PANAGIOTIS ARTEMIADIS

Curriculum Vitae

Mechanical Engineering University of Delaware

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EDUCATION

M.S. & Ph.D. **National Technical University of Athens**, Athens, Greece (2003 - 2009)

Doctor of Philosophy in Mechanical Engineering

Thesis: "Control methodologies for neuro-robotic systems"

Advisor: Kostas J. Kyriakopoulos

B.S. National Technical University of Athens, Athens, Greece (1998 - 2003)

Thesis: "Visual servoing of robotic manipulators for grasping of tiles on a moving

transfer belt"

Advisor: Kostas J. Kyriakopoulos

PROFESSIONAL / RESEARCH EXPERIENCE

Aug. 2019- Associate Professor, Mechanical Engineering

Pres. Affiliated faculty, joint appointment, Biomedical Engineering

Graduate Program Director, Master of Science in Robotics

Founder and Director, Human-Oriented Robotics and Control (HORC) Lab

University of Delaware, Newark, DE

Aug. 2017- Associate Professor, Mechanical and Aerospace Engineering

Aug. 2019 Graduate Program Chair, Robotics and Autonomous Systems Graduate Program

Graduate Faculty, Biomedical Engineering Graduate Faculty, Electrical Engineering Graduate Faculty, Systems Engineering Honors Faculty, Barrett, the Honors College

Founder and Director, Human-Oriented Robotics and Control (HORC) Lab

Arizona State University, Tempe, AZ

Aug. 2011- Assistant Professor, Mechanical and Aerospace Engineering

July 2017 Graduate Faculty, Biomedical Engineering

Graduate Faculty, Electrical Engineering Honors Faculty, Barrett, the Honors College

Founder and Director, Human-Oriented Robotics and Control (HORC) Lab

Arizona State University, Tempe, AZ

March 2009- PostDoctoral Research Associate

July 2011 Massachusetts Institute of Technology, Cambridge, MA

Advisor: Hermano Igo Krebs

• Developed a novel gait rehabilitation robotic device, the MIT-Skywalker.

June 2008- Research Intern

August 2008 Toyota Technological Institute at Chicago (TTI-C), Chicago, IL

Advisor: Gregory Shakhnarovich

• Developed mathematical models for human hand motion description.

January 2007- Visiting Research Associate

May 2007 **Brown University, Computer Science Dept.**, Providence, RI

Advisor: Michael Black (primary), John Donoghue

Developed neural decoders for robot hand prosthesis.

Nov. 2006 Visiting Researcher

DLR Institute of Robotics and Mechatronics, Wessling, Germany

Advisor: Patrick van der Smagt

• Developed controller for multi-fingered robot hand.

2005-2006 Visiting Researcher

Scuola Superiore Sant'Anna, ARTS Lab, Pisa, Italy

Advisor: Maria Chiara Carrozza

• Identification and control of a novel agonist-antagonist hydraulic robot arm.

HONORS, RECOGNITIONS & AWARDS

Apr. 2023 Nominated for the Excellence in Teaching Award

2022-2023 University of Delaware Faculty Senate

Sept. 2021 Best Student Paper Award 2nd Runner Up

2021 IEEE International Conference on Multisensor Fusion and Integration (MFI 2021), Karlsruhe, Germany

• For paper: Ajitesh Singh and Panagiotis Artemiadis, "Automatic Identification of the Leader in a Swarm using an Optimized Clustering and Probabilistic Approach," *Proceedings of 2021 IEEE International Conference on Multisensor Fusion and Integration (MFI 2021)*, 2021

July 2019 RehabWeek Paper Award Finalist

IEEE 16th International Conference on Rehabilitation Robotics (ICORR), Toronto, Canada

• For paper: Emiliano Quinones Yumbla, Ruby Afriyie Obeng, Jeffrey Ward, Thomas Sugar, and Panagiotis Artemiadis "Anticipatory muscle responses in transitions from rigid to compliant surfaces: towards smart ankle-foot prostheses," *Proceedings of 2019 IEEE 16th International Conference on Rehabilitation Robotics (ICORR)*, pp. 880 - 885, Toronto, Canada, June 2019.

May 2017 **2017 ASU Fulton Exemplar Faculty Award**

Arizona State University, Tempe, AZ

• Fulton Exemplar Faculty are associate or full professors who have a combination of high research productivity, instructional load, student evaluations and doctoral student mentoring.

February 2017 **Elevation to IEEE Senior Member**

• Only 10% of IEEE's members hold this grade, which requires extensive experience, and reflects professional maturity and documented achievements of significance.

April 2015 **2014-2015 ASASU Centennial Professor Award, Honorable mention**

Arizona State University, Tempe, AZ

• The 2014-2015 ASASU Centennial Professor Award recognizes ASU faculty who have made significant contributions to the students of Arizona State University through outstanding instruction both within and beyond the classroom.

April 2015 Fulton Faculty Development Chair

Ira A. Fulton Schools of Engineering, Arizona State University, Tempe, AZ

March 2015 Frontiers of Engineering Education (FOEE) Symposium selected Member, National Academy of Engineering

• I was selected as a member of the The Frontiers of Engineering Education (FOEE) Symposium, organized by the National Academy of Engineering. The FOEE brings together some of the nation's most engaged and innovative engineering educators in order to recognize, reward, and promote effective, substantive, and inspirational engineering education through a sustained dialogue within the emerging generation of innovative faculty.

August 2014 **2014 DARPA Young Faculty Award**

- Citation from DARPA website: "The objective of the DARPA Young Faculty Award (YFA) program is to identify and engage rising research stars in junior faculty positions at U.S. academic institutions and introduce them to Department of Defense needs as well as DARPA's program development process [...] The long-term goal of the YFA program is to develop the next generation of academic scientists, engineers and mathematicians in key disciplines who will focus a significant portion of their careers on DoD and national security issues."
- In 2014, 33 DARPA YFA awardees were selected.

January 2014 **2014** Air Force Office of Scientific Research (AFOSR) Young Investigator Award

- Citation from AFOSR website: "The YIP is open to scientists and engineers at research institutions across the United States who received Ph.D. or equivalent degrees in the last five years and who show exceptional ability and promise for conducting basic research. The objective of this program is to foster creative basic research in science and engineering, enhance early career development of outstanding young investigators, and increase opportunities for the young investigators to recognize the Air Force mission and the related challenges in science and engineering.
- In 2014, 42 AFOSR YIP awardees were selected.

April 2013 Top 5% Teaching Award in Ira A. Fulton Schools of Engineering

Arizona State University, Tempe, AZ

• Recognized among 10-12 faculty across all of the five Schools of Engineering who are in the top 5% for teaching excellence.

February 2013 Nomination for the 2012-2013 ASASU Centennial Professor Award

Arizona State University, Tempe, AZ

• Nominated for the 2012-2013 ASASU Centennial Professor Award that recognizes ASU faculty who have made significant contributions to the students of Arizona State University through outstanding instruction both within and beyond the classroom.

December 2012 Sarafi Award for the Best Ph.D. Thesis in AY 2008-2009

National Technical University of Athens, Athens, Greece

• Recognized for the best Ph.D. across all Schools of Engineering in NTUA for AY 2008-2009.

October 2008 2nd Best Student Paper Award (out of 400 papers)

IEEE International Conference on BioInformatics and BioEngineering, Athens, Greece

• For paper: Panagiotis Artemiadis and Kostas J. Kyriakopoulos, "Assessment of Muscle Fatigue using a Probabilistic Framework for an EMG-based Robot Control Scenario," *Proceedings of IEEE International Conference on Bioinformatics and Bioengineering*, Athens, Greece, October 2008.

September 2008

Best Application Paper Finalist (in top 5 papers out of 700)

IEEE/RSJ International Conference on Intelligent Robots and Systems, Nice, France
• For paper: Panagiotis Artemiadis and Kostas J. Kyriakopoulos, "Estimating Arm
Motion and Force using EMG signals: On the Control of Exoskeletons," *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, pp. 279 - 284,

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September Best paper Finalist (in top 5 papers out of 350) 2007 IEEE/ASME International Conference on Advance

Nice, France, September 2008.

IEEE/ASME International Conference on Advanced Intelligent Mechatronics, Zurich, Switzerland

• For paper: Panagiotis Artemiadis and Kostas J. Kyriakopoulos, "EMG-based Position and Force Control of a Robot Arm: Application to Teleoperation and Orthosis," *Proceedings of IEEE/ASME International Conference on Advanced Intelligent Mechatronics*, pp. 1 - 6, Switzerland, September 2007.

PUBLICATIONS

Summary of publications:

- 1. Editorial articles: 1
- 2. Peer-Reviewed Journal Publications: 43
- 3. Peer-Reviewed Journal Publications under review: 3
- 4. Books Edited: 1
- 5. Book Chapters Published: 7
- 6. Peer-Reviewed Conference Publications (long papers) under review: 2
- 7. Peer-Reviewed Conference Publications (long papers): 64
- 8. Non-refereed Conference and Workshop Abstracts: 28
- 9. Undergraduate Research Symposia Abstracts with students: 53
- 10. Non-refereed magazine articles: 6

<u>Underline</u> indicates graduate students advised.

Up-to-date information can be found at: https://scholar.google.com/citations?user=tsR6sHUAAAAJ& hl=en&oi=ao

Editorials

1. **Panagiotis Artemiadis*** and Marco Santello, *Editorial: Foreword for special issue on rehabilitation robotics and human-robot interaction*, Robotica, vol 32, special issue 08, December 2014, pp. 1189-1190, 2014.

