

Hamid Marvi, Ph.D.

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EMPLOYMENT

Assistant Professor

Arizona State University

School for Engineering of Matter, Transport & Energy
Graduate Faculty at School of Biological and Health Systems Engineering
Director of the BIRTH Lab
Honors Faculty
Member of the AIMS center

Tempe, AZ

Aug. 2015-Present

Postdoctoral Fellow

Carnegie Mellon University

Department of Mechanical Engineering
Advisor: Metin Sitti

Pittsburgh, PA

Jan. 2014-July 2015

Lecturer

Carnegie Mellon University

Department of Mechanical Engineering

Pittsburgh, PA

Aug. 2014-Dec. 2014

Postdoctoral Fellow

Georgia Institute of Technology

School of Physics
Advisors: Daniel Goldman and David Hu

Atlanta, GA

Aug. 2013-Jan. 2014

EDUCATION

Georgia Institute of Technology

Ph.D., Mechanical Engineering
Dissertation: "*The role of functional surfaces in the locomotion of snakes*"
Dissertation Advisor: David Hu

Atlanta, GA

GPA 4.0/4.0 July 2013

Clemson University

M.Sc., Mechanical Engineering

Clemson, SC

GPA 4.0/4.0 Dec. 2009

Sharif University of Technology (SUT)

M.Sc., Biomedical Engineering
Thesis: "*Modeling of a micro swimmer*"

Tehran, Iran

GPA 17/20 May 2007

Iran University of Science and Technology (IUST)

B.Sc., Mechanical Engineering

Thesis: “*The feasibility investigation of using micro turbines at hybrid vehicles*”

Tehran, Iran

GPA 15.5/20 May 2004

HONORS and AWARDS

Major Awards

- KEEN Professorship, The Kern Family Foundation, 2017.
- Peebles Award for Graduate Student Research in Adhesion Science, Adhesion Society, 2015.
- Sigma Xi Best Ph.D. Thesis Award, Georgia Institute of Technology, 2014.
- Best Student Paper of the Year in Four Conferences, American Society of Mechanical Engineers, Dynamic Systems and Control Division, ASME-DSCD Mechatronics (among all of the papers presented at ASME-DSCC, American Control Conference (ACC), ASME-IEEE International Conference on Advanced Intelligent Mechatronics (AIM), and International Federation of Automatic Control (IFAC) Symposium on Mechatronic Systems), 2012.
- GoSTEM Graduate Teaching Fellowship, Georgia Tech, Goizueta Foundation, 2012-2013.
- Best Poster Award, Georgia Tech Research and Innovation Conference, 2012.
- TechSTAR Award, Georgia Tech, 2012.
- Finalist, Innovation Competition, Georgia Tech Research and Innovation Conference, 2012.
- Emerald Publishing Literati Network Award for Excellence granted to article entitled "The Effect of Up-armorizing the High-Mobility Multi-purpose Wheeled Vehicle (HMMWV) on the Off-road Vehicle Performance", 2011.
- Finalist, Best Student Paper Award at the ASME Dynamic Systems and Control Conference, Arlington, VA, 2011.

Other Awards

- Purdue University Travel Grant, Purdue Prospective Faculty Workshop, 2014.
- Milliken & Company Travel Grant and Honorarium, Milliken Graduate Research Symposium, 2013.
- SICB Student Support, Society for Integrative and Comparative Biology, 2012-2014.
- NSF Travel Award, Materials Research Society, 2012.
- Shirley-Chan Honorary DBIO Student-travel Grant, 2012.
- DOE Travel Grant, APS Energy Research Workshop, 2012.
- NSF IOS Travel Award, Society for Integrative and Comparative Biology, 2012.
- ASME Student Travel Award, Dynamic Systems and Control Conference, 2011.
- Georgia Tech College of Engineering and Student Government Association Travel Award, 2010-2013.
- IUST Outstanding Student Award, 2002.

PUBLICATIONS

Book

1. **H. Marvi**, D. Hu, *Locomotion of Snakes*, in preparation, Springer, Heidelberg, Germany (Scheduled to Appear in 2017).

Journal Papers

1. G. Lin*, Z. Ye*, X. Dong*, **H. Marvi**, O. Erin, W. Hu, M. Sitti, “Shape-programmable magnetic soft matter,” *Proceedings of the National Academy of Sciences*, 201608193, 2016.
2. **H. Marvi**, J. Cook, J. Streator, D. Hu, “Snakes Move Their Scales to Increase Friction,” *Journal of Biotribology, Special Issue: Biotribology in Nature*, 5, pp 52-60, 2016.

