan-Dafle, N. and A. Rodriguez
- [C12] 2015 CASE *A Two-Phase Gripper to Reorient and Grasp*
Chavan-Dafle, N., M. Mason, H. Staab, G. Rossano and A. Rodriguez
- [C11] 2014 ICRA *Extrinsic Dexterity: In-Hand Manipulation with External Forces*
Chavan-Dafle, N., A. Rodriguez, R. Paolini, B. Tang, S. Srinivasa, M. Erdmann, M. Mason, I. Lundberg, H. Staab and T. Fuhlbrigge
[ICRA 2014 Finalist Best Video Award](#)
- [C10] 2013 ICRA *A Simple and Compliant Force Sensing Palm for the MLab Simple Hand*
Zeglin, G., A. Rodriguez and M. Mason
- [C9] 2013 ICRA *Effector Form Design for 1DOF Planar Actuation*
Rodriguez, A. and M. Mason
[ICRA 2013 Best Student Paper Award](#)
- [C8] 2012 ISER *A Data-Driven Statistical Framework for Post-Grasp Manipulation*
Paolini, R., A. Rodriguez, S. Srinivasa, and M. Mason
- [C7] 2011 IROS *Abort and Retry in Grasping*
Rodriguez, A., M. Mason, S. Srinivasa, M. Bernstein and A. Zirbel
- [C6] 2011 RSS *From Caging to Grasping*
Rodriguez, A., M. Mason and S. Ferry
[RSS 211 Best Student Paper Award](#)
- [C5] 2010 ISER *Manipulation Capabilities with Simple Hands*
Rodriguez, A., M. Mason and S. Srinivasa
- [C4] 2010 WAFR *Grasp Invariance*
Rodriguez, A. and M. Mason
- [C3] 2010 CASE *Failure Detection in Assembly: Force Signature Analysis*
Rodriguez, A., D. Bourne, M. Mason, G. Rossano and J. Wang
- [C2] 2008 WAFR *Two Finger Caging: Squeezing and Stretching*
Rodriguez, A. and M. Mason
- [C1] 2007 ICINCO *RPQ: Robotic Proximity Queries. Development and Applications*
Hernansanz, A., X. Giral, A. Rodriguez and J. Amat

INVITED TALKS

“Certified Grasping”

2019 Nov IROS 2019, Workshop Manipulation Through Contacts, Macao

“A Vision for Tactile Dexterity and Reactive Manipulation”

2019 Nov IROS 2019, Workshop RoboTac, Macao

2019 Oct Humanoids 2019, Workshop Humanoid Grasping and Manipulation, Toronto, Canada

2019 Oct Amazon Research Awards Symposium, Boston, USA

2019 Sep SENSE.nano Symposium, MIT, USA

2019 Sep Mitsubishi Electric Research Laboratories, Cambridge, USA

2019 Jun Lincoln Labs, USA

2019 Jun Workshop on Adaptive Control, Learning, and Robotics, Yale, USA

2019 Jun Mathworks, USA

2019 May ICRA 2019, Workshop on Integrating Vision and Touch, Montreal, Canada

2019 Apr Robotics Jam Sessions, University of Pisa, Italy

“Robot Automation. Why is Robotic Grasping not a Solved Problem?”

2019 Nov Canon, ILP, Executive Briefing, MIT, USA

2019 Aug ABInBev Tech Training Workshop, New York, USA

2019 Jun Seminar in Digital Transformation, RCC Harvard, USA

“Manipulation Skills that I Wish my Robots Had”

- 2019 Oct Boston Dynamics, Waltham, USA
- 2019 Apr KTH, Rootics Seminar, Stockholm, Sweden
- 2018 Oct MIT, Mechanical Engineering Colloquium, USA
- 2018 Oct Keynote at IROS 2018, Madrid, Spain
- 2018 Aug Keynote at World Robot Conference, Beijing, China
- 2018 May MIT, Mechanical Engineering Department Area Seminar, USA
- 2018 Feb Berkeley, Peoples and Robots Seminar, USA
- 2018 Jan HKUST, Robotics Institute Seminar, Hong Kong
- 2017 Oct NERC 2017, Northeastern University, Boston, USA
- 2017 Sep IROS 2017, Workshop on Contact Frontiers, Vancouver, Canada

“Why Do We Like Benchmarks?”

- 2019 Aug Facebook Workshop on Benchmarks in Robotics, Pittsburgh, USA

“Robot Manipulation Planning: A Hierarchy of Problems to Solve and Decisions to Make”

- 2019 Jun RSS 2019, Workshop on Learning vs. Reasoning, Freiburg, Germany

“Robotic Dexterous Picking”

- 2019 Jan ILP Symposium, Shenzhen, China
- 2019 Jan SUSTech, Shenzhen, China
- 2018 Nov ILP Symposium, MITSUI, Boston, USA

“Embrace Frictional Contact in Manipulation”

- 2018 Dec Boston Dynamics, Waltham, USA

“Adventures on Tactile Sensing”