Peer-reviewed Journal Articles

- 43. Chrysostomos Karakasis, Ioannis Poulakakis and **Panagiotis Artemiadis**, "An Energy-based Framework for Robust Dynamic Bipedal Walking over Compliant Terrain," in *ASME Journal of Dynamic Systems, Measurement, and Control*, March 2024; 146(2): 021008.
- 42. Vaughn Chambers, Madison Johnson[†] and **Panagiotis Artemiadis**, "Robot-assisted Targeted Gait Training," in *Journal of Kinesiology and Exercise Sciences*, 105 (34): 11-22, 2024.
- 41. Charikleia Angelidou and **Panagiotis Artemiadis**, "On Predicting Transitions to Compliant Surfaces in Human Gait via Neural and Kinematic Signals," in *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, 31:2214-2223, 2023.
- 40. Ciaran T. O'Neill, Harrison T. Young, Cameron J. Hohimer, Tommaso Proietti, Mo Rastgaar, **Panagiotis Artemiadis** and Conor J. Walsh, "Tunable, Textile-based Joint Impedance Module for Soft Robotic Applications", SoftRobotics, 2023 (in press)
- 39. <u>Vaughn Chambers</u> and **Panagiotis Artemiadis**, "Using Robot-Assisted Stiffness Perturbations to Evoke Aftereffects Useful to Post-Stroke Gait Rehabilitation," in *Frontiers Robotics and AI*, 9, 2023.
- 38. <u>Chrysostomos Karakasis</u> and **Panagiotis Artemiadis**, "Real-time kinematic-based detection of footstrike during walking," *Journal of Biomechanics*, vol. 129, p. 110849, 2021.

^{*} Asterisk indicates corresponding author.

[†] Dagger indicates undergraduate students advised.

- 37. Vaughn Chambers and **Panagiotis Artemiadis**, "A Model-Based Analysis of Supraspinal Mechanisms of Inter-Leg Coordination in Human Gait: Toward Model-Informed Robot-Assisted Rehabilitation," in *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, vol. 29, pp. 740-749, 2021, doi: 10.1109/TNSRE.2021.3072771.
- 36. <u>Carly Thalman</u> and **Panagiotis Artemiadis**, "A Review of Soft Wearable Robots that Provide Active Assistance: Trends, Common Actuation Methods, Fabrication, and Applications," *Wearable Technologies*, 1, E3. doi:10.1017/wtc.2020.4.
- 35. <u>Bradley Hobbs</u> and **Panagiotis Artemiadis**, "A Review of Robot-Assisted Lower-Limb Stroke Therapy: Unexplored Paths and Future Directions in Gait Rehabilitation," *Frontiers in neurorobotics*, 14, 2020.
- 34. Chuong H. Nguyen, George K Karavas and **Panagiotis Artemiadis***, "Adaptive multi-degree of freedom Brain Computer Interface using online feedback: towards novel methods and metrics of mutual adaptation between humans and machines for BCI," *PloS* one 14, no. 3 (2019): e0212620, 2019.
- 33. Christopher A Buneo*, Joshua Klein, <u>Bryan Whitsell</u> and **Panagiotis Artemiadis**, "Perception of arm position in three-dimensional space," *Frontiers in Human Neuroscience*, vol 12, article 331, 2018.
- 32. Juri Taborri, Valentina Agostini, **Panagiotis Artemiadis**, Marco Ghislieri, Daniel A. Jacobs, Jinsook Roh and Stefano Rossi*, "Feasibility of muscle synergy outcomes in clinics, robotics and sports: a systematic review," Applied Bionics and Biomechanics, vol. 2018, Article ID 3934698, 19 pages, 2018.
- 31. Chuong H Nguyen and **Panagiotis Artemiadis***, "EEG Feature Descriptors and Discriminant Analysis under Riemannian Manifold perspective," *Neurocomputing*, vol. 275, pp. 1871-1883, 2018.
- 30. Chuong H Nguyen, George K Karavas and **Panagiotis Artemiadis***, "Inferring imagined speech using EEG signals: a new approach using Riemannian manifold features," *Journal of Neural Engineering*, 15.1, 016002, 2018.
- 29. Michael Wininger*, **Panagiotis Artemiadis**, Claudio Castellini and Patrick M Pilarski, "Peripheral Nervous System-Machine Interfaces," *Frontiers in neurorobotics*, 11, p.54, 2017.
- 28. Jeffrey Skidmore and **Panagiotis Artemiadis***, "Unilateral Changes in Walking Surface Compliance Evoke Dorsiflexion in Paretic Leg of Impaired Walkers," *Journal of Rehabilitation and Assistive Technologies Engineering*, 4: 2055668317738469, 2017.
- 27. Bryan Whitsell and **Panagiotis Artemiadis***, "Physical Human-Robot Interaction (pHRI) in 6 DOF With Asymmetric Cooperation," *IEEE Access*, vol. 5, pp. 10834-10845, 2017.
- 26. Keivan Mojtahedi, <u>Bryan Whitsell</u>, **Panagiotis Artemiadis*** and Marco Santello, "Communication and Inference of Intended Movement Direction during Human-Human Physical Interaction," *Frontiers in Neurorobotics*, vol. 11 (21), pp. 1-12, 2017.
- 25. **Panagiotis Artemiadis***, "Brain-Swarm Control Interfaces: The Transition from Controlling One Robot to a Swarm of Robots," *Adv Robot Autom* 6: e127, 2017 (editorial article).

- 24. Alycia Gailey, **Panagiotis Artemiadis**, Marco Santello*, "Proof of concept of an online EMG-based decoding of hand postures and individual digit forces for prosthetic hand control," *Frontiers in Neurology Neuroprosthetics*, vol. 8 (7), pp. 1-15, 2017.
- 23. Minas Liarokapis*, Charalampos P. Bechlioulis, **Panagiotis Artemiadis** and Kostas J. Kyriakopoulos, "Deriving Humanlike Arm Hand System Poses," *ASME Journal of Mechanisms and Robotics*, vol. 9(1), 2017.
- 22. <u>Justin Hunt</u>, Hyunglae Lee and **Panagiotis Artemiadis***, "A Novel Shoulder Exoskeleton Robot Using Parallel Actuation and a Passive Slip Interface," *ASME Journal of Mechanisms and Robotics*, vol. 9(1), 2017.
- 21. Ioannis Kaneris[†], Alison Gibson[†] and **Panagiotis Artemiadis*** "A Cross-Modal Feedback Scheme for Control of Prosthetic Grasp Strength," *Journal of Rehabilitation and Assistive Technologies Engineering*, vol 3, pp. 1-10, 2016.
- 20. <u>Jeffrey Skidmore</u> and **Panagiotis Artemiadis***, "On the effect of walking surface stiffness on interlimb coordination in human walking: toward bilaterally informed robotic gait rehabilitation," *Journal of NeuroEngineering and Rehabilitation*, 13.23, pp. 1-15, 2016.
- 19. Stefan Seiterle, Tyler Susko, **Panagiotis Artemiadis**, Robert Riener, and Hermano Igo Krebs*, "Interlimb Coordination in Body-Weight Supported Locomotion: A Pilot Study," *Journal of Biomechanics*, vol. 48, issue 11, pp. 2837-2843, 2015.
- 18. <u>Jeffrey Skidmore</u> and **Panagiotis Artemiadis***, "Unilateral Floor Stiffness Perturbations Systematically Evoke Contralateral Leg Muscle Responses: a New Approach to Robot-assisted Gait Therapy," *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, vol. 24(4), pp. 467-474, 2016.
- 17. <u>Mark Ison</u>, Ivan Vujaklija, <u>Bryan Whitsell</u>, Dario Farina and **Panagiotis Artemiadis***, "High-Density Electromyography and Motor Skill Learning for Robust Long-Term Control of a 7-DoF Robot Arm," *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, vol. 24(4), pp. 424-433, 2016.
- 16. <u>Mark Ison</u> and **Panagiotis Artemiadis***, "Proportional Myoelectric Control of Robots: Muscle Synergy Development drives Performance Enhancement, Retainment, and Generalization," *IEEE Transactions on Robotics*, vol. 31, issue 2, pp. 259-268, 2015.
- 15. Ryan Frost[†], Jeffrey Skidmore, Marco Santello and **Panagiotis Artemiadis***, "Sensorimotor control of gait: A novel approach for the study of the interplay of visual and proprioceptive feedback," *Frontiers in Human Neuroscience* 9 (2015): 14.
- 14. Castellini, Claudio, **Panagiotis Artemiadis**, Michael Wininger*, Arash Ajoudani, Merkur Alimusaj, Antonio Bicchi, Barbara Caputo, William Craelius, Strahinja Dosen, Kevin Englehart, Dario Farina, Arjan Gijsberts, Sasha B. Godfrey, Levi Hargrove, <u>Mark Ison</u>, Todd Kuiken, Marko Markovic, Patrick M. Pilarski, Rudiger Rupp and Erik Scheme, "Proceedings of the first workshop on Peripheral Machine Interfaces: Going beyond traditional surface electromyography," *Frontiers in Neuro-robotics* 8 (2014): 22, 2014.
- 13. Jeffrey Skidmore, Andrew Barkan[†] and **Panagiotis Artemiadis***, "Variable Stiffness Treadmill (VST): System Development, Characterization and Preliminary Experiments," *IEEE/ASME Transactions on Mechatronics*, vol. 20, issue 4, pp. 1717-1724, 2015.

