

Koushil Sreenath

Education

- 2007–2011 **Ph.D. Electrical Engineering and Computer Science**, *The Univ. of Michigan*, Ann Arbor.
Thesis: Feedback Control of a Bipedal Walker and Runner with Compliance
Advisor: Jessy W. Grizzle
- 2011 **M.S. Applied Mathematics**, *The Univ. of Michigan*, Ann Arbor.
- 2004–2005 **M.S. Electrical Engineering**, *The Univ. of Texas*, Arlington.
Thesis: Adaptive Sampling using Mobile WSN
Advisors: Dan O. Popa and Frank L. Lewis
- 1998–2002 **B.E. Electronics & Communication**, *PES Institute of Technology*, affiliated to Visvesvaraya Technological University, India.

Professional Experience

Academic

- 2017–
Present **Asst. Professor**, *Mechanical Engineering*.
Univ. of California, Berkeley
- 2017–2020 **Adjunct Asst. Professor**, *Mechanical Engineering*.
Carnegie Mellon University, Pittsburgh
- 2013–2017 **Asst. Professor**, *Mechanical Engineering; Robotics Institute (Courtesy Appointment); Electrical and Computer Engineering (Courtesy Appointment)*.
Carnegie Mellon University, Pittsburgh
- 2011–2013 **Postdoctoral Research Fellow**, *Mechanical Engineering and Applied Mechanics, GRASP Lab, Univ. of Pennsylvania*, Philadelphia, with Vijay Kumar.
- 2007–2011 **Graduate Research Asst.**, *The Univ. of Michigan*, Ann Arbor, with Jessy W. Grizzle.
- 2004–2005 **Research Asst.**, *The Univ. of Texas*, Arlington, with Dan O. Popa, Frank L. Lewis.

Industry

- 2015–2016 **CTO and Co-Founder**, *CleanRobotics Inc.*, Pittsburgh, PA.
- 2006–2007 **Research Engineer II**, *Intelligent Controls Group*, Saint-Gobain R&D Center, Northboro, MA.
- 2002–2004 **Asst. Systems Engineer**, *TATA Consultancy Services*, Chennai, India.

Awards and Honors

- 2020 **Best Entertainment and Amusement Paper Finalist**, *IEEE International Conference on Intelligent Robots and Systems (IROS)*.
Paper: “Animated Cassie: A Dynamic Relatable Robotic Character.”
- 2020 **Hellman Fellow**.
Project: PDE-based Dynamics and Control for Fire Fighting Using a Flying Fire Hose
- 2020 **NSF CAREER, CMMI**.
Project: “Control and Fractal-based Stability of Dynamic Vision-Based Aperiodic Legged Locomotion.”
- 2017 **Best Systems Paper Finalist**, *Robotics: Science and Systems (RSS)*.
Paper: “Dynamic Walking on Randomly-Varying Discrete Terrain with One-step Preview.”

- 2017 **George Tallman Ladd Research Award**, *Carnegie Mellon University*.
The George Tallman Ladd award is made to a faculty member within the College of Engineering in recognition of outstanding research and professional accomplishments and potential.
- 2016 **Congressional Robotics Caucus**, *Washington D.C*, Invited to showcase NSF NRI research.
Project: Unified Feedback Control and Mechanical Design for Robotic, Prosthetic, and Exoskeleton Locomotion.
- 2015 **Google Faculty Research Award in Robotics**.
Project: “Aerial Delivery through Complex and Cluttered Environments.”
- 2015 **NSF CISE Research Initiation Initiative Award (CRII)**.
Project: “Dynamic Multi-Robot Coordination and Cooperation Using Dynamically Stable Mobile Robots.”
- 2015 **Marquis Who’s Who in America**.
- 2013-2014 **Donald L. and Rhonda Struminger Faculty Fellow** in Mechanical Engineering.
- 2013 **Best Paper Award**, *Robotics: Science and Systems (RSS)*.
Paper: “Dynamics, Control and Planning for Cooperative Manipulation of Payloads Suspended by Cables from Multiple Quadrotor Robots.”
- 2012 **Travel Award**, *IEEE International Conference on Robotics and Automation (ICRA)*.
- 2011 **Cover Article**, *IEEE Control System Magazine (CSM)*.
Paper: “Identification of a bipedal robot with a compliant drivetrain: Parameter estimation for control design.”
- 2007–2011 **Doctoral Fellowship**, *Dept. of Electrical Engineering and Computer Science*, The Univ. of Michigan, Ann Arbor.
- 2010 **Technical Session Award**, *Engineering Graduate Symposium*, The Univ. of Michigan, Ann Arbor.
- 2006 **Best Paper Award**, *IEEE Int. Conference on Robotics, Automation, and Mechatronics (RAM)*.
Paper: “Localization of a Wireless Sensor Network with Unattended Ground Sensors and Some Mobile Robots.”

Awards and Honors for Advised Students

- 2020 **Best Entertainment and Amusement Paper Finalist**, *IEEE International Conference on Intelligent Robots and Systems (IROS)*, (Zhongyu Li and Christine Cummings).
- 2020 **Fung Institute Mission Award**, *UC Berkeley*, (Jamie Chen, Sonny Li, David Tondreau and Mengyue Wang).
- 2020 **Rafael del Pino Foundation Excellence Fellowship**, *Rafael del Pino Foundation*, (Fernando Castaneda).
- 2020 **Graduate Division Block Grant**, *Mechanical Engineering*, UC Berkeley, (Jun Zeng).
- 2019 **Best Teaching Assistant Award**, *Carnegie Mellon University*, (Avinash Siravaru).
- 2019 **Gates Millenium Scholar**, *Gates Foundation*, (Johnathon Li).
- 2019 **Kwanjeong Educational Foundation Fellowship**, *Kwanjeong Educational Foundation*, (Jason Choi).
- 2019 **NSF Graduate Research Fellowship**, *National Science Foundation*, (Matthew Wen).
- 2019 **Berkeley Fellowship**, *UC Berkeley*, (Jason Choi).
- 2019 **Fung Institute Outstanding Technical Contribution Award**, *UC Berkeley*, (Shuxiao Chen, Jonathan Rogers and Bike Zhang).
- 2019 **William S. Floyd, Jr. Graduate Student Fellowship and the Graduate Division Block Grant Award**, *Mechanical Engineering*, UC Berkeley, (Ayush Agrawal).
- 2019 **The Gordon M. and Merle I. Steck Cal Club Endowed Scholarship and the Graduate Division Block Grant Award**, *Mechanical Engineering*, UC Berkeley, (Ayush Agrawal).
- 2019 **Graduate Division Block Grant**, *Mechanical Engineering*, UC Berkeley, (Prasanth Kotaru).
- 2018 **Fundación Bancaria “la Caixa” Fellowship**, *“la Caixa” Foundation*, (Fernando Castaneda).
- 2018 **J. K. Zee Fellowship**, *UC Berkeley*, (Matthew Wen).

- 2018 **The William C. Webster Graduate Fellowship and the Graduate Division Block Grant Award**, *Mechanical Engineering*, UC Berkeley, (Ayush Agrawal).
- 2018 **Graduate Division Block Grant**, *Mechanical Engineering*, UC Berkeley, (Prasanth Kotaru).
- 2017 **Best Dissertation Award**, *Mechanical Engineering*, Carnegie Mellon University, (Quan Nguyen).
- 2017 **Best Systems Paper Finalist**, *Robotics: Science and Systems (RSS)*, (Quan Nguyen and Ayush Agrawal).
- 2016 **Bertucci Fellowship**, *Carnegie Mellon University*, (Guofan Wu).
- 2016 **Best Presentation of Session**, *American Control Conference (ACC)*, (Quan Nguyen).
- 2015 **NSF Graduate Research Fellowship**, *National Science Foundation*, (Katie Poggensee).
- 2015 **ACC Travel Award**, *American Control Conference (ACC)*, (Quan Nguyen).
- 2015 **GSA/Provost Conference Funding**, *Carnegie Mellon University*, (Quan Nguyen).
- 2014 **Clare Boothe Luce Fellowship**, *Carnegie Mellon University*, (Katie Poggensee).