3. **H. Marvi***, S. Song*, M. Sitti, “Experimental Investigation of Optimal Adhesion of Mushroom-like Elastomer Microfibrillar Adhesives,” *Langmuir*, 31(37), pp10119-10124, 2015. *Equally contributing authors
4. **H. Marvi***, Y. Han*, M. Sitti, “Actively Controlled Fibrillar Friction Surfaces,” *Applied Physics Letters*, 106(5), pp 051602, 2015.
5. **H. Marvi**, C. Gong, N. Gravish, H. Astley, M. Travers, R. Hatton, J. Mendelson, H. Choset, D. Hu, and D. Goldman, “Sidewinding with minimal slip: snake and robot ascent of sandy slopes,” *Science*, 346(6206), pp 224-229, 2014.
6. **H. Marvi**, J. Bridges, D. Hu, “Snakes Mimic Earthworms: Propulsion Using Rectilinear Traveling Waves,” *Journal of the Royal Society Interface*, 10(84), 2013.
7. **H. Marvi**, D. Hu, “Friction Enhancement in Concertina Locomotion of Snakes,” *Journal of the Royal Society Interface*, 9(76), pp 3067-3080, 2012.
8. B. Vasaghi-Gharamaleki, M. Keshavarz, S. Gharibzadeh, M. Sotodeh, **H. Marvi**, J. Mosayebnejad, and I. Ebrahimi Takamjani, “Temperature Changes During and after Eccentric Contractions and its Effect on Force and Desmin Loss in Rat,” *Acta Medica Iranica*, 49(4), pp 225-232, 2011.
9. M. Grujicic, G. Arakere, W. C. Bell, **H. Marvi**, H. V. Yalavarthy, B. Pandurangan, I. Haque and G. M. Fadel, “Reliability-based Design Optimization for Durability of Ground-vehicle Suspension-system Components,” *Journal of Materials Engineering and Performance*, 19(3), pp 301-313, 2010.
10. M. Grujicic, T. He, **H. Marvi**, B. A. Cheeseman, C. F. Yen, “A Comparative Investigation of the Use of Laminate-level Meso-scale and Fracture-mechanics Enriched Meso-scale Composite-material Models in Ballistic Resistance Analyses,” *Journal of Materials Science*, 45, pp 3136-3150, 2010.
11. M. Grujicic, **H. Marvi**, G. Arakere, W. C. Bell, I. Haque “The Effect of Up-armoring the High-Mobility Multi-purpose Wheeled Vehicle (HMMWV) on the Off-road Vehicle Performance,” *Multidiscipline Modeling in Materials and Structures*, 6(2), pp 1169-1182, 2010. (Emerald Publishing Literati Network Award for Excellence)
12. M. Grujicic, **H. Marvi**, G. Arakere, I. Haque, “A Finite Element Analysis of Pneumatic-Tire/Sand Interactions During Off-Road Vehicle Travel,” *Multidiscipline Modeling in Materials and Structures*, 6(2), pp. 284-308, 2010.
13. B. Vasaghi-Gharamaleki, M. Keshavarz, S. Gharibzadeh, **H. Marvi**, J. Mosayebnejad, and I. Ebrahimi Takamjani, “The Effect of Temperature on Eccentric Contraction-induced Isometric Force Loss in Isolated Perfused Rat Medial Gastrocnemius Muscle,” *Tehran University Medical Journal*, 66(6), pp 388-395, 2008.
14. B. Vasaghi-Gharamaleki, M. Keshavarz, S. Gharibzadeh, M. Sotodeh, **H. Marvi**, J. Mosayebnejad, and I. Ebrahimi Takamjani, “The Influence of Temperature Alterations on Eccentric Contraction-Induced Isometric Force and Desmin Loss in Rat Medical Gastrocnemius Muscle,” *Journal of Medical Sciences*, 8(2), pp 162-169, 2008.

Manuscripts In Preparation

1. **H. Marvi**, A. Pandharpurkar, M. Sitti, “Programmable Frictional Surfaces,” to be submitted to *Advanced Materials*.