- 12. <u>Mark Ison</u> and **Panagiotis Artemiadis***, "The Role of Muscle Synergies in Myoelectric Control: Trends and Challenges for Simultaneous Multifunction Control," *Journal of Neural Engineering*, vol. 11(5), 2014.
- 11. <u>Harshil Patel</u>, Gerald O'Neill[†] and **Panagiotis Artemiadis***, "On the Effect of Muscular Co-contraction on the 3D Human Arm Impedance," *IEEE Transactions on Biomedical Engineering*, vol.61(10), pp. 2602-2608, 2014.
- 10. Stephen Warren[†] and **Panagiotis Artemiadis***, "On the Control of Human-Robot Bi-manual Manipulation," *Journal of Intelligent and Robotic Systems*, vol. 78, pp. 21-32, 2015.
- 9. <u>Chris Wilson Antuvan</u>, <u>Mark Ison</u> and **Panagiotis Artemiadis***, "Embedded Human Control of Robots using Myoelectric Interfaces," *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, vol.22, no.4, pp. 820-827, 2014.
- 8. Yuting Wang and **Panagiotis Artemiadis***, "Closed-Form Inverse Kinematic Solution for Anthropomorphic Motion in Redundant Robot Arms," *Advances in Robotics & Automation* 2: 110. 2013, doi: 10.4172/2168-9695.1000110.
- 7. Minas V. Liarokapis*, **Panagiotis Artemiadis**, Kostas J. Kyriakopoulos and Elias S. Manolakos, "A Learning Scheme for Reach to Grasp Movements: On EMG-Based Interfaces Using Task Specific Motion Decoding Models," *IEEE Journal of Biomedical and Health Informatics*, vol. 17(5), pp. 915-921, 2013.
- Panagiotis Artemiadis*, "EMG-based Robot Control Interfaces: Past, Present and Future," Advances in Robotics & Automation, Long Editorial Article, 1:e107, 2012.
- 5. **Panagiotis Artemiadis*** and Kostas J. Kyriakopoulos, "A Switching Regime Model for the EMG-based Control of a Robot Arm," *IEEE Transactions on Systems, Man, and Cybernetics, Part B: Cybernetics*, vol. 41(1), pp. 53-63, 2011.
- 4. **Panagiotis Artemiadis*** and Kostas J. Kyriakopoulos, "An EMG-based Robot Control Scheme Robust to Time-varying EMG Signal Features," *IEEE Transactions on Information Technology in Biomedicine*, vol. 14(3), pp. 582-588, 2010.
- 3. **Panagiotis Artemiadis***, Pantelis T. Katsiaris and Kostas J. Kyriakopoulos, "A biomimetic approach to inverse kinematics for a redundant robot arm," *Autonomous Robots*, vol. 29(3), pp. 293-308, 2010.
- 2. **Panagiotis Artemiadis*** and Kostas J. Kyriakopoulos, "EMG-based Control of a Robot Arm using Low-Dimensional Embeddings," *IEEE Transactions on Robotics*, vol. 26(2), pp. 393-398, 2010.
- 1. Emanuele Cattin*, Stefano Roccella, Nicola Vitiello, Clemens Eder, Irene Sardellitti, **Panagiotis Artemiadis**, Pierpaolo Vacalebri, Fabrizio Vecchi, Maria Chiara Carrozza, Kostas J. Kyriakopoulos, Paolo Dario, "Design and Development of a Novel Robotic Platform for Neuro-Robotics Applications: the NEURobotics ARM (NEURARM)", *RSJ Advanced Robotics*, 22, pp. 3-37, 2008.

Books

1. **Panagiotis Artemiadis**, (Ed.) *Neuro-robotics: From brain machine interfaces to rehabilitation robotics*, (Vol. 2), as part of the Springer Series: Trends on Augmentation of Human Performance, Springer 2014. [top 25% most downloaded eBooks in the relevant Springer eBook Collection in 2015]

Book Chapters

- 7. Jeevan Perera, Monica Visinsky, Evan Laske, Panagiotis Artemiadis, George Salazar, Kimia Seyedmadani, Elizabeth Schmida, Michael Steele, Isaac Mensah, Jr., "Robotic systems safety,", In Tommaso Sgobba, Gary Eugene Musgrave, Gary Johnson, Michael T. Kezirian, Hardback (Editors), Safety Design for Space Systems (2nd edition), pp. 1033-1082, Elsevier, 2023
- 6. Minas V. Liarokapis*, Kostas J. Kyriakopoulos and **Panagiotis Artemiadis**, "A Learning Scheme for EMG Based Interfaces: On Task Specificity in Motion Decoding Domain," In Panagiotis Artemiadis (ed.), *Neuro-robotics: From brain machine interfaces to rehabilitation robotics*, New York: Springer, 2014, Vol. 2., pp. 3-36. Springer Netherlands, 2014.
- Christopher Buneo*, Stephen Helms Tilley, Marco Santello, Panagiotis Artemiadis and Veronica Santos, "Optimal Neural Representations for Brain-Mediated Human-Robot Interactions," In Panagiotis Artemiadis (ed.), Neuro-robotics: From brain machine interfaces to rehabilitation robotics, New York:Springer, 2014, Vol. 2., pp. 207-237. Springer Netherlands, 2014.
- 4. Hermano Igo Krebs*, Anindo Roy, **Panagiotis Artemiadis**, Jooeun Ahn and Neville Hogan, "Beyond human or robot administered treadmill training", at *Neurorehabilitation Technology*, Volker Dietz, Tobias nef, William Zev Rymer (ed.), Springer Publications, 2012.
- 3. **Panagiotis Artemiadis*** and Kostas J. Kyriakopoulos, "Bio-inspired mechatronics and control interfaces", at *Perception-action cycle: Models, architectures and hardware*, Vassilis Cutsuridis, Amir Hussain, John G. Taylor (ed.), Springer Publications, 2011.
- 2. **Panagiotis Artemiadis*** and Kostas J. Kyriakopoulos, "Human peripheral nervous system controlling robots", at *Bio-inspired Computing and Communication Networks*, Fei Hu, Yang Xiao (ed.), Auerbach Publications, Taylor & Francis Group, CRC, 2011.
- Panagiotis Artemiadis* and Kostas J. Kyriakopoulos, "EMG-Based Position and Force Estimates in Coupled Human-Robot Systems: Towards EMG-Controlled Exoskeletons", at *Experimental Robotics*, Oussama Khatib, Vijay Kumar, George Pappas (ed.), Springer Publications, pp. 241-250, 2009.

Peer-reviewed Conference Papers with Indexed Proceedings (long papers)

Notes:

Number of referees: typically 3 or more, minimum 2 (in rare cases). Conference acceptance rates are reported if available.

- 64. Charikleia Angelidou and **Panagiotis Artemiadis***, "On Intuitive Control of Ankle-Foot Prostheses: A Sensor Fusion-based Algorithm for Real-Time Prediction of Transitions to Compliant Surfaces," *In the Proc. of the 2023 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, Detroit, MI, USA, pp. 2122-2127, 2023.
- 63. <u>Chrysostomos Karakasis, Robert Salati</u> and **Panagiotis Artemiadis***, "Adjusting the Quasi-Stiffness of an Ankle-Foot Prosthesis Improves Walking Stability during Locomotion over Compliant Terrain," *In the Proc. of the 2023 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, Detroit, MI, USA, pp. 2140-2145, 2023.

- 62. Vaughn Chambers and **Panagiotis Artemiadis***, "A Model-Based Analysis of The Effect of Repeated Unilateral Low Stiffness Perturbations on Human Gait: Toward Robot-Assisted Rehabilitation," *In the Proc. of the IEEE International Conference on Robotics and Automation (ICRA)*, 2023 (to appear).
- 61. Bradley Hobbs and **Panagiotis Artemiadis***, "A Systematic Method for Outlier Detection in Human Gait Data," *In the Proc. of the 2022 IEEE 17th International Conference on Rehabilitation Robotics (ICORR)*, p. 1-6, 2022.
- 60. Chrysostomos Karakasis, Ioannis Poulakakis, and **Panagiotis Artemiadis***, "Robust Dynamic Walking for a 3D Dual-SLIP Model under One-Step Unilateral Stiffness Perturbations: Towards Bipedal Locomotion over Compliant Terrain," *In the Proc. of the 30th Mediterranean Conference on Control and Automation (MED)*, p. 969-975, 2022.
- 59. Vaughn Chambers and Panagiotis Artemiadis*, "Repeated Robot-assisted Unilateral Stiffness perturbations Result in Significant Aftereffects Relevant to Post-Stroke Gait Rehabilitation," iIn the Proc. of the 2022 IEEE International Conference on Robotics and Automation (ICRA), p. 5426-5433, 2022.
- 58. Chrysostomos Karakasis and **Panagiotis Artemiadis***, "F-VESPA: A Kinematic-based Algorithm for Real-time Heel-strike Detection During Walking," *In the Proc. of the 2021 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, pp. 5098-5103, 2021.
- 57. Ajitesh Singh and **Panagiotis Artemiadis***, "Automatic Identification of the Leader in a Swarm using an Optimized Clustering and Probabilistic Approach," *In the Proc. of the 2021 IEEE International Conference on Multisensor Fusion and Integration (MFI 2021)*, pp. 1-6, 2021. **Best Student Paper Award 2nd Runner Up**
- 56. Lynsey Lehmann, **Panagiotis Artemiadis***, "Quantifying Kinematic Adaptations of Gait During Walking on Terrains of Varying Surface Compliance," *In the Proc. of the 8th IEEE RAS/EMBS International Conference on Biomedical Robotics and Biomechatronics (BioRob)*, November 2020, New York City, NY, USA, 2020, pp. 816-821, doi: 10.1109/BioRob49111.2020.9224315, 2020
- 55. Andrew Levitsky, Josh Klein, **Panagiotis Artemiadis**, Christopher Buneo*, "Effects of Transcutaneous Electric Nerve Stimulation on Upper Extremity Proprioceptive Function," *In the Proc. of the 42nd Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)*, pp. 3577-3580, July 2020, Montreal, Canada, 2020.
- 54. Daniel Larsson, Chuong Nguyen, **Panagiotis Artemiadis***, "Modeling and Control of Mid-flight Coupling of Quadrotors: A new concept for Quadrotor cooperation," *In the Proc. of the IEEE International Conference on Unmanned Aircraft Systems (ICUAS)*, pp. 310-315, September 2020, Athens, Greece, 2020.
- 53. Michael Drolet[†], Emiliano Quinones Yumbla, Bradley Hobbs and **Panagiotis Artemiadis***, "On the Effects of Visual Anticipation of Floor Compliance Changes on Human Gait: Towards Model-based Robot-Assisted Rehabilitation," *In the Proc. of the IEEE International Conference on Robotics and Automation (ICRA)*, pp. 9072-9078, May 2020, Paris, France, 2020.
- 52. Emiliano Quinones Yumbla, Ruby Afriyie Obeng, Jeffrey Ward, Thomas Sugar, and **Panagiotis**Artemiadis* "Anticipatory muscle responses in transitions from rigid to compliant surfaces: towards smart ankle-foot prostheses", In 2019 IEEE 16th International Conference on Rehabilitation Robotics (ICORR), pp. 880-885. IEEE, 2019. RehabWeek Paper Award Finalist