Teaching Experience

Univ. of California, Berkeley

- Fall 2020 [ME 193B/292B] **Feedback Control of Legged Robots**
- Spring 2020 [ME 132] **Dynamic Systems and Feedback** *(Instructor: 6.35/7, Course: 6.00/7)*
- Fall 2019 [ME 193B/292B] **Feedback Control of Legged Robots** *(Instructor: 6.23/7, Course: 5.86/7)*
 [EE C106A] **Intro. to Robotics**, *Guest Lecture on Control of Legged Robots.*
 [ME 102B] **Mechatronics Design**, *Guest Lecture on Forward Kinematics.*
- Spring 2019 [EE C222/ME 237] **Nonlinear Systems** *(Instructor: 5.47/7, Course: 5.77/7)*
 [[ME 132] **Dynamic Systems and Feedback** *(with G. Gomes)* *(Instructor: 6.27/7, Course: 5.81/7)*
 [ME 104] **Engineering Mechanics II**, *Guest Lecture on Dynamic Legged and Aerial Robotics.*
- Fall 2018 [ME 193B/292B] **Feedback Control of Legged Robots** *(Instructor: 6.19/7, Course: 6.00/7)*
 [EE C106A] **Intro. to Robotics**, *Guest Lecture on Feedback Control for Bipedal Locomotion.*
 [ME C232] **Advanced Control Systems I**, *Guest Lecture on SVD and Balanced Realizations.*
 [ME 178] **Designing for the Human Body**, *Guest Lecture on Exoskeletons.*
 [ME C232] **Advanced Control Systems I**, *Guest Lecture on Eigenvalues and Eigenvectors.*
- Spring 2018 [ME 132] **Dynamic Systems and Feedback** *(Instructor: 5.85/7, Course: 5.83/7)*
- Fall 2017 [EE C106A] **Intro. to Robotics**, *Guest Lecture on Legged Robots.*
 [ME 136] **Intro. to Control of UAVs**, *Guest Lecture on Differential Flatness.*

Carnegie Mellon University, Pittsburgh

- Spring 2017 [ECE 18-776/ME 24-776] **Nonlinear Control** *(Instructor: 4.59/5, Course: 4.54/5)*
- Fall 2016 [ME 24-452] **Mechanical Systems and Experimentation** *(Instructor: 4.27/5, Course: 3.92/5)*
- Spring 2016 [ECE 18-776/ME 24-776] **Nonlinear Control** *(Instructor: 4.80/5, Course: 4.64/5)*
- Fall 2015 [ME 24-452] **Mechanical Systems and Experimentation** *(Instructor: 4.49/5, Course: 4.20/5)*
- Spring 2015 [ECE 18-776/ME 24-776] **Nonlinear Control** *(Instructor: 4.59/5, Course: 4.53/5)*
- Fall 2014 [ME 24-452] **Mechanical Systems and Experimentation** *(Instructor: 4.22/5, Course: 4.04/5)*
 [RI 16-843] **Manipulation Algorithms**, *Guest Lecture on Rotations.*
- Fall 2013 [ECE 18-776/ME 24-776] **Nonlinear Control** *(Instructor: 4.48/5, Course: 4.43/5)*
 [RI 16-843] **Manipulation Algorithms**, *Guest Lecture on Rotations.*

The Univ. of Pennsylvania, Philadelphia

- Spring 2013 [MEAM 620] **Advanced Robotics**, *Guest Lecturer.*
- Fall 2012 [MEAM 899] **Independent Study - Linear Systems Theory**, *Co-Instructor.*

Spring 2012 [MEAM 620] **Advanced Robotics**, *Guest Lecture on Linear Quadratic Regulators (LQR)*.

The Univ. of Michigan, Ann Arbor

Fall 2010 [EECS 560] **Linear Systems Theory**, *Graduate Student Instructor*.

106 graduate students, Instructor: Jessy W. Grizzle.

The Univ. of Texas, Arlington

Spring 2005 [EE 5320] **Control System Design**, *Graduate Teaching Asst.*

50 graduate/undergraduate students, Instructor: Frank L. Lewis, Jyotirmay Gadewadikar.

Fall 2004 [EE 2315] **Circuit Analysis**, *Graduate Teaching Asst.*

30 undergraduate students, Instructor: Adrian Fung.

Student Advising

Summary

- 13 Ph.D. students (3 completed, 10 in progress - 2 co-supervised.)
- 36 Masters students (36 completed, 2 in progress.)
- 39 Undergraduate students (32 completed, 7 in progress.)
- 11 visiting students (8 completed, 3 in progress.)

Current Ph.D. Students

Fall 2014 - **Katie Poggensee** (co-supervised with Steve Collins) [C18] [A1, A4, A5]

Awards: NSF Graduate Fellowship 2015; Clare Boothe Luce Fellowship 2014.

Su. 2017 - **Prasanth Kotaru** [J2, J3] [C15, C18, C22, C24, C26, C31]

Awards: Graduate Division Block Grant 2019; Graduate Division Block Grant 2018.

Su. 2017 - **Ayush Agrawal** [J5–J7, J9] [C10, C12, C17, C21, C29, C30]

Awards: William S. Floyd, Jr. Graduate Student Fellowship and the Graduate Division Block Grant Award 2019; The Gordon M. and Merle I. Steck Cal Club Endowed Scholarship and the Graduate Division Block Grant Award 2019; The William C. Webster Graduate Fellowship and the Graduate Division Block Grant Award 2018; Best Systems Paper Finalist at RSS 2017.

Sp. 2018 - **Jun Zeng** [?, J2], [C12, C23, C24]

Fall. 2018 - **Fernando Castaneda** [C10, C14, C17]

Awards: Rafael del Pino Foundation Excellence Fellowship 2020; Fundación Bancaria “la Caixa” Fellowship 2018.

Fall 2019 - **Jason Choi** (co-supervised with Claire Tomlin) [C14]

Awards: Berkeley Fellowship 2019; Kwanjeong Educational Foundation Fellowship 2019.

Fall 2019 - **Shuxiao Chen**

Fall 2019 - **Zhongyu Li** [C11]

Awards: Best Entertainment and Amusement Paper Finalist at IROS 2020.

Fall 2020 - **Bike Zhang** [?], [C12, C18]

Fall 2020 - **Akshay Thirugnanam**

Current Masters Students

Fall 2019 - **Johnathon Li**

Fall 2019 - **Jesus Navarro**

Current Undergraduate Students

- Fall 2020 - **Alexander Yang**
Sp. 2020 - **Jonathan Anglingdarma**
Sp. 2020 - **Joshua Morey**
Sp. 2020 - **Mengti Sun**
Sp. 2020 - **Lizhi Yang**
Sp. 2020 - **Jack Wallis**
Sp. 2019 - **Hungju Wang**

Current Visiting Students

- Sp. 2020 - **Wenzhe Tong**
Sp. 2020 - **Anxing Xiao**
Fall 2019 - **Xuxin Cheng**

Ph.D. Alumni

- 2019 **Avinash Siravuru**, Ph.D. (MechE) [T1], [J8], [C16, C28, C39], [A6]
Dissertation: “Geometric Control and Learning for Dynamic Legged Robots.”
Awards: Best Teaching Assistant Award.
Next: Auris Health.
- 2017 **Quan Nguyen**, Ph.D. (MechE) [T2], [?, J6], [C29, C33, C35, C37, C40, C41, C43, C44, C46], [A3, A7]
Dissertation: “Robust and Adaptive Dynamic Walking of Bipedal Robots.”
Awards: Best Dissertation Award in CMU Mechanical Engineering; Best Systems Paper Finalist at RSS 2017; ACC best presentation of session 2016; ACC Travel Award 2015; GSA/Provost Conference Funding 2015.
Next: Postdoctoral Scholar with Sangbae Kim at MIT, now faculty at Univ. of Southern California (USC).
- 2017 **Guofan Wu**, Ph.D. (MechE) [T3], [J10], [C26, C31, C38, C42, C45, C48, C49]
Dissertation: “Safety-critical Geometric Control Design with Application to Aerial Transportation.”
Awards: Bertucci Fellowship 2016.
Next: Zero Zero Robotics.