Refereed Conference Proceedings

1. A. Thoesen, S. Ramirez, **H. Marvi**, “Screw-Powered Propulsion in Granular Media: An Experimental and Computational Study,” *IEEE International Conference on Robotics and Automation (ICRA)*, Brisbane, Australia, May 2018. (In Review)
2. H. Bagheri, V. Taduru, S. Panchal, S. White, **H. Marvi**, “Animal and Robotic Locomotion on Wet Granular Media,” *The 6th International Conference on Biomimetic and Biohybrid Systems (Living Machines)*, Stanford, CA, July 2017.
3. Y. Han*, **H. Marvi***, M. Sitti, “Fiberbot: A Miniature Crawling Robot Using a Directional Fibrillar Pad,” *IEEE International Conference on Robotics and Automation (ICRA)*, Seattle, WA, May 2015.
4. **H. Marvi***, S. Song*, M. Sitti, “Experimental Investigation of Maximal Adhesion of Bio-Inspired Micro-Fiber Adhesives with Mushroom Shaped Tip Endings,” *38th Annual meeting of the Adhesion Society*, Savannah, GA, February 2015. (Pebbles Award)
5. **H. Marvi**, G. Meyers, G. Russell, D. Hu, “Scalybot: a Snake-inspired Robot with Active Frictional Anisotropy,” *ASME Dynamic Systems and Control Conference*, Arlington, VA, November 2011. (Invited Paper, Best Student Paper of the Year in Mechatronics)
6. S.M. Hasheminejad, R. Talebi, **H. Marvi**, “FEM Dynamic Analysis of a Damped Composite Beam,” *5th International Mechanical Engineering Conference*, Rasht, Iran, May 2001.
7. S.M. Hasheminejad, R. Talebi, **H. Marvi**, “Vibration Analysis of a Damped Composite Beam,” *5th International Mechanical Engineering Conference*, Rasht, Iran, May 2001.

PATENTS

1. **H. Marvi**, G. Meyers, D. Hu, J. Glisson, A. Hirabayashi, A. Pavone, “Scalybot,” *U.S. Provisional Patent*, 61/561,574, November 2011.
2. R. Taghavi Zenouz, J. Mosayyebnejad, **H. Marvi**, “Method and Apparatus for Automatic Sampling of a Pressure Distribution Using Scanning Valve,” *Iranian Patent Office*, 35572, July 2006.
3. **H. Marvi**, J. Mosayyebnejad, M. Keshavarz, B. Vasaghi Gharamaleki, “Method and Apparatus for Generating and Recording the Eccentric Contraction of Muscle,” *Iranian Patent Office*, 35940, August 2006.

GRANTS

1. Title: *Octopus Neuromuscular-Inspired Autonomous Arms for Soft Robotics with Adaptive Motions*
Sponsoring Agency: Office of Naval Research
Proposed Period of Performance: 1/1/17-12/31/20
Total Budget: \$2,000,000
2. Title: *Bio-inspired robotics for addressing local industry needs*
Sponsoring Agency: The Kern Family Foundation
Proposed Period of Performance: 8/1/17-12/31/17
Total Budget: \$12,000

3. Title: *The Mechanics of Sidewinding Locomotion*
Sponsoring Agency: Elizabeth Smithgall Watts endowment at Georgia Tech
Proposed Period of Performance: 9/1/2012-6/1/2013
Total Budget: \$12,000

ACADEMIC PRESENTATIONS

Conference Oral Presentations

1. S. Vajrala, H. Bagheri, **H. Marvi**, H. Emady, “Impact of projectiles of different geometries on dry granular media using DEM simulations,” *American Physical Society March Meeting*, New Orleans, LA, March 2017.
2. H. Bagheri, S. Vajrala, V. Taduru, S. White, D. Lee, A. Pazouki, H. Emady, **H. Marvi**, “Locomotion on Wet Granular Media,” *Society for Integrative and Comparative Biology*, New Orleans, LA, January 2017.
3. K. Farrell, Z. Zhao, Q. Wang, D. Elson, X. He, **H. Marvi**, “Heat and pH activated Fibrillar Adhesives,” *Materials Research Society Spring Meeting*, Phoenix, AZ, April 2016.
4. A. Thoesen, E. Asphaug, **H. Marvi**, “Experimental and Computational Characterization of Granular Media at Microgravity with Electrostatic Forces,” *Materials Research Society Spring Meeting*, Phoenix, AZ, April 2016.
5. H. Bagheri, S. Vajrala, V. Taduru, S. White, D. Lee, H. Emady, **H. Marvi**, “Experimental and Computational Characterization of Wet Granular Media,” *Materials Research Society Spring Meeting*, Phoenix, AZ, April 2016.
6. G. Lin*, Z. Ye*, X. Dong*, **H. Marvi**, O. Erin, W. Hu, M. Sitti, “Shape-programmable magnetic soft matter,” *Materials Research Society*, Phoenix, AZ, April 2016.
7. H. Bagheri, S. Vajrala, H. Emady, **H. Marvi**, “Locomotion on Complex Deformable Terrain,” *International Mechanical Engineering Congress & Exposition*, Phoenix, AZ, November 2016.
8. M. Ilami, N. Stephanopoulos, **H. Marvi**, “Reconfigurable DNA Nanorobots,” *International Mechanical Engineering Congress & Exposition*, Phoenix, AZ, November 2016.
9. **H. Marvi**, “Snakes and Geckos on a Complex Plane,” *2nd World Congress on Automation and Robotics*, Philadelphia, PA, June 2016.
10. **H. Marvi**, J. Cook, J. Streater, D. Hu, “Snake Scales: Flexible Cleats for Climbing Deformable Substrates,” *Society of Tribologists and Lubrication Engineers (STLE) Tribology Frontiers Conference*, Chicago-Rosemont, IL, October 2014.
11. **H. Marvi**, C. Gong, M. Tesch, N. Gravish, R. Hatton, J. Mendelson, H. Choset, D. Hu, H. Astley, D. Goldman, “Using Sidewinder rattlesnakes to inform design of robotic devices: the beauty of multidisciplinary research teams,” *Joint Meeting of Ichthyologists and Herpetologists*, Chattanooga, TN, August 2014.