- 51. <u>Jeffrey Skidmore</u> and **Panagiotis Artemiadis***, "A Comprehensive Analysis of Sensorimotor Mechanisms of Inter-Leg Coordination in Gait Using the Variable Stiffness Treadmill: Physiological Insights for Improved Robot-Assisted Gait Therapy", In 2019 IEEE 16th International Conference on Rehabilitation Robotics (ICORR), pp. 28-33. IEEE, 2019.
- 50. <u>Justin Hunt</u>, **Panagiotis Artemiadis***, and Hyunglae Lee, "Optimizing Stiffness of a Novel Parallel-Actuated Robotic Shoulder Exoskeleton for a Desired Task or Workspace", *In the Proc. of the IEEE International Conference on Robotics and Automation (ICRA)*, pp. 6745-6751, May 2018, Brisbane, Australia.
- 49. George Karavas, <u>Daniel T. Larsson</u> and **Panagiotis Artemiadis***, "A hybrid brain-machine interface for control of robotic swarms: Preliminary results," *In the Proc. of the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, pp. 5065-5075, 2017.
- 48. <u>Justin Hunt</u>, **Panagiotis Artemiadis*** and Hyunglae Lee, "Development of a novel shoulder exoskeleton using parallel actuation and slip," *In the Proc. of the ASME Dynamic Systems and Control Conference*, 2016.
- 47. <u>Jeffrey Skidmore</u> and **Panagiotis Artemiadis***, "Sudden changes in walking surface compliance evoke contralateral EMG in a hemiparetic walker: a case study of inter-leg coordination after neurological injury," *In the Proc. of the 2016 Annual International Conference of the IEEE Engineering in Medicine and Biology Society*, 2016.
- 46. Jeffrey Skidmore and Panagiotis Artemiadis*, "Unilateral Walking Surface Stiffness Perturbations Evoke Brain Responses: Toward Bilaterally Informed Robot-assisted Gait Rehabilitation," In the Proc. of the IEEE International Conference on Robotics and Automation (ICRA), 2016.
- 45. George K. Karavas and **Panagiotis Artemiadis***, "On the Effect of Swarm Collective Behavior on Human Perception: Towards Brain-Swarm Interfaces," *In the Proc. of the IEEE Conference on Multisensor Fusion and Integration (MFI)*, 2015.
- 44. <u>Mark Ison</u> and **Panagiotis Artemiadis***, "Multi-Directional Impedance Control with Electromyography for Compliant Human-Robot Interaction," *In the Proc. of the IEEE International Conference on Rehabilitation Robotics (ICORR)*, 2015.
- 43. Alison Gibson[†] and **Panagiotis Artemiadis***, "Neural Closed-loop Control of a Hand Prosthesis using Cross-modal Haptic Feedback," *In the Proc. of the IEEE International Conference on Rehabilitation Robotics (ICORR)*, 2015.
- 42. <u>Jeffrey Skidmore</u> and **Panagiotis Artemiadis***, "Leg Muscle Activation Evoked by Floor Stiffness Perturbations: A Novel Approach to Robot-assisted Gait Rehabilitation," *In the Proc. of the IEEE International Conference on Robotics and Automation (ICRA)*, pp. 6463-6468, 2015.
- 41. <u>Mark Ison</u>, Ivan Vujaklija, <u>Bryan Whitsell</u>, Dario Farina and **Panagiotis Artemiadis***, "Simultaneous Myoelectric Control of a Robot Arm using Muscle Synergy-Inspired Inputs from High-Density Electrode Grids," *In the Proc. of the IEEE International Conference on Robotics and Automation (ICRA*), pp. 6469-6474, 2015.
- 40. Bryan Whitsell, **Panagiotis Artemiadis***, "On the Role Duality and Switching in Human-Robot Cooperation: An adaptive approach," *In the Proc. of the IEEE International Conference on Robotics and Automation (ICRA)*, pp. 3770-3775, 2015.

- 39. Mark Ison and **Panagiotis Artemiadis***, "Enhancing Practical Multifunctional Myoelectric Applications through Implicit Motor Control Training Systems," *In the Proc. of the 36th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)*, pp. 3525-3528, 2014.
- 38. Alison Gibson[†] and **Panagiotis Artemiadis***, "Object Discrimination Using Optimized Multi-frequency Auditory Cross-Modal Haptic Feedback," *In the Proc. of the 36th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)*, pp. 6505-6508, 2014.
- 37. Jeffrey Skidmore, Andrew Barkan[†] and **Panagiotis Artemiadis***, "Investigation of Contralateral Leg Response to Unilateral Stiffness Perturbations using a Novel Device," *In the Proc. of the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, pp. 2081-2086, 2014.
- 36. <u>Mark Ison, Chris Wilson Antuvan</u> and **Panagiotis Artemiadis***, "Learning Efficient Control of Robots Using Myoelectric Interfaces," *In the Proc. of the IEEE International Conference on Robotics and Automation (ICRA)*, pp. 2880-2885, 2014.
- 35. Andrew Barkan[†], Jeffrey Skidmore and **Panagiotis Artemiadis***, "Variable Stiffness Treadmill (VST): a Novel Tool for the Investigation of Gait," *In the Proc. of the IEEE International Conference on Robotics and Automation (ICRA)*, pp. 2838-2843, 2014.
- 34. <u>Mark Ison</u> and **Panagiotis Artemiadis***, "Beyond user-specificity for EMG decoding using multiresolution muscle synergy analysis," *In the Proc. of the ASME Dynamic Systems and Control Conference (DSCC)*, 2013.
- 33. <u>Harshil Patel</u>, Gerald D O'Neill[†] and **Panagiotis Artemiadis***, "Regulation of 3D human arm impedance through muscle co-contraction," *In the Proc. of the ASME Dynamic Systems and Control Conference* (*DSCC*), 2013.
- 32. Alison Gibson[†], <u>Mark Ison</u> and **Panagiotis Artemiadis***, "User-independent hand motion classification with electromyography," *In the Proc. of the ASME Dynamic Systems and Control Conference* (*DSCC*), 2013.
- 31. Stephen Warren[†] and **Panagiotis Artemiadis***, "Bio-inspired robot control for human-robot bimanual manipulation," *In the Proc. of the ASME Dynamic Systems and Control Conference (DSCC)*, 2013.
- 30. Minas V. Liarokapis*, **Panagiotis Artemiadis** and Kostas J. Kyriakopoulos, "Telemanipulation with the DLR/HIT II Robot Hand Using a Dataglove and a Low Cost Force Feedback Device," *In the Proc. of the IEEE Mediterranean Conference on Control and Automation (MED)*, pp. 431-436, 2013.
- 29. Minas V. Liarokapis*, **Panagiotis Artemiadis** and Kostas J. Kyriakopoulos, "Task Discrimination from Myoelectric Activity: A Learning Scheme for EMG based Interfaces," *In the Proc. of the IEEE International Conference on Rehabilitation Robotics (ICORR)*, 2013.
- 28. Gerald O'Neill[†], <u>Harshil Patel</u> and **Panagiotis Artemiadis***, "An intrinsically safe mechanism for physically coupling humans with robots," *In the Proc. of the IEEE International Conference on Rehabilitation Robotics (ICORR)*, 2013.
- 27. Minas V. Liarokapis*, **Panagiotis Artemiadis** and Kostas J. Kyriakopoulos, "Quantifying Anthropomorphism of Robot Hands," *In the Proc. of the IEEE International Conference on Robotics and Automation (ICRA)*, pp. 2041-2046, 2013.

- 26. Pantelis Katsiaris*, **Panagiotis Artemiadis** and Kostas Kyriakopoulos, "Relating Postural Synergies to Low-D Muscular Activations: Towards Bio-inspired Control of Robotic Hands," *In the Proc. of the IEEE International Conference on BioInformatics and BioEngineering*, pp. 245-250, 2012.
- 25. Minas Liarokapis*, **Panagiotis Artemiadis** and Kostas Kyriakopoulos "Functional Anthropomorphism for Human to Robot Motion Mapping: The Case of Robotic Arm Hand Systems," *In the Proc. of the IEEE International Symposium on Robot and Human Interactive Communication (Ro-Man)*, pp. 31-36, 2012.
- 24. Minas Liarokapis*, **Panagiotis Artemiadis**, Pantelis Katsiaris and Kostas Kyriakopoulos, "Learning Task-Specific Models for Reach to Grasp Movements: Towards EMG-Based Teleoperation of Robotic Arm-Hand Systems," *In the Proc. of the Proceedings of IEEE/RAS-EMBS International Conference on Biomedical Robotics and Biomechatronics (BioRob*), pp. 1287-1292, 2012.
- 23. Minas Liarokapis*, **Panagiotis Artemiadis**, Pantelis Katsiaris, Kostas Kyriakopoulos and Elias Manolakos, "Learning Human Reach-to-Grasp Strategies: Towards EMG-based Control of Robotic Hands," *In the Proc. of the IEEE International Conference on Robotics and Automation (ICRA)*, pp. 2287-2292, 2012.
- 22. Ioannis Filippidis, Kostas Kyriakopoulos* and **Panagiotis Artemiadis**, "Navigation Functions Learning from Experiments: Application to Anthropomorphic Grasping," *In the Proc. of the IEEE International Conference on Robotics and Automation (ICRA)*, pp. 570-575, 2012.
- 21. **Panagiotis Artemiadis***, and Hermano Igo Krebs, "On the interlimb coordination and synchronization during gait," *In the Proc. of the 33rd Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)*, pp. 1571-1574, 2011.
- 20. Hermano I. Krebs, Stefano Rossi, Seung-Jae Kim, **Panagiotis Artemiadis***, Dustin Williams, Enrico Castelli, and Paolo Cappa, "Pediatric Anklebot," *In the Proc. of the IEEE 12th International Conference on Rehabilitation Robotics.(ICORR)*, 2011.
- 19. **Panagiotis Artemiadis***, and Hermano Igo Krebs, "Interlimb coordination evoked by unilateral mechanical perturbation during body-weight supported gait," *In the Proc. of the IEEE 12th International Conference on Rehabilitation Robotics.(ICORR)*, 2011.
- 18. **Panagiotis Artemiadis***, and Hermano Igo Krebs, "On the potential field-based control of the MIT-Skywalker," *In the Proc. of the IEEE International Conference on Robotics and Automation (ICRA)*, pp. 1427-1432, 2011.
- 17. **Panagiotis Artemiadis***, Pantelis T. Katsiaris, Minas V. Liarokapis, and Kostas J. Kyriakopoulos, "On the Effect of Human Arm Manipulability in 3D Force Tasks: Towards Force-controlled Exoskeletons," *In the Proc. of the IEEE International Conference on Robotics and Automation (ICRA)*, pp. 3784-3789, 2011.
- 16. **Panagiotis Artemiadis***, and Hermano Igo Krebs, "On the control of the MIT-Skywalker" *In the Proc. of the 32nd Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)*, pp. 1287-1291, 2010.
- 15. Pantelis T. Katsiaris, **Panagiotis Artemiadis***, and Kostas J. Kyriakopoulos, "Modeling Anthropomorphism in Dynamic Human Arm Movements" *In the Proc. of the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, pp. 3507-3512, 2010.