Masters Alumni

- 2020 **Matthew Wen**, M.S. (ME)
Awards: UC Berkeley J. K. Zee Fellowship 2018; NSF Graduate Fellowship 2019.
- 2020 **Jamie Chen**, MEng. (ME)
Awards: Fung Institute Mission Award 2020 (J. Chen, S. Li, D. Tondreau and M. Wang).
- 2020 **Sonny Li**, MEng. (ME)
Awards: Fung Institute Mission Award 2020 (J. Chen, S. Li, D. Tondreau and M. Wang).
- 2020 **David Tondreau**, MEng. (ME)
Awards: Fung Institute Mission Award 2020 (J. Chen, S. Li, D. Tondreau and M. Wang).
- 2020 **Mengyue Wang**, MEng. (ME)
Awards: Fung Institute Mission Award 2020 (J. Chen, S. Li, D. Tondreau and M. Wang).
- 2020 **Kristen Biermayer**, MEng. (ME)
- 2020 **Scott Gilroy**, MEng. (ME)
- 2020 **Ed Izaguirre**, MEng. (ME)
- 2020 **Derek Lau**, MEng. (ME)
- 2020 **Ross Alexander**, MEng. (ME)

- 2020 **Suiyi He**, MEng. (ME)
- 2020 **Long Teng**, MEng. (ME)
- 2020 **Toby Zhang**, MEng. (ME)
- 2020 **Fernando**, M.S. (ME) [C14, C17]
- 2019 **Jun Zeng**, M.S. (ME) [C23, C24]
- 2019 **Shuxiao Chen**, MEng. (ME) [C19]
Awards: Fung Institute Outstanding Technical Contribution Award 2019 (S. Chen, J. Rogers and B. Zhang).
Next: Ph.D. Univ. of California, Berkeley.
- 2019 **Jonathan Rogers**, MEng. (ME) [C19]
Awards: Fung Institute Outstanding Technical Contribution Award 2019 (S. Chen, J. Rogers and B. Zhang).
- 2019 **Bike Zhang**, MEng. (ME) [C19]
Awards: Fung Institute Outstanding Technical Contribution Award 2019 (S. Chen, J. Rogers and B. Zhang).
Next: Ph.D. Univ. of California, Berkeley.
- 2019 **Mengyuan Chen**, MEng. (ME)
- 2019 **Zacks Li**, MEng. (ME)
- 2019 **Ge Zhu**, MEng. (ME)
- Sp. 2018 **Balaram Buddharaju**, M.S. (MechE)
- 2017 **Bin Xu**, M.S. (MechE) [C25]
- 2017 **Xuning Yang**, M.S. (RI - co-supervised with Nathan Michael) [J7], [C32], [A2], [P3]
Next: Ph.D. with Nathan Michael at Carnegie Mellon University.
- 2017 **Katie Poggensee**, M.S. (MechE - co-supervised with Steve Collins) [A1, A4, A5]
Awards: NSF Graduate Fellowship 2015; Clare Boothe Luce Fellowship 2014.
Next: Ph.D. at Stanford.
- 2017 **Ayush Agrawal**, M.S. (MechE) [J7, J9], [C29, C30]
Awards: Best Poster Award, Bennet Conference, CMU.
Next: Ph.D. at Carnegie Mellon University.
- 2017 **Prasanth Kotaru**, M.S. (MechE) [C31]
Next: Ph.D. at Carnegie Mellon University.
- 2017 **Henry Hung**, M.S. (MechE) [C36]
Next: 3M.
- 2017 **Ryan Edmonson**, M.S. (MechE) [J3]
Next: Aviation company.
- Su. 2017 **Bosch Tang**
- 2016 **Preeti Sar**, co-supervised with Ralph Hollis
- 2016 **Roberto Shu**, M.S. (RI) [C39], [A6]
Next: Ph.D. with Ralph Hollis at Carnegie Mellon Univ.
Awards: GSA/Provost Conference Funding.
- 2016 **Prashanth Krishnan**, M.S. (MechE)
Next: Mathworks.
- 2016 **Rohan Thakker**, MRSD (RI)
Next: NASA JPL.
- 2016 **Nikhil Baheti**, MRSD (RI)
Next: Vtrus.
- 2015 **Suresh Ramasamy**, M.S. (MechE) [C49]

Next: Ph.D. with Ross Hatton at Oregon State Univ.

2013 **Guofan Wu**, M.S. (MechE) [C49]

Next: Ph.D. at Carnegie Mellon University.

Undergraduate Alumni

2020 **Jordan Suchard**, (ME)

2020 **Christine Cummings**, (ME) [C11]

Next: Ph.D. at Penn State University.

2019 **Albert Li**, (ME) [C18]

Next: M.S. at Stanford University.

2019 **Daniel Sotsaikich**, (ME) [C18]

Next: M.S. at Stanford University.

2019 **Miyuki Weldon**, (ME)

2019 **Chenxi Tian**, (ME)

2019 **Brett Brussel**, (ME)

2019 **Samuel Kruger**, (ME)

2019 **Harrison Zheng**, (EECS)

2019 **Nicholas Bachand**, (ME)

2019 **Augustine NG**, (ME)

2019 **Daniel Zu**, (ME)

Sp. 2019 **Geoffrey Ding**, (ME)

2018 **Isabel Paredes**, (ME)

2018 **Darius Dastur**, (ME)

2018 **Andy Li**, (ME)

2018 **Valmik Prabhu**, (ME)

2018 **Raghava Ravi**, (ME)

Su. 2018 **Alina Rai**, (ME)

2018 **Abhishyant Khare**, (ME)

Sp. 2018 **Kelvin Pang**, (ME)

Sp. 2018 **Nipun Ramakrishnan**, (CS)

Sp. 2018 **Joshua Yuan**, (EECS)

Fa. 2017 **Anders Lewis**, (CS)

Su. 2017 **Sarathi Sarkar**

Su. 2017 **Diya Nuxoll**

2017 **Allan Wang**, B.S. (MechE, Honor's Thesis) [C28]

Next: Ph.D. at Robotics Institute, Carnegie Mellon University, Pittsburgh.

2017 **Victor Yan**, M.S. (MechE)

Next: Northrop.

2016 **Brian Bittner**, B.S. (MechE) [C34]

Next: Ph.D. with Shai Revzen and Jessy Grizzle at Univ. of Michigan, Ann Arbor.

Awards: Summer Undergraduate Research Fellowship (SURF) Summer 2014.

2016 **Richard Lee**, B.S. (MechE, Honor's Thesis co-supervised with Sebastian Scherer) [R1]

Next: M.S. at Univ. of California, Berkley.

2015 **Chang-Hyun Mungai**, B.S. (MechE)

Awards: Summer Undergraduate Research Grant (SURF) Spring 2015.

2015 **Gianfranco Colombi**, B.S. (MechE)

Visiting Student Alumni

- 2020 Sangli Teng
- Sp. 2020 Chenyu Yang
- Sp. 2020 Yandong Ji
- 2020 Chunyue (Lily) Xue
- 2019 Wenbo Wang
- 2019 Zhongyu Li
- 2019 Johann Lange
- 2019 Matti Vahs

Publications

- **Publication Statistics:**

<i>Books</i>	1
<i>Refreed Journal Articles</i>	18
<i>Refreed Conference Proceedings*</i>	65
<i>Other Publications#</i>	18

Other Publications include refreed abstracts, theses, and patents/invention disclosures.

- **Top 10 Cited Papers:** (Google Scholar, April 2021)

<i>Paper</i>	[J15]	[J13]	[C55]	[C52]	[C63]	[C53]	[C20]	[J14]	[C51]	[C40]
<i>Citations</i>	356	261	224	199	195	187	169	146	131	127

- **Citation Statistics:** (Google Scholar, April 2021)

<i>Total Citations</i>	3523
<i>h-index</i>	27
<i>i10-index</i>	46

- **Legend:** Underlined authors are supervised students.