12. H. Astley, C. Gong, M. Serrano, **H. Marvi**, H. Choset, J. Mendelson, D. Hu, and D. I. Goldman, "Cybernetic Sidewinders: Modulation of Orthogonal Body Waves Enables Versatile Maneuverability," *International Physics of Living Systems Network (iPoLS) Annual Meeting*, Munich, Germany, July 2014.
13. **H. Marvi**, J. Streator, D. Hu, "Friction Enhancement in Snake Locomotion," *Society for Industrial and Applied Mathematics (SIAM) Annual Meeting*, Chicago, IL, July 2014.
14. **H. Marvi**, C. Gong, M. Travers, N. Gravish, J. Mendelson, R. Hatton, H. Choset, D. Hu, D. Goldman, "Sidewinding as a Control Template for Climbing on Sand," *APS March Meeting*, Denver, CO, March 2014.
15. **H. Marvi**, C. Gong, N. Gravish, J. Mendelson, R. Hatton, H. Choset, D. Hu, D. Goldman, "Sidewinding as a Control Template for Climbing on Sand," *Society for Integrative and Comparative Biology (SICB) Annual Meeting*, Austin, TX, January 2014.
16. **H. Marvi**, C. Gong, N. Gravish, J. Mendelson, R. Hatton, H. Choset, D. Goldman, D. Hu "Sidewinding as a Control Template for Climbing on Sand," *66th Annual Meeting of APS Division of Fluid Dynamics*, Pittsburgh, PA, November 2013.
17. **H. Marvi**, C. Gong, N. Gravish, J. Mendelson, R. Hatton, H. Choset, D. Hu, D. Goldman, "Sidewinding Snakes on Sand," *Southeast Regional Society for Integrative and Comparative Biology (SESICB) Meeting*, Atlanta, GA, September 2013.
18. **H. Marvi**, "Friction Control in Snakes and Snake Robots," *Milliken Graduate Research Symposium*, Spartanburg, SC, March 2013. (Invited Presentation)
19. **H. Marvi**, R. Chrystal, J. Shieh, J. Mendelson, R. Hatton, H. Choset, D. Goldman, D. Hu, "Sidewinding Snakes on Sand," *Society for Integrative and Comparative Biology (SICB) Annual Meeting*, San Francisco, CA, January 2013.
20. **H. Marvi**, J. Streator, D. Hu, "Snakeskin Tribology," *Materials Research Society (MRS) Fall Meeting*, Boston, MA, November 2012.
21. **H. Marvi**, D. Dimenichi, R. Chrystal, J. Mendelson, D. Goldman, D. Hu, "Sidewinding Snakes on Sand," *65th Annual Meeting of APS Division of Fluid Dynamics*, San Diego, CA, November 2012.
22. **H. Marvi**, D. Hu, "The Role of Functional Surfaces in the Locomotion of Snakes," *Physics of Living Systems Student Research Network (PoLS SRN) meeting*, New Haven, CT, July 2012.
23. **H. Marvi**, J. Streator, D. Hu, "Snakeskin Tribology: How Snakes Generate Large Frictional Anisotropy," *American Physical Society (APS) March Meeting*, Boston, MA, February 2012.
24. **H. Marvi**, J. Cook, and D. Hu, "Rectilinear Locomotion of Snakes and the Design of Scalybot 2," *Society for Integrative and Comparative Biology (SICB) Annual Meeting*, Charleston, SC, January 2012.
25. **H. Marvi**, D. Hu, "Concertina Locomotion of Snakes," *63rd Annual Meeting of APS Division of Fluid Dynamics*, Long Beach, CA, November 2010.