- 2018 Oct Amazon Grant Symposium, Boston, USA.
- 2018 May ICRA 2018, Workshop Active Touch for Perception and Interaction, Australia
- 2017 Jul RSS 2017, Workshop Tactile Sensing for Manipulation, Cambridge, USA

“Fundamentals of Robotic Manipulation”

- 2018 Jul Summer School on Cognitive Robotics, Cambridge, USA
- 2017 Jul Summer School on Soft Robotics, Lake Chiemsee, Germany
- 2017 Jun Summer School on Cognitive Robotics, Cambridge, USA

“Affordances for Picking, Pushing, and their Synergies”

- 2018 Jun RSS 2018, Workshop on Computational Models of Affordance, PA, USA

“Reactive Robotic Manipulation”

- 2017 Jul RSS 2017, Workshop Contact - Turning a problem into a solution, Cambridge, USA
- 2017 May ICRA 2017, Workshop Sensor-based Object Manipulation for Assembly, Singapore
- 2017 May University of Washington, Robotics Colloquia, Seattle, USA
- 2017 May MIT, School of Engineering, Junior faculty luncheon, Cambridge, USA

“Team MIT-Princeton’s Approach to the Amazon Robotics Challenge”

- 2018 Jun ABB Inc. US Corporate Research Center, Bloomfield, CT, USA
- 2018 May ICRA 2018, Workshop Advances in Robot Warehouse Automation.
- 2018 Jan MIT, Mechanical Engineering Department Faculty Retreat, USA
- 2017 May ICRA Workshop Warehouse Picking Automation, Singapore
- 2016 Jul ABB Inc. US Corporate Research Center, Bloomfield, CT, USA

“Dexterous Manipulation with non-Dexterous Manipulators”

- 2017 Jun ICRA 2017, Workshop AI in Automation, Singapore

2016 Oct IROS 2016, Workshop Dexterity acquisition in object manipulation, Daejeon, S. Korea
 2016 May ABB Inc. Corporate Research Center, Vasteras, Sweden
 2016 May ICRA 2016, Workshop Contact and Dynamics in Manipulation, Stockholm, Sweden
 2016 Mar Northwestern University, NxR Lab, Evanston, USA
 2015 Oct TATA Consultancy Services, Noida, India.
 2015 Aug MIT, LIDS, Summer Dynamics and Information Lunches, Boston, USA
 2015 Jul Delta Corporation, Taipei, Taiwan
 2015 Jul EPOCH Symposium - The Future of Robotics and Machine Learning, Taipei, Taiwan
 2015 Jul EPOCH Foundation, Garage+, Taipei, Taiwan
 2014 Apr Locomotion Group, MIT-CSAIL, Boston, USA

“Experiments with Frictional Contact”

2016 Dec SIMPAR 2016, Workshop Grand Challenges in Robot Simulation, San Francisco, USA

“The Pusher-Slider: A Story of Hybrid and Underactuated Contact Dynamics”

2016 Oct IROS 2016, Workshop Closed-loop Object Manipulation, Daejeon, S. Korea
 2016 Oct MIT Robotics Seminar, Cambridge, USA
 2016 Oct Mathworks, Natick, USA

“Robots in a low labor cost economy”

2015 Oct TATA Consultancy Services, Noida, India
 2015 Oct MIT Alumni Club, Pune, India
 2015 Oct NASSCOM Engineering Summit, Keynote, Pune, India

“Prehensile Pushing: In-hand Manipulation with External Forces”

2015 May ICRA 2015, Workshop Robotic Hands, Grasping, and Manipulation, Seattle, USA

“Primer on Manipulation”

2014 Apr MIT, Mechanical Engineering, Course 2.165 Robotics, Boston, USA

“Shape for Contact”

2013 Sep Massachusetts Institute of Technology, CSAIL, Locomotion Group, Boston, USA
 2013 Jul Carnegie Mellon University, CFR Seminar, Robotics Institute, CMU, Pittsburgh, USA

“Contacting the World with Mechanical and Data-Driven Intelligence”

2014 Apr WPI, Computer Science, Worcester, USA
 2014 Mar MIT, Mechanical Engineering, Graduate program Open House, Boston, USA
 2013 Apr Georgia Tech, School of Interactive Computing, Atlanta, USA
 2013 Mar MIT, Mechanical Engineering, Boston, USA
 2013 Mar UMASS, Computer Science, Amherst, USA
 2013 Mar Stanford, Computer Science, Stanford, USA
 2013 Mar University of Maryland, Mechanical Engineering, College Park, USA
 2013 Feb USC, Department of Computer Science, Los Angeles, USA

“Data-Driven Manipulation with a Simple Hand”

2012 Nov Georgia Tech, RIM Center, Atlanta, USA

“Grasp Invariance”

2011 Feb LAAS-CNRS, Toulouse, France
 2010 Nov CMU, CFR Seminar, Pittsburgh, USA

“From Caging to Grasping”

2011 Jun RSS 2011, Full oral presentation, Los Angeles, USA
 2011 May ICRA 2011 Workshop “Uncertainty in Automation”, Shanghai, China

2008 May CMU, Human Sensing Laboratory, Pittsburgh, USA
2006 Dec UPC, ESAII, Barcelona, Spain