Books

- [B1] K. Sreenath, M. F. Mysorewala, D. O. Popa, and F. L. Lewis, *Adaptive Sampling with Mobile WSN: Simultaneous robot localisation & mapping of parametric spatio-temporal fields*, ser. Control Engineering Series. IET, February 2011
ISBN 978-1-84919-257-6.

Journals

- [J1] Q. Nguyen and K. Sreenath, “Robust safety-critical control for dynamic robotics,” *IEEE Transactions on Automatic Control (TAC)*, February 2021. [[pdf](#)], [[arxiv](#)], [[video](#)].
- [J2] J. Zeng, P. Kotaru, M. Mueller, and K. Sreenath, “Differential flatness based path planning with direct collocation on hybrid modes for a quadrotor with a cable-suspended payload,” *IEEE Robotics and Automation Letters (RA-L)*, vol. 5, no. 2, pp. 3074–3081, February 2020. [[pdf](#)], [[video](#)].
- [J3] P. Kotaru, R. Edmonson, and K. Sreenath, “Geometric l_1 adaptive attitude control for a quadrotor unmanned aerial vehicle,” *ASME Journal of Dynamic Systems, Measurement, and Control*, vol. 142, no. 3, March 2020. [[pdf](#)], [[arxiv](#)], [[video](#)].
- [J4] P. Akella, O. O’Reilly, and K. Sreenath, “Controlling the locomotion of spherical robots or why bb-8 works,” *ASME Journal of Mechanisms and Robotics*, vol. 11, no. 2, p. 024501, April 2019. [[pdf](#)].
- [J5] O. Harib, A. Hereid, A. Agrawal, T. Gurriet, S. Finet, G. Boeris, A. Duburcq, M. E. Mungai,

- M. Masselin, A. D. Ames, K. Sreenath, and J. Grizzle, “Feedback control of an exoskeleton for paraplegics: Toward robustly stable hands-free dynamic walking,” *IEEE Control Systems Magazine (CSM)*, vol. 38, no. 6, pp. 61–87, December 2018. [pdf], [arxiv].
- [J6] Q. Nguyen, A. Agrawal, W. Martin, H. Geyer, and K. Sreenath, “Dynamic bipedal locomotion over stochastic discrete terrain,” *International Journal of Robotics Research (IJRR)*, pp. 1–17, August 2018. [pdf], [video].
- [J7] X. Yang, A. Agrawal, K. Sreenath, and N. Michael, “System-agnostic adaptive teleoperation for high-dimensional systems,” *Special issue on Learning for Human-Robot Collaboration, Autonomous Robotics*, pp. 1–17, April 2018. [pdf].
- [J8] A. Siravuru, S. P. Viswanathan, K. Sreenath, and A. K. Sanyal, “The reaction mass biped: Geometric mechanics and control,” *Journal of Intelligent and Robotic Systems (JINT)*, vol. 89, no. 1–2, pp. 155–173, January 2018. [pdf].
- [J9] A. Agrawal, O. Harib, A. Hereid, S. Finet, M. Masselin, L. Praly, A. D. Ames, K. Sreenath, and J. W. Grizzle, “First steps towards translating HZD control of bipedal robots to decentralized control of exoskeletons,” *IEEE Access*, vol. 5, no. 1, pp. 9919–9934, December 2017. [pdf], [video].
- [J10] G. Wu and K. Sreenath, “Variation-based linearization of nonlinear systems evolving on $SO(3)$ and S^2 ,” *IEEE Access*, vol. 3, pp. 1592–1604, September 2015. [pdf].
- [J11] K. Galloway, K. Sreenath, A. D. Ames, and J. W. Grizzle, “Torque saturation in bipedal robotic walking through control lyapunov function based quadratic programs,” *IEEE Access*, vol. 3, pp. 323–332, April 2015. [pdf], [video].
- [J12] J. Thomas, G. Loianno, J. Polin, K. Sreenath, and V. Kumar, “Toward autonomous avian-inspired dynamic grasping and perching,” *Bioinspiration & Biomimetics*, vol. 9, no. 2, pp. 025 010–025 024, June 2014. [pdf], [video].
- [J13] A. D. Ames, K. Galloway, K. Sreenath, and J. W. Grizzle, “Rapidly exponentially stabilizing control lyapunov functions and hybrid zero dynamics,” *IEEE Transactions on Automatic Control (TAC)*, vol. 59, no. 4, pp. 876–891, April 2014. [pdf], [video].
- [J14] K. Sreenath, H.-W. Park, I. Poulakakis, and J. W. Grizzle, “Embedding active force control within the compliant hybrid zero dynamics to achieve stable, fast running on MABEL,” *The International Journal of Robotics Research (IJRR)*, vol. 32, no. 3, pp. 324–345, March 2013. [pdf], [video].
- [J15] K. Sreenath, H.-W. Park, I. Poulakakis, and J. W. Grizzle, “Compliant hybrid zero dynamics controller for achieving stable, efficient and fast bipedal walking on MABEL,” *The International Journal of Robotics Research (IJRR)*, vol. 30, no. 9, pp. 1170–1193, August 2011. [pdf], [video].
- [J16] H.-W. Park, K. Sreenath, J. Hurst, and J. W. Grizzle, “Identification of a bipedal robot with a compliant drivetrain: Parameter estimation for control design,” *IEEE Control Systems Magazine (CSM)*, vol. 31, no. 2, pp. 63–88, April 2011. [pdf], [video]
- This paper was the cover article on IEEE CSM, April 2011 issue.*
- [J17] K. Sreenath, V. Giordano, and F. L. Lewis, “Avoiding shared resource conflicts in mobile sensor networks with multiple missions,” *IET Control Theory & Applications (CTA)*, vol. 1, no. 3, pp. 665–674, May 2007. [pdf].
- [J18] K. Sreenath, F. L. Lewis, and D. O. Popa, “Simultaneous adaptive localization of a wireless sensor network,” *ACM SIGMOBILE Mobile Computing and Communications Review (M2CR)*, vol. 11, no. 2, pp. 14–28, April 2007. [pdf].

Refereed Conference Proceedings

- [C1] Z. Li, X. Cheng, X. B. Peng, P. Abbeel, S. Levine, G. Berseth, and K. Sreenath, “Reinforcement learning for robust parameterized locomotion control of bipedal robots,” in *IEEE International Conference on Robotics and Automation (ICRA)*, Xi’an, China, June 2021. [pdf], [arxiv], [video].