Poster Sessions

1. H. Bagheri, V. Taduru, S. White, **H. Marvi**, "Basiliskbot: A Basilisk Inspired Robot," *Biomimicry and nature-inspired design exhibition at the Tempe Center for the Arts*, Tempe, AZ, May 2017.

2. A. Thoesen, **H. Marvi**, “Simulated novel approaches to asteroid mobility,” *TEDxASU symposium*, Tempe, AZ, March 2017.
3. M. Ilami, K. Ramagiri, E. Fisher, M. Bejarano, V. Ajjampur, A. Apostol, **H. Marvi**, “Magnetic Microrobots for Medical Applications,” *TEDxASU symposium*, Tempe, AZ, March 2017.
4. H. Bagheri, S. Vajrala, V. Taduru, S. White, D. Lee, H. Emady, **H. Marvi**, “Simulation of Robotic Systems on Granular Media,” *TEDxASU symposium*, Tempe, AZ, March 2017.
5. M. Ilami, K. Ramagiri, E. Fisher, M. Bejarano, V. Ajjampur, A. Apostol, **H. Marvi**, “Magnetic Microrobots for Medical Applications,” *5th ASU Rehabilitation Robotics Workshop*, Tempe, AZ, February 2017.
6. H. Bagheri, S. Vajrala, V. Taduru, S. White, D. Lee, H. Emady, **H. Marvi**, “Simulation of Robotic Systems on Granular Media,” *International Mechanical Engineering Congress & Exposition*, Phoenix, AZ, November 2016.
7. A. Thoesen, **H. Marvi**, “Simulated novel approaches to asteroid mobility,” *International Mechanical Engineering Congress & Exposition*, Phoenix, AZ, November 2016.
8. K. Farrell, D. Elson, **H. Marvi**, “Switchable Adhesives for Space Applications,” *International Mechanical Engineering Congress & Exposition*, Phoenix, AZ, November 2016.
9. M. Ilami, K. Ramagiri, E. Fisher, M. Bejarano, V. Ajjampur, A. Apostol, **H. Marvi**, “Magnetic Microrobots for Medical Applications,” *International Mechanical Engineering Congress & Exposition*, Phoenix, AZ, November 2016.
10. P. Wei, **H. Marvi**, “Bio-inspired Smart Skin,” *SEMTE Applied Project Symposium*, Tempe, AZ, April 2016.
11. D. Sanchez, **H. Marvi**, “Environmental Chamber for Testing Space-Rated Adhesives,” *SEMTE Applied Project Symposium*, Tempe, AZ, April 2016.
12. C. Harvey, **H. Marvi**, “Developing Robotic Systems for Locomotion on Granular Media,” *Fulton Undergraduate Research Initiative Symposium*, Tempe, AZ, April 2016.
13. K. Farrell, **H. Marvi**, “Switchable Adhesives for Space Applications,” *Fulton Undergraduate Research Initiative Symposium*, Tempe, AZ, April 2016.
14. S. White, **H. Marvi**, “Animal Locomotion on Granular Media,” *Fulton Undergraduate Research Initiative Symposium*, Tempe, AZ, April 2016.
15. **H. Marvi**, “The Role of Functional Surfaces in the Locomotion of Snakes,” *Purdue Prospective Faculty Workshop*, West Lafayette, IN, March 2014.
16. J. Cook, **H. Marvi**, J. Leisen, D. Hu, “Measuring Energetic Cost of Snake Locomotion Using NMR Spectroscopy,” *Air Products Undergraduate Research Fair at Georgia Tech*, Atlanta, GA, April 2013. (Third Place)