- 14. **Panagiotis Artemiadis***, Pantelis T. Katsiaris, Minas V. Liarokapis, and Kostas J. Kyriakopoulos, "Impedance: Characterization and Modeling in 3D Space" *In the Proc. of the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, pp. 3103-3108, 2010.
- 13. **Panagiotis Artemiadis***, and Hermano Igo Krebs, "Impedance-based control of the MIT-Skywalker" *In the Proc. of the ASME Dynamic Systems and Control Conference*, 2010.
- 12. **Panagiotis Artemiadis*** and Kostas J. Kyriakopoulos, "A Bio-inspired Filtering Framework for the EMG-based Control of Robots," *In the Proc. of the 17th Mediterranean Conference on Control and Automation*, pp. 1155-1160, Thessaloniki, Greece, June 2009.
- 11. **Panagiotis Artemiadis*** and Kostas J. Kyriakopoulos, "Assessment of Muscle Fatigue using a Probabilistic Framework for an EMG-based Robot Control Scenario," *In the Proc. of the Proceedings of IEEE International Conference on Bioinformatics and Bioengineering*, Athens, Greece, October 2008. **Second Best Student Paper**
- 10. **Panagiotis Artemiadis*** and Kostas J. Kyriakopoulos, "Estimating Arm Motion and Force using EMG signals: On the Control of Exoskeletons," *In the Proc. of the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, pp. 279 284, Nice, France, September 2008. **Best Application Paper Finalist**
- 9. **Panagiotis Artemiadis*** and Kostas J. Kyriakopoulos, "EMG-based Position and Force Control of Coupled Human-Robot Systems: Towards EMG-controlled Exoskeletons," *In the Proc. of the International Symposium on Experimental Robotics* 2008, Athens, Greece, July 2008.
- 8. **Panagiotis Artemiadis*** and Kostas J. Kyriakopoulos, "EMG-based Teleoperation of a Robot Arm Using Low-Dimensional Representation," *In the Proc. of the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, pp. 489 495, San Diego, CA, USA, October 2007.
- 7. Panagiotis Artemiadis* and Kostas J. Kyriakopoulos, "EMG-based Position and Force Control of a Robot Arm: Application to Teleoperation and Orthosis," *In the Proc. of the IEEE/ASME Interna*tional Conference on Advanced Intelligent Mechatronics, pp. 1 - 6, Switzerland, September 2007. Best Paper Finalist
- 6. Nikolaos A. Bompos, **Panagiotis Artemiadis***, Apollon S. Oikonomopoulos and Kostas J. Kyriakopoulos, "Modeling, Full Identification and Control of the Mitsubishi PA-10 Robot Arm," *In the Proc. of the IEEE/ASME International Conference on Advanced Intelligent Mechatronics*, pp. 1 6, Switzerland, September 2007.
- 5. **Panagiotis Artemiadis***, Gregory Shakhnarovich, Carlos Vargas-Irwin, John Donoghue, Michael J. Black, "Decoding Grasp Aperture from Motor-Cortical Population Activity," *In the Proc. of the IEEE EMBS Conference on Neural Engineering*, pp. 518 521, Hawaii, May 2-5, 2007.
- 4. **Panagiotis Artemiadis***, and K. J. Kyriakopoulos, "EMG-based teleoperation of a robot arm in planar catching movements using ARMAX model and trajectory monitoring techniques," *In the Proc. of the IEEE International Conference on Robotics and Automation (ICRA)*, pp. 3244-3249, Orlando FL, May 2006.
- 3. **Panagiotis Artemiadis***, and K. J. Kyriakopoulos, "Teleoperation of a Robot Arm in 2D Catching Movements using EMG Signals and a Bio-inspired Motion Law," *In the Proc. of the IEEE/RAS-EMBS International Conference on Biomedical Robotics and Biomechatronics (BioRob)*, pp. 41-46, Pisa, Italy, February 2006.

- I. Sardellitti, E. Cattin*, Panagiotis Artemiadis, S. Roccella, F. Vecchi, M. C. Carrozza, K. J. Kyriakopoulos, and P. Dario, "Description, characterization and assessment of a bio-inspired shoulder joint-first link robot for neuro-robotic applications," *In the Proc. of the IEEE/RAS-EMBS International Conference on Biomedical Robotics and Biomechatronics (BioRob)*, pp. 112-117, Pisa, Italy, February 2006.
- 1. **Panagiotis Artemiadis***, Kostas J. Kyriakopoulos, "Teleoperation of a Robot Manipulator using EMG Signals and a Position Tracker," *In the Proc. of the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, pp. 1003 1008, Edmonton, Canada, August 2005.

Non-refereed Magazine Articles

- 6. Panagiotis Artemiadis*, "Robotics and power-saving in industry," Plant Management, March 2007.
- 5. **Panagiotis Artemiadis***, "Automated storage and retrieval systems," Plant Management, December 2006.
- 4. **Panagiotis Artemiadis***, "Robotic welding," Plant Management, September 2006.
- 3. **Panagiotis Artemiadis***, "Robotics and machine vision: Design Industrial applications," Plant Management, April 2006.
- 2. **Panagiotis Artemiadis***, "Machine vision: Application in industry," Plant Management, January 2006.
- 1. **Panagiotis Artemiadis***, "Control systems in industry: Application of closed-loop systems Robotics," Plant Management, October 2005.

PATENTS

Summary of patents:

- 1. Patent Applications: **11** (all with students, **8** issued)
- 2. Provisional Patent Applications: **12** (all with students, **8** became full applications, 2 are pending to be submitted as full)

Note:

† Dagger indicates undergraduate students advised.

Underline indicates graduate students advised.

Patents (issued)

- 8. **Panagiotis Artemiadis**, Hyunglae Lee, and <u>Justin Hunt</u>, "Mechanism for alleviating the effects of joint misalignment between users and wearable robots", U.S. Patent No. 10,814,473. 27 Oct. 2020.
- 7. **Panagiotis Artemiadis**, Hyunglae Lee, and <u>Justin Hunt</u>, "Spherical parallel manipulator architecture for shoulder robotic exoskeleton", U.S. Patent No. 10,800,031. 13 Oct. 2020.

- 6. **Panagiotis Artemiadis** and Georgios Konstantinos Karavas, "Systems and methods for a hybrid brain interface for robotic swarms using EEG signals and an input device", U.S. Patent No. 10,712,820. 14 Jul. 2020.
- 5. **Panagiotis Artemiadis** and <u>Daniel Larsson</u>, "Systems and methods for dynamics, modeling, simulation and control of mid-flight coupling of quadrotors", U.S. Patent No. 10,642,285. 5 May 2020.
- 4. **Panagiotis Artemiadis** and <u>Mark Ison</u>, "Systems and methods for simultaneous position and impedance control for myoelectric interfaces", U.S. Patent No. 10,610,099. 7 Apr. 2020.
- 3. **Panagiotis Artemiadis**, and <u>Jeffrey Skidmore</u>, "Systems and methods for gait rehabilitation using mechanical perturbations." U.S. Patent No. 9,707,442. 18 Jul. 2017.
- 2. **Panagiotis Artemiadis** and Andrew Barkan[†], "Variable Stiffness Treadmill System", U.S. Patent No. 9,757,610. 12 Sep. 2017.
- 1. **Panagiotis Artemiadis** and Gerald O'Neill[†], "Coupling System", U.S. Patent No. 9,833,895. 5 Dec. 2017.

Provisional Patent Applications

- Panagiotis Artemiadis, Bradley Hobbs, Vaughn Chambers, William Gaither[†], Zachary Thé[†], "A Dual-Belt Treadmill System with Controllable Stiffness", United States Provisional Application, UD23-46, 2023.
- 3. **Panagiotis Artemiadis** and <u>Charikleia Angelidou</u>, "Systems for real-time prediction of transitions to rigid and compliant surfaces using myoelectric and kinematic data", United States Provisional Application No. 63453928, 2023.
- Panagiotis Artemiadis and Mark Ison, "Functional prosthetic device training using an implicit motor control training system and electromyography", United States Patent Application No. 15/245,108, 2017.
- Panagiotis Artemiadis and Alison Gibson[†], "Cross-modal feedback architecture for perceiving force information through sound", U.S. Patent Office, Provisional Application, No. 61/896,505, 2013.