- [C2] A. Xiao*, W. Tong*, L. Yang*, J. Zeng, Z. Li, and K. Sreenath, “Robotic guide dog: Leading a human with leash-guided hybrid physical interaction,” in *IEEE International Conference on Robotics and Automation (ICRA)*, Xi’an, China, June 2021. [[pdf](#)], [[arxiv](#)], [[video](#)].
- [C3] S. Teng, M. W. Mueller, and K. Sreenath, “Legged robot state estimation in slippery environments using invariant extended kalman filter with velocity update,” in *IEEE International Conference on Robotics and Automation (ICRA)*, Xi’an, China, June 2021. [[pdf](#)], [[arxiv](#)], [[video](#)].
- [C4] J. Anglingdarma, A. Agrawal, J. Morey, and K. Sreenath, “Motion planning and feedback control for bipedal robots riding a snakeboard,” in *IEEE International Conference on Robotics and Automation (ICRA)*, Xi’an, China, June 2021. [[pdf](#)], [[video](#)].
- [C5] S. Herbert*, J. J. Choi*, S. Qazi, M. Gibson, K. Sreenath, and C. J. Tomlin, “Scalable learning of safety guarantees for autonomous systems using hamilton-jacobi reachability,” in *IEEE International Conference on Robotics and Automation (ICRA)*, Xi’an, China, June 2021. [[pdf](#)], [[arxiv](#)].
- [C6] F. Castañeda*, J. Choi*, B. Zhang, C. J. Tomlin, and K. Sreenath, “Gaussian process-based min-norm stabilizing controller for control-affine systems with uncertain input effects and dynamics,” in *American Control Conference (ACC)*, New Orleans, LA, May 2021. [[pdf](#)], [[arxiv](#)].
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Best Entertainment and Amusement Paper Finalist.
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- This paper won the RSS Best Paper Award 2013*
- [C54] J. Thomas, J. Polin, K. Sreenath, and V. Kumar, “Avian-inspired grasping for quadrotor micro uavs,” in *ASME International Design Engineering Technical Conference (IDETC)*, Portland, OR, August 2013. [pdf], [video].
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- [C64] P. Ballal, F. L. Lewis, J. Mireles, Jr., and K. Sreenath, “Deadlock avoidance for free choice multi-reentrant flow lines: Critical siphons & critical subsystems,” in *IEEE Mediterranean Conference on Control and Automation (MED)*, Athens, Greece, June 2007, pp. 1–8. [[pdf](#)].
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This paper won the IEEE RAM Conf. Best Paper Award 2006.
- [C66] D. O. Popa, K. Sreenath, and F. L. Lewis, “Robotic deployment for environmental sampling applications,” in *IEEE International Conference on Control and Automation (ICCA)*, vol. 1, Budapest, Hungary, June 2005, pp. 197–202. [[pdf](#)].

Published Abstracts

- [A1] [K. Poggensee](#), K. Sreenath, and S. H. Collins, “Understanding the mechanisms behind human-in-the-loop optimization strategies,” in *Dynamic Walking Conference (DW)*, June 2017.
- [A2] [X. Yang](#), K. Sreenath, and Nathan, “Online adaptive teleoperation via incremental intent modeling,” in *Late Breaking Report, ACM/IEEE International Conference on Human-Robot Interaction (HRI)*, 2017.
- [A3] [Q. Nguyen](#) and K. Sreenath, “Dynamic bipedal walking over time-varying stepping stones,” in *Dynamic Walking Conference (DW)*, Michigan, June 2016.
- [A4] [K. Poggensee](#), K. Sreenath, and S. H. Collins, “Methods to improve system identification in a human-exoskeleton,” in *Dynamic Walking Conference (DW)*, Michigan, June 2016.
- [A5] [K. Poggensee](#), K. Sreenath, and S. H. Collins, “Identifying the dynamics of a human-exoskeleton system,” in *Dynamic Walking Conference (DW)*, Ohio State University, July 2015.
- [A6] [R. Shu](#), [A. Siravuru](#), and K. Sreenath, “An active damping leg for safe landing from a free fall,” in *Dynamic Walking (DW)*, Ohio State University, July 2015.
- [A7] [Q. Nguyen](#) and K. Sreenath, “Dynamic bipedal walking while carrying an unknown time-varying load,” in *Dynamic Walking (DW)*, Ohio State University, July 2015.
- [A8] K. Sreenath, H.-W. Park, I. Poulakakis, and J. W. Grizzle, “Hybrid zero dynamics based control design for efficient walking,” in *Dynamic Walking Conference (DW)*, MIT, July 2010.
- [A9] H.-W. Park, K. Sreenath, J. Hurst, and J. W. Grizzle, “System identification and modeling for mabel, a bipedal robot with a cable-differential-based compliant drivetrain,” in *Dynamic Walking Conference (DW)*, MIT, July 2010.

Theses / Supervised Theses

- [T1] [A. Siravuru](#), “Geometric control and learning for dynamic legged robots,” Ph.D. dissertation, Carnegie Mellon University, Pittsburgh, PA, December 2019. [[pdf](#)].
- [T2] [Q. Nguyen](#), “Robust and adaptive dynamic walking of bipedal robots,” Ph.D. dissertation, Carnegie Mellon University, Pittsburgh, PA, December 2017. [[pdf](#)]
This dissertaton won the Best Dissertation Award in CMU Mechanical Engineering.
- [T3] [G. Wu](#), “Safety-critical geometric control design with application to aerial transportation,” Ph.D. dissertation, Carnegie Mellon University, Pittsburgh, PA, November 2017. [[pdf](#)].

- [T4] K. Sreenath, “Feedback control of a bipedal walker and runner with compliance,” Ph.D. dissertation, The University of Michigan, Ann Arbor, MI, August 2011. [[pdf](#)].
- [T5] K. Sreenath, “Adaptive sampling using mobile WSN,” Master’s thesis, University of Texas at Arlington, Arlington, TX, USA, December 2005. [[pdf](#)].

Patents and Invention Disclosures

- [P1] N. Michael, X. Yang, and K. Sreenath, “Efficient teleoperation of mobile robots via online adaptation,” US Patent App. (US20190271979A1), Carnegie Mellon University., September 2019.
- [P2] V. Krishnamurthy, P. Rastogi, G. A. Rock, K. Sreenath, C. A. Yhap, T. Cook, and J. Sharma, “Automatic sorting of waste,” US Patent App. (US20180016096A1), Clean Robotics Inc., January 2018.
- [P3] N. Michael, X. Yang, and K. Sreenath, “A task-agnostic user-independent framework for improving human-in-the-loop control of mobile robots via adaptive teleoperation,” Invention Disclosure, Carnegie Mellon University, March 2017.
- [P4] K. Sreenath, X.-D. He, Y. Jiang, and W. Gleason, “Fully integrated automated test apparatus for measuring material conductivity under controlled atmosphere,” Invention Disclosure, Saint-Gobain Northboro R&D Center, April 2006.

Technical Reports

- [R1] R. Lee, K. Sreenath, and S. Scherer, “Modeling and control of coaxial uav with swashplate controlled lower propeller,” Robotics Institute, Carnegie Mellon University, Pittsburgh, PA, Tech. Rep. CMU-RI-TR-16-33, June 2016.
- [R2] H.-W. Park, K. Sreenath, J. W. Hurst, and J. W. Grizzle, “Identification and dynamic model of a bipedal robot with a cable-differential-based compliant drivetrain,” University of Michigan Control Group, Tech. Rep. CGR 10-06, 2010.
- [R3] K. Sreenath, “Multiple sample seebeck and resistivity test automation,” Saint-Gobain Northboro R&D Center, Northboro, MA, USA, Tech. Rep. TM-2006-991, 2006.
- [R4] K. Sreenath, “Furnace control automation,” Saint-Gobain Northboro R&D Center, Northboro, MA, USA, Tech. Rep. TM-2006-1078, 2006.
- [R5] K. Sreenath and X.-D. He, “Design and implementation of data acquisition hardware and interface for the controlled oxygen SOFC test station system,” Saint-Gobain Northboro R&D Center, Northboro, MA, USA, Tech. Rep. TM-2006-937, 2006.

Invited Talks

- [S1] **Berkeley Deep Drive (BDD) / Berkeley Artificial Intelligence Research (BAIR)**, *Invited Speaker at Workshop*.
“Reinforcement learning for safety-critical control,” Berkeley, CA, Aug. 2020.
- [S2] **Indian Institute of Science**, *Invited Speaker at Cyber-Physical Systems Symposium*.
“Safety-critical control with model uncertainty: A reinforcement learning based approach,” Bangalore, India, Jul. 2020.
- [S3] **University of California, Berkeley**, *Semi-Autonomous Systems Seminar*.
“Safety-critical control for dynamic legged robotics with model uncertainty: Robust, adaptive, and RL based approaches,” Berkeley, CA, Apr. 2020.
- [S4] **Berkeley Deep Drive (BDD) / Berkeley Artificial Intelligence Research (BAIR)**, *Invited Speaker at Workshop*.
“Multi modal robotics - towards last mile delivery,” Berkeley, CA, Dec. 2019.