17. J. Shieh, G. Tamayo, Q. Tran, **H. Marvi**, J. Mendelson, H. Choset, D. Goldman, D. Hu, "The Mechanics of Sidewinding on Sand," *8th Annual Undergraduate Research Symposium at Georgia Tech*, Atlanta, GA, April 2013. (Second Place in College of Engineering)
18. J. Cook, **H. Marvi**, J. Leisen, D. Hu, "Measuring Energetic Cost of Snake Locomotion Using NMR Spectroscopy," *8th Annual Undergraduate Research Symposium at Georgia Tech*, Atlanta, GA, April 2013.
19. A. Dickerson, S. Bolan, **H. Marvi**, "GoSTEM Fellows at Radloff Middle and Meadowcreek High School," *Celebrating Teaching Day at Georgia Tech*, Atlanta, GA, March 2013.
20. **H. Marvi**, G. Meyers, J. Cook, E. Chang, D. Hu, "Scalybot: A Snake-inspired Robot," *Physics of Living Systems Student Research Network (PoLS SRN) meeting*, New Haven, CT, July 2012.
21. **H. Marvi**, G. Meyers, J. Cook, E. Chang, D. Hu, "Scalybot: A Snake-inspired Robot," *Georgia Tech Research and Innovation Conference*, Atlanta, GA, February 2012.

Invited Talks

1. Intel, Chandler, AZ, August 2017.
2. Medtronic, Tempe, AZ, July and September 2016.
3. Arizona State University, School of Biological and Health Systems Engineering, Tempe, AZ, September 2016.
4. University of Pennsylvania, GRASP Lab, Philadelphia, PA, June 2016.
5. University of Nevada at Reno, Department of Mechanical Engineering, Reno, NV, March 2016.
6. Ecole Polytechnique Federale de Lausanne (EPFL), School of Engineering, Lausanne, Switzerland, April 2015.
7. EPFL, Institute of Microengineering, Lausanne, Switzerland, March 2015.
8. University of Maryland, Department of Mechanical Engineering, College Park, MD, March 2015.
9. Penn State University, Department of Mechanical and Nuclear Engineering, University Park, PA, February 2015.
10. Arizona State University, School for Engineering of Matter, Transport, and Energy, Tempe, AZ, February 2015.
11. The University of Utah, Department of Mechanical Engineering, Salt Lake City, UT, February 2015.
12. University of Illinois at Urbana-Champaign, Department of Aerospace Engineering, Urbana, IL, January 2015.
13. Iowa State University, Department of Mechanical Engineering, Ames, IA, January 2015.
14. Stony Brook University, Department of Mechanical Engineering, Stony Brook, NY, April 2014.

15. Texas A&M University-Corpus Christi, Department of Mechanical Engineering and Engineering Technology, Corpus Christi, TX, March 2013.
16. University of Tulsa, Department of Mechanical Engineering, Tulsa, OK, February 2013.
17. University of Illinois at Chicago, Department of Mechanical and Industrial Engineering, Chicago, IL, January 2013.
18. Georgia Institute of Technology, Parker H. Petit Institute of Bioengineering and Biosciences, Workshop on Magnetic Resonance, Atlanta, GA, December 2012.
19. MIT, Department of Mechanical Engineering, Cambridge, MA, November 2012.
20. Georgia Institute of Technology, School of Physics, Physics of Living Systems (PoLS) seminar series, Atlanta, GA, November 2012.
21. UC Berkeley, Department of Integrative Biology, Biomechanics seminar series, Berkeley, CA, May 2012.
22. Stanford University, Department of Mechanical Engineering, Stanford, CA, May 2012.
23. MIT, Department of Material Science and Engineering, Cambridge, MA, February 2012.
24. Johns Hopkins University, Department of Mechanical Engineering, Baltimore, MD, November 2011.
25. Georgia Institute of Technology, Parker H. Petit Institute of Bioengineering and Biosciences, GaP seminar series, Atlanta, GA, October 2011.

SELECTED PRESS COVERAGE

- Arizona State University (ASU) NEWS: *Full Circle*
- CMU News: *CMU News, The Tartan*
- Georgia Tech (GT) News: *Office of the GT President, GT News Room, GT Alumni Magazine*
- Scientific Media: *Science Now, Science News, Thomson Reuters, Scientific American, Christian Science Monitor, IEEE Spectrum, Popular Science, National Geographic, Physics Central, APS News, New Scientist, Inside Science, Inside Science TV, Gizmag, CNET, World of Robotics, Science Daily*
- Popular Media: *New York Times, Los Angeles Times, Washington Post, Reuters, BBC News, Sky News, Daily Mail, Yahoo News, MSNBC, Voice of America, Discovery News, Discovery Channel Canada, Smart Planet, World Daily, The Daily Globe*