RESEARCH ACTIVITIES - SPONSORED PROJECTS

Summary of Research Support:

- 1. Awarded funds total: \$7,998,671 [\$172,000 university internal funds]
- 2. Number of Projects: **18** (13 completed)
- 3. Project role: 14 as PI, 4 as co-PI

Awarded

Sep'22-Sep'26

Principal Investigator, "Model-informed patient-specific rehabilitation using robotics and neuromuscular modeling", Award #: 1R01HD111071-01

National Institutes of Health - Eunice Kennedy Shriver National Institute of Child Health & Human Development (NICHD)

- \$1,178,558
- Goal: To advance the science of therapeutic engineering for hemiparetic gait by 1) quantifying the effect of a set of newly developed interventions on propulsion and balance under a systematic variation of intervention parameters (data-driven analysis), 2) combining predictive modeling with in-silico optimization to identify robot interventions targeting specific functional outcomes (model-informed intervention design), 3) testing combinations of interventions in experiments with post-stroke individuals to validate the model-informed intervention design approach.
- Oct'20-Sep'24

co-Principal Investigator, "SCH: INT: Pediatric motor rehabilitation via socially interacting robot swarms", Award #: 2014264

National Science Foundation (NSF), CISE - IIS SCH

- \$1,099,340
- Goal: To enable the science and development of an enriched infant motor rehabilitation environment, which involves stimulation by swarms of robotic toys that are socially interacting with infants in play-based activities.
- Oct'20-Sep'24

co-Principal Investigator, "MRI: Development of an Integrated Instrument for Testing Safety and Robustness of Robotic Co-Workers in Dynamic Environments", Award #: 2018905

National Science Foundation (NSF), CISE - CNS MRI

- \$551,682
- Goal: To promote human-robot co-existence by developing a unique new fully integrated sensing and control instrument, which will enable researchers to rigorously evaluate the performance of robotic algorithms in response to systematically induced dynamic perturbations that emulate real-world conditions.
- Jun'20-Jun'23

Principal Investigator, "Robotics Innovation Challenge"

Graduate College, University of Delaware

- \$40,000
- Goal: To develop a robotics innovation challenge for graduate students in the Master of Science of Robotics program in the University of Delaware.
- Sep'18-Sep'24

co-Principal Investigator, "NRI: INT: COLLAB: Anthropomorphic robotic ankle prosthesis with programmable materials", Award #: 2025797 (previously 1830256)

National Science Foundation (NSF), CISE - IIS NRI

- \$1,496,182 total (\$832,000 to UD (sub-awardee), including REU supplements of \$32,000) (100% Rec.)
- Goal: To create a new class of customizable agile ankle-foot prosthesis that is modular in design and has its impedance modulation decoupled from its torque control.

Jun'18-Jun'19

Principal Investigator, "DURIP: Optical robot localization system for research on human-swarm interaction and interfaces for optimum human-machine teaming", Award #: FA9550-18-1-0464

Air Force Office of Scientific Research (AFOSR)

- \$268,496 total (**100% Rec.**)
- Goal: Equipment grant for motion capture system to be used in evaluating computational methods to decipher and reconstruct high-level goals from the macroscopic analysis of collective behaviors in swarms using a cyber-human approach.
- Jun'18-May'19

Principal Investigator, "Multi-modal human-swarm interfaces for an active swarm tactics ecosystem"

DOD Seed Funding program, Ira A. Fulton Schools of Engineering, Arizona State University

- \$40,000 total (**100% Rec.**)
- Goal: To advance the scientific knowledge of manned-unmanned systems teaming and develop new methods that allow humans to control the tactics of multi-agent teams of unmanned agents-robots.
- Jun'18-May'19

Principal Investigator, "Small legged robot - Nao"

Minor Research Infrastructure (mRI), Ira A. Fulton Schools of Engineering, Arizona State University

- \$6,000 total (100% Rec.)
- Goal: To purchase a small-sized humanoid robotic system, the Nao robot, to allow research on biped robotic systems.
- May'18-May'23

Principal Investigator, "A human-machine symbiotic system for the extraction of high-level behaviors from a macroscopic view of swarms", Award #: FA9550-18-1-0221

Air Force Office of Scientific Research (AFOSR)

- \$584,560 total (**100% Rec.**)
- Goal: To develop and test novel computational methods to decipher and reconstruct high-level goals from the macroscopic analysis of collective behaviors in swarms using a cyber-human approach.
- Feb'18-Feb'20

Principal Investigator, "Hybrid Brain-Machine Interfaces for Controlling Robotic Swarms"

Ira A. Fulton Schools of Engineering, Arizona State University and ABC (Agricultural-Biological-Cognitive) Robotics Center at Ben-Gurion University (BGU)

- \$30,000 total (**100% Rec.**)
- Goal: To develop control algorithms for hybrid multi-agent systems using brain interfaces.

Sep'17-Sep'22

Principal Investigator, "Modeling and Analysis of Sensorimotor Dynamics in Interleg Coupling Leads to a Novel Model-based Approach to Human Gait Rehabilitation", Award #: 2015786 (previously 1727838)

National Science Foundation (NSF), CMMI - DCSD

- \$373,953 total (including REU supplements of \$16,000) (**100% Rec.**)
- Goal: To address important research questions related to inter-leg coordination mechanisms during gait that will provide the foundation for transformative gait retraining methods.
- Aug'17-Dec'24

Principal Investigator, "PFI:BIC - ASPIRE: hierArchical control of a Smart anklefoot Prosthesis that supports Increased mobility for REal-life activities", Award #: 2020009 (previously 1718114)

National Science Foundation (NSF), IIP

- \$1,231,000 total (including REU and SPRINT supplements of \$231,900) (**70% Rec.**)
- Goal: To develop and test a smart powered ankle-foot prosthesis that supports increased mobility for real-life activities.
- Sep'14-Sep'17

Principal Investigator, "Perception and action interfaces in the symbiosis of humans and multi-agent systems", Award #: FA9550-14-1-0149

Air Force Office of Scientific Research (AFOSR) Young Investigator Award

- \$360,000 total (**100% Rec.**)
- Goal: To develop intelligent perception interfaces for interaction between humans and multi-agent systems.
- Sep'14-Sep'17

Principal Investigator, "Optimizing human supervision of multi-agent systems", Award #: D14AP00068

DARPA Young Faculty Award

- \$500,000 total (100% Rec.)
- Goal: To optimize human-swarm control interfaces.
- Jun'14-Dec'15

co-Investigator, "Neural correlates of cooperative manipulative actions", Award # GES0255

Arizona Department of Health Services

- \$100,000 total (33% Rec.), PI: Dr. Christopher Buneo
- Goal: To understand neural correlates of joint actions between robots and primates.
- Jun'15-Jun'18

Principal Investigator, "Fulton Faculty Development Chair funding"

Ira A. Fulton Schools of Engineering, Arizona State University

- \$30,000 total (**100% Rec.**)
- Goal: To support the Faculty Development Chair to seed ideas in support of teaching and research.
- Jun'13-Jun'14

Principal Investigator, "Robot-assisted gait rehabilitation"

Piper Health Solutions Seed Funding program, Arizona State University

- \$50,000 total (100% Rec.)
- Goal: To use sensorimotor control principles in gait for gait rehabilitation using a variable stiffness treadmill.

Feb'12 *co-Investigator*, "3-D Projection System for Virtual Reality Applications"

Ira A. Fulton Schools of Engineering Infrastructure Competition

• \$26,000 total (shared with 5 faculty, %20 Rec. not specified)

INVITED LECTURES

2023	 "Human gait rehabilitation using robotics and neuromuscular modeling" Keynote Speaker XII - Congreso Iberoamericano de Tecnologias de Apoyo a la Discapacidad (Ibero-American Congress of Support Technologies for Disability), São Carlos, São Paulo State, Brazil
2023	"Human-Oriented Robotics & Control" • CHARM/CPI/DEI REU program, University of Delaware, Newark, DE
2023	"Human gait rehabilitation using robotics and neuromuscular modeling" • BIOMS program, University of Delaware, Newark, DE
2022	"Human-Oriented Robotics" • Hellenic Institute of Advanced Studies, Athens, Greece
2019	"Modeling and control of human-robot interaction and interfaces" • University of Delaware, Newark, DE
2019	"Modeling and control of human-robot interaction and interfaces" • Rice University, Houston, TX
2018	"Advanced human-robot control and interaction interfaces" • University of California (Riverside), Riverside, CA
2018	"Advanced human-robot control and interaction interfaces" • National Technical University of Athens, Athens, Greece
2017	"Advanced human-robot control and interaction interfaces" • MIT Lincoln Lab, Lexington, MA
2017	"Advanced Human-Robot Control Interfaces" • University of Nebraska Omaha, NE
2017	"Using your brain to control a swarm of drones" • Commercial UAV Expo 2017, plenary speaker, Las Vegas, NV
2017	"On the effect of walking surface stiffness on inter-limb coordination in human walking: a unique perspective to robotic gait rehabilitation" • Workshop on: Physical Human-Robot & Human-Telerobot Interaction: From Theory to Application for Neuro-rehabilitation, 2017 IEEE/RSJ International Conference on Intelligent Robots and Systems, Vancouver, Canada

2017	"On the effect of walking surface stiffness on inter-limb coordination in human walking: a unique perspective to robotic gait rehabilitation" • Workshop on: Adaptive Control Methods in Assistive Technologies, 2017 IEEE/RSJ International Conference on Intelligent Robots and Systems, Vancouver, Canada
2016	"Advanced Human-Robot Control and Interaction Interfaces" • Council of Scientific Society Presidents (CSSP) Frontiers of Science Meeting, Washington, DC
2016	"Advanced Human-Robot Control and Interaction Interfaces" • University of Maryland, College Park, MD
2016	"On the effect of walking surface stiffness on inter-limb coordination in human walking: a unique perspective to robotic gait rehabilitation" • Barrow Neurological Institute Rehabilitation Symposium, Phoenix, AZ
2016	"Perception and control interfaces between humans and robotic swarms" • 27th Annual Association of Unmanned Vehicle Systems International (AUVSI) Pathfinder Chapter symposium, Huntsville, AL
2016	"Interfacing Robots with Humans" • Flextronics Inc, San Jose, CA
2016	"EMG Interfacing for Wearable Robotics and others" • Wearable Robotics Association Conference (Wearracon), Phoenix AZ
2015	"I, Robot" • SEMTE Freshman Lecture, Arizona State University, Tempe AZ
2015	"Advanced human-robot control and interaction interfaces" • Department of Mechanical Engineering, Rice University, Houston, TX
2015	"Advanced human-robot control and interaction interfaces" • Department of Biomedical Engineering, University of Delaware, Newark, DE
2014	"Advanced human-machine decision and control interfaces" • 2014 Systems Engineering & Architecture Symposium • Raytheon Company, Tuscon, AZ
2013	"Advances in EMG control interfaces: beyond decoding, beyond subject-specificity" • Workshop on the present and future of non-invasive PNS-Machine interfaces International Conference on Rehabilitation Robotics • University of Washington, Seattle, WA
2013	"Interfacing Humans with Robots! Ideas for applications in space" • SpaceVision 2013, Space Based Robotics • Arizona State University, Tempe, AZ
2011	 "From Neuro-robotic systems to Motor Rehabilitation" ASU ASME student section Arizona State University, Tempe, AZ