- [S5] **Bay Area Robotics Symposium (BARS)**, *Invited Speaker*.
“What else can legged robots do?” Berkeley, CA, Nov. 2019.
- [S6] **University of Illinois Urbana-Champaign (UIUC)**, *Decision and Control Seminar Series*.
“Safety-critical control for dynamic legged and aerial robotics,” Champaign, IL, Oct. 2019.
- [S7] **A National Academies of Sciences-US National Committee for Theoretical and Applied Mechanics Workshop**, *Invited Speaker at Workshop on Modeling and Simulation of Wildfires*.
“Towards creating an aerial fire hose,” Berkeley, CA, Oct. 2019.
- [S8] **Ohio State University**, *Robotics / Bioengineering Seminar*.
“Safety-critical control for dynamic legged and aerial robotics,” Columbus, Ohio, Oct. 2019.
- [S9] **Honda Research Institute**, *Invited Speaker*.
“Towards autonomous driving for legged robots,” San Jose, CA, Jul. 2019.
- [S10] **European Control Conference**, *Invited Speaker for Tutorial Session on Control Barrier Functions: Theory and Applications*.
“Exponential control barrier functions for robust stability,” Naples, Italy, Jun. 2019.
- [S11] **International Symposium on Aerial Robotics**, *Plenary Talk*.
“Safety-critical control for dynamic aerial robotics,” Toronto, Canada, May 2019.
- [S12] **University of California, Berkeley**, *Model Predictive Control Lab*.
“Exponential control barrier functions for safety-critical control of bipedal robots,” Berkeley, CA, May 2019.
- [S13] **CITRIS/CPAR Control Theory and Automation Symposium | 2nd NorCal Control Workshop**, *Panel Moderator*.
“The academic career panel with s. carpin, m. gomez, and prof. c. j. tomlin,” Berkeley, CA, Apr. 2019.
- [S14] **University of California, Santa Cruz**, *Applied Math Seminar*.
“Safety-critical control for dynamic legged and aerial robotics,” Santa Cruz, CA, Jan. 2019.
- [S15] **Berkeley Deep Drive (BDD) / Berkeley Artificial Intelligence Research (BAIR)**, *Invited Speaker at Workshop*.
“Towards autonomous driving for legged robots,” Berkeley, CA, Nov. 2018.
- [S16] **Bay Area Robotics Symposium (BARS)**, *Invited Speaker*.
“Agility and safety for dynamic robotics,” Stanford, CA, Nov. 2018.
- [S17] **University of California, Berkeley**, *Semi-Autonomous Systems Seminar*.
“Exponential and discrete control barrier functions for safety-critical control of bipedal robots,” Berkeley, CA, Sep. 2018.
- [S18] **Berkeley Deep Drive (BDD)**, *Invited Speaker*.
“Towards autonomous driving for legged robots,” Berkeley, CA, Sep. 2018.
- [S19] **University of California, Berkeley**, *Mechanical Engineering Scholars Program*.
“Dynamic legged and aerial robotics: Hybrid robotics group,” joint with M. Mueller, Berkeley, CA, Aug. 2018.
- [S20] **Stanford University**, *Robotics and Autonomous Systems Seminar*.
“Safety-critical control for dynamic legged and aerial robotics,” Stanford, CA, Jun. 2018.
- [S21] **Google**, *Robotics Seminar, Google Brain*.
“Towards deep visual perception for dynamic bipedal locomotion over discrete terrain,” Mountain View, CA, Apr. 2018.
- [S22] **NASA Ames**, *Robotics Seminar*.
“Safety-critical control for dynamic legged and aerial robotics,” Moffett Field, CA, Apr. 2018.

- [S23] **University of California, Berkeley**, *Academic Lives Program*.
“Robots, humans and artificial intelligence: Dynamic legged and aerial robotics,” Berkeley, CA, Apr. 2018.
- [S24] **University of California, Berkeley**, *CPAR Seminar Series*.
“Safety-critical control for dynamic legged and aerial robotics,” Berkeley, CA, Jan. 2018.
- [S25] **College of San Mateo**, *Invited Speaker*.
“Dynamic legged and aerial robotics,” San Mateo, CA, Jan. 2018.
- [S26] **Bay Area Robotics Symposium (BARS)**, *Invited Speaker*.
“Robust agility and safety for dynamic legged locomotion over discrete terrain,” Berkeley, CA, Nov. 2017.
- [S27] **IEEE International Conference on Humanoid Robots**, *Invited Speaker at Workshop on Locomotion and Manipulation*.
“Robust agility and safety for dynamic aerial manipulation,” Birmingham, UK, Nov. 2017.
- [S28] **IEEE International Conference on Intelligent Robots (IROS)**, *Invited Speaker at Workshop on Planning Legged and Aerial Locomotion with Dynamic Motion Primitives*.
“Dynamic legged locomotion over stochastic discrete terrain,” Vancouver, Canada, Sep. 2017.
- [S29] **Berkeley AI and Robotics (BAIR) Nvidia AI Day**, *Invited talk*.
“Towards deep visual perception for dynamic bipedal walking on discrete terrain,” Berkeley, CA, Sep. 2017.
- [S30] **Carnegie Mellon University**, *Mechanical Engineering Departmental Seminar*.
“Robust safety-critical control of dynamic robotic systems,” Pittsburgh, PA, April 2017.
- [S31] **Boston University**, *Mechanical Engineering Departmental Seminar*.
“Robust safety-critical control of dynamic robotic systems,” Boston, MA, April 2017.
- [S32] **University of Texas at Austin**, *Department of Mechanical Engineering*.
“Robust safety-critical control of dynamic robotic systems,” Austin, TX, March 2017.
- [S33] **Arizona State University**, *School of Computing, Informatics, and Decision Systems Engineering*.
“Robust safety-critical control of dynamic robotic systems,” Phoenix, AZ, March 2017.
- [S34] **University of California, Berkeley**, *Department of Mechanical Engineering*.
“Robust safety-critical control of dynamic robotic systems,” CA, March 2017.
- [S35] **Northeastern University**, *College of Computer and Information Science*.
“Robust safety-critical control of dynamic robotic systems,” Boston, MA, March 2017.
- [S36] **Lehigh University**, *Mechanical Engineering & Mechanics Departmental Seminar*.
“Robust agility and safety for dynamic aerial manipulation and legged locomotion,” Bethlehem, PA, November 2016.
- [S37] **Georgia Tech**, *Institute for Robotics & Intelligent Machines (IRIM) Seminar Series*.
“Robust agility and safety for dynamic aerial manipulation and legged locomotion,” Atlanta, GA, October 2016.
- [S38] **Syracuse University**, *Mechanical and Aerospace Engineering Seminar Series*.
“Feedback control for robust constrained dynamic bipedal locomotion,” Syracuse, NY, February 2016.
- [S39] **Indian Institute of Science (IISc)**, *Invited Seminar*.
“Nonlinear feedback for robust constrained dynamic bipedal walking,” Bangalore, India, December 2015.
- [S40] **Indian Institute of Information Technology (IIIT) Hyderabad**, *Invited Seminar*.
“Aerial robotics for dynamic load manipulation and transportation,” Hyderabad, India, December 2015.