TEACHING EXPERIENCE

Instructorship

- System Dynamics and Control I, School for Engineering of Matter, Transport & Energy, Arizona State University, 8/2017-12/2017. (44 undergraduate students)
- Bio-inspired Robotics, School for Engineering of Matter, Transport & Energy, Arizona State University, 1/2017-5/2017. (24 graduate students)
- System Dynamics and Controls, School for Engineering of Matter, Transport & Energy, Arizona State University, 8/2016-12/2016. (99 undergraduate students)
- Modeling and Control of Robots, School for Engineering of Matter, Transport & Energy, Arizona State University, 8/2015-12/2015. (51 graduate students)

- Bio-inspired Robotics, Departments of Mechanical Engineering and Biomedical Engineering, Carnegie Mellon University, 8/2014-12/2014. (35 graduate/senior undergraduate students)

Student Mentorship

- Supervising students at Arizona State University:
 - Graduate students: Hosain Bagheri (ME, Ph.D.), Mahdi Ilami (ME, Ph.D.), Andrew Thoesen (ME/SESE, Ph.D.), Sunil Mate (ME, M.S., Thesis), Peng Wei (ME, M.S., Applied Project), Daniel Sanchez (ME, M.S., Applied Project), Vishwarath Taduru (ME, M.S., Applied Project), Abir Deb (ME, M.S.), Karthik Ramagiri (ME, M.S.), Ethan Fisher (ME, M.S., Applied Project), Qing Wang (ME, M.S.), Shaopeng Han (ME, M.S.), Mercedes Martinez (AE, M.S.), Sujal Tipnis (ME, M.S.), Ranga Rayudu (ME, M.S.), Sriravali Kamthamraju (ME, M.S.), Vrushali Manka (ME, M.S.), Alex Gendt (ME, M.S.), Sachin Panchal (ME, M.S.), Vidu Jayanetti (ME, M.S.), Reza Ahmed (ME, M.S.)
 - Undergraduate students: Carolyn Harvey (ME, Honors Thesis, FURI), Paige Farrell (BME, FURI), Shawn White (ME, FURI), Doug Elson (ME, FURI), Michael Bejarano (ME, FURI), Daniel Lee (ME, Honors college), Vivek Ajampur (ME, Honors college), David McKenna (ME), Alicia Megann (ChE), Andre Apostol (ME, Honors college, FURI), Ivana Ninkovic (EM, FURI), Mohammed Mehdi (ME, FURI), Sierra Ramirez (ME, Honors Thesis), Hunter Murphy (ME, Honors Thesis), Michael Kintscher (CS), Emily Nugent (ChE, Honors Thesis), Hailey Burch (ME, Honors Thesis), Anna Hu (ME)
 - High school students: Isaac Charcos, Brendan Mance, Sachin Subramanian
- Supervising three graduate students at Carnegie Mellon University, 2014 (resulted in two journal papers and a conference proceedings co-authored with them).
- Supervising 19 undergraduate students and two high school students at Georgia Tech, 2010-2013 (resulted in a journal paper, a conference proceedings, an invention disclosure, three oral and five poster presentations at different conferences, and three undergraduate awards at Georgia Tech research fairs).
- Supervising a 10th-grade teacher, GIFT (Georgia Internship For Teachers) program, 2010.

Training and Course Development

- Developing a graduate-level course, Bio-inspired Robotics, Carnegie Mellon University, 2014 (lecture notes, homework, and exams).
- Tech to Teaching Certificate, Center for Enhancement of Teaching and Learning (CETL), Georgia Institute of Technology, 2012 (requirements: Taking Teaching Practicum and Fundamentals of Teaching and Learning in Higher Education at CETL, TA for at least 2 semesters).
- Developing a course plan for ENGAGE, a program funded by NSF for engaging students in engineering, 2011 (the course plan is selected under a peer review process, and is made available for national and international dissemination).

PROFESSIONAL CERTIFICATES

- NI Certified LabVIEW Associate Developer (CLAD), (Fundamentals of developing modular applications, data structures, data flow, managing hardware resources and file I/O, design patterns, controlling the user interface, and deploying an application), June 2013.
- Festo Didactic Certificate for Mechatronics, (Fundamentals of control engineering, pneumatics and electro-pneumatics, hydraulics and electro-hydraulics, PLC programming, sensors, industrial networking, robot programming, and systematic fault analysis and repair), August 2004.

PROFESSIONAL SERVICE

- Co-organizing a full day workshop on “Granular Media Modeling and Simulation Techniques” at *13th World Congress on Computational Mechanics*, New York City, NY, July 2018.