2011	 "From Neuro-robotic systems to Motor Rehabilitation" Control, Instrumentation, and Robotics (CIR) Seminar Series Massachusetts Institute of Technology, Cambridge, MA
2011	"From Neuro-robotic systems to Motor Rehabilitation"Department of Mechanical Engineering, Vanderbilt University, Nashville, Tennessee
2011	"From Neuro-robotic systems to Motor Rehabilitation"◆ Department of Mechanical Engineering, Arizona State University, Tempe, AZ
2011	"Neuro-robotic systems in the service of the mobility impaired"Department of Computer Science, Brown University, Providence, RI
2008	"Control methodologies for neuro-robotics systems" • Italian Institute of Technology, Genoa, Italy
2008	"Control methodologies for neuro-robotics systems"Department of Mechanical Engineering, University of Maryland, College Park, Baltimore, MD
2008	 "Service Robots for impaired humans: the dawn of advanced neuro-prosthetic robot hands" International Expert Days, Service Robotics Lauffen Am Neckar, Germany

STUDENT ADVISING

Summary of Student Advising:

- 1. Postdoctoral associates advised: 1
- 2. Ph.D. students graduated as Chair or co-Chair: 10
- 3. Ph.D. students currently advising as Chair: 7
- 4. Ph.D. students currently advising as co-Chair: 0
- 5. Ph.D. students graduated as Committee Member: 15
- 6. Ph.D. students currently advising as Committee Member: 6
- 7. M.S. students graduated as Chair: 22
- 8. M.S. students currently advising as Chair/research mentor: 2
- 9. M.S. students graduated as Committee Member: 12
- 10. Undergraduate students advised as research mentor: 64
- 11. Undergraduate students currently advising as research mentor: 5

Note:

Underline indicates students currently advised.

Ph.D. Students - Chair and co-Chair

F'19 - Pres. Vaughn Chambers, University of Delaware, Newark, DE, Mechanical Engineering

Dr. Artemiadis' role: ChairExpected graduation: F'23

F'18 - Pres. Bradley Hobbs, University of Delaware, Newark, DE, Mechanical Engineering

Dr. Artemiadis' role: ChairExpected graduation: S'24

F'19 - Pres. Chrysostomos Karakasis, University of Delaware, Newark, DE, Mechanical Engineering

Dr. Artemiadis' role: ChairExpected graduation: S'24

F'21 - Pres. <u>Jesus Orozco</u>, University of Delaware, Newark, DE, Mechanical Engineering

Dr. Artemiadis' role: ChairExpected graduation: F'25

F'21 - Pres. Chara Angelidou, University of Delaware, Newark, DE, Mechanical Engineering

Dr. Artemiadis' role: Chair Expected graduation: F'25

F'22 - Pres. Stergios Bachoumas, University of Delaware, Newark, DE, Mechanical Engineering

Dr. Artemiadis' role: ChairExpected graduation: F'26

F'22 - Pres. Shubham Kumbhar, University of Delaware, Newark, DE, Mechanical Engineering

Dr. Artemiadis' role: Chair Expected graduation: F'26

F'17 - S'23 Emiliano Quinones Yumbla, Arizona State University, Tempe, AZ, Mechanical Engineering

• Dr. Artemiadis' role: Co-Chair

• Graduated: S'23

F'17 - S'23 Matthew Cavorsi, Harvard University, Cambridge, MA, Mechanical Engineering

• Dr. Artemiadis' role: Co-Chair

• Graduated: S'23

S'19 - S'21. Carly Thalman, Arizona State University, Tempe, AZ, Systems Engineering

• Graduated: Spring'21

• Thesis: "Soft Wearable Robotics for Ankle and Lower Body Gait Rehabilitation: Design, Modeling, and Implementation of Fabric-Based Actuators to Assist Human Locomotion"

F'14 - F'17. Bryan Whitsell, Arizona State University, Tempe, AZ, Mechanical Engineering

• Dr. Artemiadis' role: Chair

• Graduated: Fall'17

• Thesis: "Human-Robot Interaction Utilizing Asymmetric Cooperation and the Brain"

F'14 - F'20. Justin Hunt, Arizona State University, Tempe, AZ, Mechanical Engineering

• Dr. Artemiadis' role: Co-chair with Dr. Hyunglae Lee

• Graduated: Fall'20

• Thesis: "Development of a Novel Low Inertia Exoskeleton Device for Characterizing the Neuromuscular Properties of the Human Shoulder"

F'15 - F'19. Masood Nevisipour, Arizona State University, Tempe, AZ, Mechanical Engineering

• Dr. Artemiadis' role: Co-chair with Dr. Claire Honeycutt

• Graduated: F'19

• Thesis: "Advanced Prosthetics and Joint Mechanisms"

• Expected graduation: F'19

F'14 - Sum'17 Robert Holgate, Arizona State University, Tempe, AZ, Mechanical Engineering

• Dr. Artemiadis' role: Co-chair with Dr. Thomas Sugar

• Graduated: Sum'17

• Thesis: "Advanced Prosthetics and Joint Mechanisms"

F'13 - S'17 Jeffrey Skidmore, Arizona State University, Tempe, AZ, Mechanical Engineering

• Dr. Artemiadis' role: Chair

• Graduated: S'17

• Thesis: "On the Effect of Walking Surface Stiffness on Inter-leg Coordination during Human Walking: a Unique Perspective to Robot-assisted Gait Rehabilitation"

• Awards/Honors: Outstanding Graduate in Mechanical & Aerospace Engineering for AY 2016-17 (2017), National Science Foundation Graduate Research Fellowship Honorable Mention (2015)

F'12 - S'15 Mark Ison, Arizona State University, Tempe, AZ, Mechanical Engineering

• Dr. Artemiadis' role: Chair

• Graduated: S'15

• Thesis: "On Enhancing Myoelectric Interfaces by Exploiting Motor Learning and Flexible Muscle Synergies"

• Awards/Honors: Outstanding Graduate in Mechanical & Aerospace Engineering for AY 2014-15 (2015), Outstanding Dissertation Award from Ira A. Fulton Schools of Engineering (2015).

• Current position: Software Engineer / Systems Analyst at Intuitive Surgical, Sunnyvale, CA

S'12 - S'15 Jong-Hwa Lee, Arizona State University, Tempe, AZ, Mechanical Engineering

• Dr. Artemiadis' role: co-Chair

• Graduated: S'15

• Thesis: "A musculoskeletal model of the human hand to improve human-device interaction"

• Current position: Sr. Software Engineer, Sony Electronics, Inc, San Marcos, CA.

Ph.D. Students - Committee Member

F'19 - Pres. Kleio Baxevani, University of Delaware, Newark, DE, Mechanical Engineering

• Dr. Artemiadis' role: Committee member

• Expected graduation: F'24

F'19 - Pres. Prem Chand, University of Delaware, Newark, DE, Mechanical Engineering

• Dr. Artemiadis' role: Committee member

• Expected graduation: F'24

F'20 - Pres. Hannah Cohen, University of Delaware, Newark, DE, Mechanical Engineering • Dr. Artemiadis' role: Committee member • Expected graduation: F'25 F'20 - Pres. GilHwan Kim, University of Delaware, Newark, DE, Mechanical Engineering • Dr. Artemiadis' role: Committee member • Expected graduation: F'25 F'20 - Pres. Abhijeet Mangesh Kulkarni, University of Delaware, Newark, DE, Mechanical Engineering • Dr. Artemiadis' role: Committee member • Expected graduation: F'25 F'19 - Pres. Kristin Schmidt, University of Delaware, Newark, DE, Mechanical Engineering • Dr. Artemiadis' role: Committee member • Expected graduation: F'24 F'16 - S'20 Varum Nalam, Arizona State University, Tempe, AZ, Mechanical Engineering • Dr. Artemiadis' role: Committee member • Graduated: S'20 F'11 - F'18. Ragesh Kumar Ramachandran, Arizona State University, Tempe, AZ, Mechanical Engineering • Dr. Artemiadis' role: Committee member • Graduated: Fall'18 F'11 - S'18. Charla Lindley, Arizona State University, Tempe, AZ, Biomedical Engineering • Dr. Artemiadis' role: Committee member • Graduated: Spring'18 F'13 - S'18 Keivan Mojtahedi, Arizona State University, Tempe, AZ, Biomedical Engineering • Dr. Artemiadis' role: Committee member • Graduated: Spring'18 F'14 - F'18 Cody Barton, Arizona State University, Tempe, AZ, Biomedical Engineering • Dr. Artemiadis' role: Committee member • Graduated: Fall'18 F'14 - Sum'17 Nathan Cahill, Arizona State University, Tempe, AZ, Mechanical Engineering • Dr. Artemiadis' role: Committee member • Graduated: Sum'17 F'11 - S'17 Sean Wilson, Arizona State University, Tempe, AZ, Mechanical Engineering • Dr. Artemiadis' role: Committee member • Graduated: S'17 F'14 - S'17 Michael Krzyzaniak, Arizona State University, Tempe, AZ, Media Arts and Sciences • Dr. Artemiadis' role: Committee member • Graduated: S'17

F'11 - F'16 Juan Oziel De la Fuente Valadez, Arizona State University, Tempe, AZ, Mechanical Engineering