- [S41] **Dynamic Walking Conference**, *Invited Speaker*.
 “Dynamic bipedal walking while carrying an unknown time-varying load,” joint with Q. Nguyen, Columbus, OH, July 2015.
- [S42] **JASONS**, *Invited Speaker*.
 “Aerial load transportation in the 2020s – a glimpse into the future,” San Diego, CA, June 2015.
- [S43] **MIT**, *Invited Speaker at International Symposium on Adaptive Motions in Animals and Machines*.
 “Dynamic aerial manipulation in birds-of-prey and aerial robots,” Cambridge, MA, June 2015.
- [S44] **Robotics: Science and Systems (RSS)**, *Workshop on Dynamic Locomotion*.
 “Control Lyapunov function based quadratic programs for torque saturated bipedal walking,” Berkeley, CA, July 2014.
- [S45] **Carnegie Mellon University**, *Electrical and Computer Engineering Seminar Series*.
 “Feedback control for achieving dynamic aerial manipulation,” Pittsburgh, PA, November 2013.
- [S46] **Carnegie Mellon University**, *Robotics Institute Seminar*.
 “Nonlinear geometric control for highly dynamic legged locomotion and aerial manipulation,” Pittsburgh, PA, October 2013.
- [S47] **IEEE Smart Tech Metro Area Workshop**, *Invited Speaker*.
 “Highly dynamic legged locomotion and aerial manipulation,” Boston, MA, September 2013.
- [S48] **Robotics: Science and Systems (RSS)**, *Invited Speaker at Workshop on Robot Design and Control: Advanced Robot Motion*.
 “Abstractions for dynamic walking,” Berlin, Germany, July 2013.
- [S49] **Robotics: Science and Systems (RSS)**, *Invited Speaker at Workshop on Aerial Mobile Manipulation*.
 “Avian inspired grasping for quadrotor mavs,” Berlin, Germany, July 2013.
- [S50] **George Washington University**, *Mechanical Engineering Graduate Seminar*.
 “Highly-dynamic legged locomotion through nonlinear control,” Washington D.C., April 2013.
- [S51] **Carnegie Mellon University**, *Invited Seminar*.
 “Abstractions and control policies for agility,” Pittsburgh, PA, March 2013.
- [S52] **Indian Institute of Technology (IIT) Bombay**, *Invited Speaker*.
 “Feedback control for achieving walking and running on a biped with compliance,” Mumbai, India, March 2012.
- [S53] **Indian Institute of Technology (IIT) Madras**, *Invited Speaker*.
 “Feedback control of a bipedal robot with compliance,” Chennai, India, March 2012.
- [S54] **BITS Pilani, Hyderabad**, *Invited Speaker*.
 “Legged Robotics - Machines that Run,” Hyderabad, India, February 2012.
- [S55] **Indian Institute of Technology (IIT) Hyderabad**, *Invited Speaker*.
 “Control design for achieving walking and running on a compliant bipedal robot,” Hyderabad, India, February 2012.
- [S56] **University of Toledo**, *EECS Graduate Seminar*.
 “Achieving running on a bipedal robot with compliance,” Toledo, OH, October 2011.
- [S57] **University of Pennsylvania**, *GRASP Special Seminar, GRASP Lab*.
 “Achieving walking and running on a biped with compliance: A feedback control design,” Philadelphia, PA, June 2011.
- [S58] **MIT**, *Robot Locomotion Group*.
 “Feedback control of a compliant bipedal walker and runner,” Cambridge, MA, April 2011.

- [S59] **MIT, Biomimetic Robotics Lab.**
“Towards achieving running on MABEL,” Cambridge, MA, April 2011.
- [S60] **The University of Michigan, Ann Arbor, Control Seminar Series.**
“Modeling, feedback control and experimental results for MABEL, a planar bipedal robot,” joint with J. W. Grizzle and H.-W. Park, MI, September 2010 (*The second graduate student speaker in last 4 years.*).
- [S61] **BITS Pilani, Hyderabad, Invited Speaker.**
“Legged robots - An Introduction,” Hyderabad, India, December 2008.
- [S62] **Automation and Robotics Research Institute (ARRI), University of Texas, Arlington, ARRI Tech Fest.**
“Adaptive sampling algorithms for field estimation using mobile robotic sensors,” joint with M. F. Mysorewala, Fort Worth, TX, September 2005.

Professional Activities

Editorial Service

- 2020 Area Chair, Conference on Robot Learning (CoRL).
- 2020 Assoc. Editor for IEEE-RAS International Conference on Intelligent Robots and Systems (IROS).
- 2019 Program Committee Member, ACM International Conference on Hybrid Systems: Computation and Control (HSCC).
- 2018-2019 Assoc. Editor for IEEE International Conference on Robotics and Automation (ICRA).
- 2016-2019 International Program Committee Member for Indian Control Conference (ICC).
- 2015-2019 Assoc. Editor for IEEE-RAS International Conference on Humanoid Robots (Humanoids).
- 2017-2018 Area Chair, Robotics: Science and Systems (RSS).
- 2016-2018 Assoc. Editor for American Control Conference (ACC).
- 2016-2018 Assoc. Editor for IEEE-CSS International Conference on Decision and Control (CDC).
- 2016 Chief Respondent, Workshop on Algorithmic Foundations of Robotics (WAFR).
- 2015 Program Committee Member, Robotics: Science and Systems (RSS).

Conference and Workshop Organization

- Apr. 2019 CITRIS/CPAR Control Theory and Automation Symposium | 2nd NorCal Control Workshop - norcal-control.github.io
- Jul. 2016 Invited session on Legged Locomotion at American Control Conference.
- Apr. 2015 NSF Workshop on Locomotion and Manipulation - Why the great divide? hybrid-robotics.berkeley.edu/locomanip-greatdivide/
- Jul. 2014 RSS Workshop on Dynamic Locomotion - hybrid-robotics.berkeley.edu/dynamiclocomotion/

Conference Session Chair

- Oct. 2019 Session Chair for IEEE-RAS International Conference on Humanoid Robots (Humanoids).
- Jul. 2017 Session Chair for Robotics: Science and Systems (RSS).
- Dec. 2016 Chair for regular session on Mechanical Systems at IEEE Conference on Decision and Control (CDC).
- Jul. 2016 Co-Chair for invited session on Legged Locomotion at American Control Conference (ACC).
- Oct. 2015 Co-Chair for regular session on Robotics at IFAC Conference on Analysis and Design of Hybrid Systems (ADHS).
- Jul. 2015 Co-Chair for regular session on Nonlinear Systems at American Control Conference (ACC).

Book Reviewer

- Springer, 2015.

Journal Reviewer

- IEEE Transactions on Automatic Control (TAC), 2012-2020.
- Automatica, 2019-2020.
- IEEE Control Systems Letters (L-CSS), 2020, 2017.
- International Journal of Robotics Research (IJRR), 2019, 2014, 2013.
- IEEE Robotics and Automation Letters (RA-L), 2019 2016-2017.
- ASME Journal of Mechanisms and Robotics (JMR), 2019.
- IEEE Transactions on Control System Technology (TCST), 2019.
- IEEE Transactions on Robotics (TRO), 2017-2018, 2014-2015, 2010.
- Robotica, 2018, 2014-2015 2012.
- Journal of Autonomous Robots (AURO), 2016-2017, 2014, 2013, 2011.
- Nonlinear Analysis: Hybrid Systems Journal, 2016.
- Journal of Artificial Intelligence, 2014.
- ASME Journal of Mechanics and Robotics, 2014, 2013.
- ASME Journal of Dynamic Systems, Measurement and Control, 2012.
- Journal of Robust and Nonlinear Control, 2017.
- IEEE Transactions on Industrial Informatics, 2017.
- IEEE Transactions on Automation Science and Engineering (TASE), 2016.
- IEEE Transactions on Mechatronics, 2014, 2012.
- IEEE Transactions on Neural Networks, 2012.
- IEEE Robotics and Automation Magazine, 2012.
- Advanced Robots, 2014.
- IET Control Theory and Applications (CTA), 2015.
- Chaos: An Interdisciplinary Journal of Nonlinear Science, 2010.
- International Journal of Humanoid Robotics, 2011.
- Journal of Intelligent and Robotic Systems, 2010.
- Journal of Aerospace Engineering, 2014.
- Simulation Modelling Practice and Theory (SIMPAT), 2010.
- Intelligent Industrial Systems, 2015.

Conference Reviewer

- IEEE Conference on Decision and Control (CDC), 2019, 2012-2016
- IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), 2019, 2012-2016
- IEEE International Conference on Robotics and Automation (ICRA), 2010-2018
- American Control Conference (ACC), 2018, 2013-2016
- Robotics: Science & Systems (RSS), 2014-2015
- IEEE-RAS International Conference on Humanoid Robots (Humanoids), 2016, 2014
- IEEE Multi-Conference on Systems and Control (MSC), 2016, 2010
- International Conference on Advanced Robotics (ICAR), 2015
- ACM/IEEE International Conference on Human-Robot Interaction (HRI), 2013

Grant Reviewer

- National Science Foundation Panel, 2019, 2013-2017.