- Co-organizing a full day workshop on “Robotic-inspired Biology” at *IEEE-IROS*, Vancouver, Canada, September 2017.
- Supervising ASU Next Level Devils team and student organization for the NASA Micro-g NExT competition, 2016-2017 (Successfully completed the mission with superior performance in the final round, although no official rankings were announced by NASA; We also secured funding from ASU Dean’s office, NASA, and Honeywell to support this project).
- Robot Design Judge, FIRST Lego League state tournament, Tempe, AZ, January 2017.
- Panelist, NSF-DCSD Review Panel, 2016 and 2017.
- Session Co-chair, 2nd World Congress on Automation and Robotics, Philadelphia, PA, June 2016.
- Grand Award Judge, The Intel International Science and Engineering Fair (Intel ISEF), Phoenix, AZ, May 2016.
- Organizing a half-day event for the National Robotics Week at ASU (invited talks by ASU robotics faculties followed by lab tours open to all of ASU students), Tempe, AZ, April 2016.
- Panelist, NSF-NRI review Panel, 2016.
- Co-organizing a full day workshop on “Robotic-inspired Biology” at *IEEE-ICRA*, Seattle, WA, May 2015.
- Organizing and chairing a mini-symposium entitled “The Role of Functional Surfaces on Animal Locomotion” at SIAM Annual Meeting, Chicago, IL, July 2014.
- Graduate Student Senator, Student Government Association, Georgia Institute of Technology, 2012-2013.
- Reviewer for:
 - *Nature-Scientific Reports*
 - *Bioinspiration and Biomimetics*
 - *PLOS ONE*
 - *Journal of the Royal Society Interface*
 - *IEEE Robotics and Automation Magazine*
 - *Robotica*
 - *ASME Journal of Mechanisms and Robotics*
 - *Beilstein Journal of Nanotechnology*
 - *Journal of Applied Bionics and Biomechanics*
 - *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2017
 - *IEEE International Conference on Robotics and Automation (ICRA)*, 2016, 2017
 - *International Conference on Advanced Robotics (ICAR)*, 2015
 - *Georgia Tech Presidential Undergraduate Research Award (PURA)*, 2011
 - *Georgia Tech Undergraduate Research Opportunities Program (UROP) symposium*, 2010
- Serving on graduate student committees at ASU:

Advisor Role	Program Description	Student Name	Degree Attained	Graduation Term	Start Term
Chair	MAE, SEMTE	Hosain Bagheri	Ph.D.		Spring 2016
Chair	MAE, SEMTE	Mahdi Ilami	Ph.D.		Spring 2016
Co-Chair	MAE, SEMTE	Andrew Thoesen	Ph.D.		Summer 2016
Committee Member	MAE, SEMTE	Jeff Skidmore	Ph.D.	Spring 2017	Spring 2014
Committee Member	MAE, SEMTE	Hope Yao	Ph.D.		Spring 2014
Committee Member	MAE, SEMTE	Hamed Farivarnejad	Ph.D.		Fall 2015
Committee Member	MAE, SEMTE	Siddhant Datta	Ph.D.		Fall 2013
Committee	MAE, SEMTE	Prudhvi Tej	Ph.D.		Fall 2015

Member		Chinimilli			
Chair	MAE, SEMTE	Sunil Mate	M.S., Thesis	Spring 2016	Fall 2015
Chair	MAE, SEMTE	Peng Wei	M.S., Applied Project	Spring 2016	Fall 2015
Chair	MAE, SEMTE	Daniel Sanchez	M.S., Applied Project	Spring 2016	Fall 2015
Chair	MAE, SEMTE	Ethan Fisher	M.S., Applied Project	Fall 2016	Fall 2015
Chair	MAE, SEMTE	Vishwarath Taduru	M.S., Applied Project	Spring 2017	Fall 2015
Committee Member	MAE, SEMTE	Daniel Larsson	M.S., Thesis	Spring 2016	Spring 2015
Committee Member	MAE, Poly	Sekar Sumanth D	M.S., Thesis		Fall 2015
Committee Member	MAE, SEMTE	Andrew Barkan	M.S., Thesis	Spring 2016	Spring 2015
Committee Member	MAE, SEMTE	Aastha Uppal	M.S., Thesis	Spring 2016	Spring 2015
Committee Member	MAE, SEMTE	Sandesh Ganapati Bhat	M.S., Thesis		Fall 2017

PROFESSIONAL MEMBERSHIP

- American Association for the Advancement of Science (AAAS)
- American Physical Society (APS)
- American Society of Mechanical Engineers (ASME)
- Institute of Electrical and Electronics Engineers (IEEE)
- Society for Integrative and Comparative Biology (SICB)