- 2 Dynamics, Control and Systems Diagnostics (DCSD) panels, CMMI Directorate.
- 1 Robust Intelligence (RI) panel, CISE Directorate.
- 2 National Robotics Initiative (NRI) Panels, CISE Directorate.
- 1 Cyber-Physical Systems (CPS) panel, CISE Directorate.

Society Membership

- Member, IEEE Robotics and Automation Society (since 2012).
- Member, IEEE Control Systems Society (since 2011).
- Member, Tau Beta Pi – The Engineering Honor Society (since 2005).
- Member, Eta Kappa Nu – Epsilon Mu Chapter (since 2005).
- Member, mensa (since 2002).
- Member, IEEE (since 2000).

University Service

Service on Berkeley Committees

- 2020-2021 Graduate Studies Committee for College of Engineering.
- 2020-2021 Committee on Undergraduate Admissions.
- 2020-2021 Committee on Undergraduate Awards.
- 2020-2021 Task Force on Aerospace.
- 2020 Aerospace Working Group.
- 2019-2020 Committee on Undergraduate Admissions.
- 2019-2020 Task Force on Creating a Data Science ME Course.
- Fall 2019 College Task Force on Aero/Astro/Space Sciences program.
- 2018-2020 Committee on Web & Communication.
- Spring 2019 Subcommittee on Teaching, Advising, Minor, Major under the COE Robotics Faculty Council.
- 2018-2019 Committee on Courses.
- 2018-2019 Committee on Safety.

Service on CMU Committees

- Spring 2017 Matlab Task Force.
- 2016-2017 Undergraduate Education Committee.
- 2016-2017 TCS Building Committee.
- 2013-2017 Faculty Search Committee for Robotics and Control.
- 2013-2016 Graduate Education Committee and PhD Committee.
- 2013 Strategic planning for PhD in Mechanical Engineering.

Ph.D. Committee Member

Chia-yin Shih, supervised by Laurent El Ghaoui.

- Ph.D. 2020 Ignasi Clavera Gilaberte, supervised by Pieter Abbeel.
- Ph.D. 2020 Somil Bansal, supervised by Claire J. Tomlin.
- Ph.D. 2020 David Fridovich-Keil, supervised by Claire J. Tomlin.
- Ph.D. 2020 Steve Crews, supervised by Matt Travers.
- Ph.D. 2020 Justin Yim, supervised by Ron Fearing.
- Ph.D. 2019 Dexter Scobee, supervised by Shankar Sastry.
- Ph.D. 2019 Xiaoguang Dong, supervised by Metin Sitti.

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Ph.D. 2018	Donghoon Son, supervised by Metin Sitti.	<i>Carnegie Mellon University</i>
Ph.D. 2018	Tony Dear, supervised by Howie Choset.	<i>Carnegie Mellon University</i>
Ph.D. 2017	David Colmenares, supervised by Metin Sitti.	<i>Carnegie Mellon University</i>
Ph.D. 2017	Wei Jing, supervised by Kenji Shimada.	<i>Carnegie Mellon University</i>
Ph.D. 2017	Nipun Popli, supervised by Maria Ilic.	<i>Carnegie Mellon University</i>
Ph.D. 2017	Vishnu Desraj, supervised by Nathan Michael.	<i>Carnegie Mellon University</i>
Ph.D. 2017	Albert Wu, supervised by Hartmut Geyer.	<i>Carnegie Mellon University</i>
Ph.D. 2016	Justin Thomas, supervised by Vijay Kumar.	<i>Univ. of Pennsylvania</i>
Ph.D. 2016	Wei Sin Ang, supervised by Hartmut Geyer.	<i>Carnegie Mellon University</i>
Ph.D. 2016	Juanjuan Zhang, supervised by Steve Collins.	<i>Carnegie Mellon University</i>
Ph.D. 2016	Erdnic Tatar, supervised by Gary Fedder and Tamal Mukherjee.	<i>Carnegie Mellon University</i>
Ph.D. 2016	Siyuan Feng, supervised by Chris Atkeson.	<i>Carnegie Mellon University</i>
Ph.D. 2015	Myunghee Kim, supervised by Steve Collins.	<i>Carnegie Mellon University</i>
Ph.D. 2015	Jiuguang Wang, supervised by Chris Atkeson.	<i>Carnegie Mellon University</i>
Ph.D. 2015	Mike Burkholder, supervised by Shawn Lister.	<i>Carnegie Mellon University</i>

Collaborators on Publications in the Past 5 Years

Caltech	Aaron Ames	Berkeley	Trevor Darrell
CMU	Hartmut Geyer	Michigan	Jessy W. Grizzle
Penn	Vijay Kumar	CMU	Nathan Michael
Berkeley	Mark W. Mueller	USC	Quan Nguyen
Berkeley	Oliver O'Reilly	Syracuse	Amit K. Sanyal
Berkeley	Shankar S. Sastry	Berkeley	Claire J. Tomlin

Outreach at Berkeley

- Mar. 2020 Hosted 3 batches of Society of Women Engineer's (SWE) Mini University program that get underserved high-school students exposed to college environments and STEM careers.
- Aug.-Dec. 2019 First Lego League (FLL) Coach for an Elementary School Team of 4th Graders (3 hours / week).
- Apr. 2019 Cal Day Lab Demo and Tours. Cal Day is a one-day open house for research at Berkeley to the general public.
- Mar. 2019 Lab Tour for Pre-School Children from Haste Child Development Center.
- Feb. 2019 Developed Line Following Robot for Haste Child Development Center.
- Feb. 2019 Visted Haste Child Development Center to conduct a live robot build with a team of pre-schoolers.
- Nov. 2018 Lab Tour for Delegation from Sony.
- Nov. 2018 Lab Tour for UEC-UCB Workshop attendees.
- Oct. 2018 Lab Tour for Delegation from Army Futures Command.
- Apr. 2018 Talk on "Robots, Humans and Artificial Intelligence" to a group of senior citizens as part of Academic Lives Program at Berkeley.
- Mar. 2018 Lab Tour for Delegation from Baoneng.
- Jan. 2018 Talk on "Dynamic Legged and Aerial Robotics" at community College of San Mateo.

Media

Cassie Cal

Television

May 2018 CBS Live

Online

Aug. 2020 IEEE Spectrum

Nov. 2019 IEEE Spectrum, Digital Trends, Inceptive Mind, Hackster News, Dailystar, ENewsTrends.

Jun. 2019 IEEE Spectrum, Techxplore, CNet, Slashgear, Technabob, MSN.

ATRIAS

Online

Jun. 2018 IEEE Spectrum, TechCrunch, Digital Trends, Techxplore.

May 2017 Axios.

TrashBot

Online

May. 2016 IEEE Spectrum

Feb. 2016 TechCrunch

High-Speed Aerial Pickup

Online

Mar. 2013 Huffington Post, Discovery News, New Scientist, Gizmodo, Phys.org

MABEL

Museum Exhibits

Jan. 2014 - MABEL on exhibit at the Chicago Field Museum.

Television

Sep. 2011 CNN, ESPN, FOX 2 News, CBS affiliates, all aired in the US.

Aug. 2011 TV 5 News, aired in India.

Mar. 2011 The Discovery Channel, aired in Canada.

Press

Sep. 2011 Chicago Tribune, Hindustan times, PRISM, ISTOÉ magazine, Brazil, Kommersant Science magazine, Russia.

Jun. 2010 Chicago Tribune, The Detroit News, The Michigan Daily.

Online

Sep. 2011 IEEE Spectrum, NSF Live Science

Aug. 2011 Engadget, Gizmodo, Slashdot, Wired UK, Popular Science, IEEE Spectrum, The Atlantic, MSNBC, Indian Express, Extreme Tech, Discover Magazine, The Blaze, IEEE Spectrum, PC World, The Atlantic, Future technology trends.

May 2010 Engadget, Fast Company, AnnArbor.com, Michigan Record Update, Robotics Technology Center.