• Dr. Artemiadis' role: Committee member

• Graduated: F'16

F'11 - S'16 Reza Kamyar, Arizona State University, Tempe, AZ, Mechanical Engineering

• Dr. Artemiadis' role: Committee member

• Graduated: S'16

F'11 - S'16. Randall Hellman, Arizona State University, Tempe, AZ, Mechanical Engineering

• Dr. Artemiadis' role: Committee member

• Graduated: S'16

F'11 - Sum'14 Minas Liarokapis, National Technical University of Athens, Greece, Mechanical Engineering

• Dr. Artemiadis' role: Committee member

• Graduated: Sum'14

F'11 - Sum'13 Ruben Ponce Wong, Arizona State University, Tempe, AZ, Mechanical Engineering

• Dr. Artemiadis' role: Committee member

• Graduated: Sum'13

F'11 - Sum'13 Michael De Gregorio, Arizona State University, Tempe, AZ, Mechanical Engineering

• Dr. Artemiadis' role: Committee member

• Graduated: Sum'13

F'11 - Sum'13 Qiushi Fu, Arizona State University, Tempe, AZ, Biomedical Engineering

• Dr. Artemiadis' role: Committee member

• Graduated: Sum'13

M.S. Students - Chair and co-Chair

S'23 - Pres. Camryn Scully, University of Delaware, Newark, DE, Mechanical Engineering, Master's in Robotics

• Dr. Artemiadis' role: Chair

• Graduated: S'23

S'23 - Pres. <u>Yashwanth Tekumudi</u>, University of Delaware, Newark, DE, Mechanical Engineering,

Master's in Robotics

• Dr. Artemiadis' role: Chair

• Graduated: S'23

F'20 - S'23 Angela Kuczykowski, University of Delaware, Newark, DE, Mechanical Engineering,

Master's in Robotics

• Dr. Artemiadis' role: Chair

• Graduated: S'23

F'21 - S'23 Sujal Amrit Topno, University of Delaware, Newark, DE, Mechanical Engineering,

Master's in Robotics

• Dr. Artemiadis' role: Chair

• Graduated: S'23

F'20 - S'23 Robert Salati, University of Delaware, Newark, DE, Mechanical Engineering, Master's in Robotics • Dr. Artemiadis' role: Chair • Graduated: S'23 F'20 - F'22 Zachary Thé, University of Delaware, Newark, DE, Mechanical Engineering, Master's in Robotics • Dr. Artemiadis' role: Chair • Graduated: F'22 F'20 - F'22 Robert Samuelson, University of Delaware, Newark, DE, Mechanical Engineering, Master's in Robotics • Dr. Artemiadis' role: Chair • Graduated: F'22 F'19 - S'21 Ajitesh Singh, University of Delaware, Newark, DE, Mechanical Engineering, Master's in Robotics • Dr. Artemiadis' role: Chair • Graduated: S'21 F'18 - S'19 Junxin Wang, Arizona State University, Tempe, AZ, Mechanical Engineering • Dr. Artemiadis' role: Chair • Graduated: S'19 Harsh Lal, Arizona State University, Tempe, AZ, Mechanical Engineering F'18 - S'19 • Dr. Artemiadis' role: Chair • Graduated: S'19 F'18 - S'19 Ruby Afriyie Obeng, Arizona State University, Tempe, AZ, Biomedical Engineering • Dr. Artemiadis' role: Chair • Graduated: S'19 F'18 - S'19 Sudhanshu Biyani, Arizona State University, Tempe, AZ, Mechanical Engineering • Dr. Artemiadis' role: Chair • Graduated: S'19 F'18 - S'19 Akshay Singhvi, Arizona State University, Tempe, AZ, Mechanical Engineering • Dr. Artemiadis' role: Chair • Graduated: S'19 F'14 - Sum'17 Akshat Baveja, Arizona State University, Tempe, AZ, Aerospace Engineering • Dr. Artemiadis' role: Chair • Graduated: Sum'18 F'14 - Sum'17 Georgios Konstantinos Karavas, Arizona State University, Tempe, AZ, Aerospace Engineering • Dr. Artemiadis' role: Chair • Graduated: Sum' 17 • Thesis: "Brain Computer Interfaces for the Control of Robotic Swarms"

S'15 - S'16 Daniel Larsson, Arizona State University, Tempe, AZ, Aerospace Engineering • Dr. Artemiadis' role: Chair • Graduated: S'16 • Thesis: "Dynamics, modeling, simulation and control of mid-flight coupling of quadrotors" • Current position: Ph.D. student in Georgia Institute of Technology. S'15 - S'16 Andrew Barkan, Arizona State University, Tempe, AZ, Mechanical Engineering • Dr. Artemiadis' role: Chair • Graduated: S'16 • Awards/Honors: Outstanding Graduate in Mechanical & Aerospace Engineering for AY 2014-15 (2015), Outstanding Thesis Award from Ira A. Fulton Schools of Engineering (2015), Moeur Award (2015), National Science Foundation Graduate Student Fellowship (2016) • Current position: Ph.D. student in University of California, Berkeley. S'14 - S'15 Aniket Shirsat, Arizona State University, Tempe, AZ, Mechanical Engineering • Dr. Artemiadis' role: Chair • Graduated: S'15 Jeremy Johnson, Arizona State University, Tempe, AZ, Mechanical Engineering F'14 - S'15 • Dr. Artemiadis' role: Chair • Graduated: S'15 F'12 - S'14 Bryan Whitsell, Arizona State University, Tempe, AZ, Mechanical Engineering • Dr. Artemiadis' role: Chair • Graduated: S'14 • Thesis: "Human-Robot Cooperation: Communication and Leader-Follower Dynam-S'12 - S'13 Yuting Wang, Arizona State University, Tempe, AZ, Mechanical Engineering • Dr. Artemiadis' role: Chair • Graduated: S'13 • Thesis: "Closed-form Inverse Kinematic Solution for Anthropomorphic Motion in Redundant Robot Arms" S'12 - S'13 Chris Wilson Antuvan, Arizona State University, Tempe, AZ, Mechanical Engineering • Dr. Artemiadis' role: Chair • Graduated: S'13 • Thesis: "EMG-based Robot Control Interfaces: Beyond Decoding" F'11 - S'13 Harshil Patel, Arizona State University, Tempe, AZ, Mechanical Engineering • Dr. Artemiadis' role: Chair • Graduated: S'13 • Thesis: "Control of 3D Human Arm Impedance" F'11 - S'13 Vigneswaran Appia, Arizona State University, Tempe, AZ, Mechanical Engineering • Dr. Artemiadis' role: Chair • Graduated: S'13 • Thesis: "Design and Construction of Treadmill with controllable stiffness"

	M.S. or M.S.E. Students - Committee Member
S'16 - S'17	Venkatraman Renganathan, Arizona State University, Tempe, AZ, Electrical Engineering • Dr. Artemiadis' role: Committee member • Graduated: S'17
S'16 - S'17	Joe Campbell, Arizona State University, Tempe, AZ, Computer Science and Engineering • Dr. Artemiadis' role: Committee member • Graduated: S'17
S'16 - S'17	Jesus Aldaco, Arizona State University, Tempe, AZ, Electrical Engineering • Dr. Artemiadis' role: Committee member • Graduated: S'17
S'16 - S'17	Zhichao Li, Arizona State University, Tempe, AZ, Electrical Engineering • Dr. Artemiadis' role: Committee member • Graduated: S'17
S'16 - S'17	 Xianglong Lu, Arizona State University, Tempe, AZ, Electrical Engineering Dr. Artemiadis' role: Committee member Graduated: S'17
S'14 - S'15	Philip New, Arizona State University, Tempe, AZ, Mechanical Engineering • Dr. Artemiadis' role: Committee member • Graduated: S'15
S'14 - F'14	Chase Wheeler, Arizona State University, Tempe, AZ, Mechanical Engineering • Dr. Artemiadis' role: Committee member • Graduated: F'14
F'11 - F'12	 Shih-Kai Su, Arizona State University, Tempe, AZ, Computer Science and Engineering Dr. Artemiadis' role: Committee member Graduated: F'12
S'12 - F'12	Mark Trudgen, Arizona State University, Tempe, AZ, Mechanical Engineering • Dr. Artemiadis' role: Committee member • Graduated: F'12
F'11 - F'11	James Kristoff, Arizona State University, Tempe, AZ, Mechanical Engineering • Dr. Artemiadis' role: Committee member • Graduated: F'11
F'11 - F'11	Chad Ripley, Arizona State University, Tempe, AZ, Mechanical Engineering • Dr. Artemiadis' role: Committee member • Graduated: F'11
F'11 - F'11	Rose Robin Gilbert, Arizona State University, Tempe, AZ, Mechanical Engineering • Dr. Artemiadis' role: Committee member • Graduated: F'11

Undergraduate Students S'23 - Pres. Noah Stiebritz, University of Delaware, Newark, DE, Mechanical Engineering • Dr. Artemiadis' role: Research Mentor F'22 - Pres. Ben Caro, University of Delaware, Newark, DE, Mechanical Engineering • Dr. Artemiadis' role: Research Mentor F'22 - Pres. Jensen Gaither, University of Delaware, Newark, DE, Mechanical Engineering • Dr. Artemiadis' role: Research Mentor Madison Johnson, University of Delaware, Newark, DE, Mechanical Engineering F'22 - Pres. • Dr. Artemiadis' role: Research Mentor F'22 - Pres. Jacob Meredith, University of Delaware, Newark, DE, Mechanical Engineering • Dr. Artemiadis' role: Research Mentor Sum'22 - F'22 Anthony Zhou (University of Berkeley), University of Delaware, Newark, DE, Mechanical Engineering • Dr. Artemiadis' role: Research Mentor S'21 - S'22 Michael Rosen, University of Delaware, Newark, DE, Mechanical Engineering • Dr. Artemiadis' role: Research Mentor F'20 - F'21 Chris Czerwinski, University of Delaware, Newark, DE, Mechanical Engineering • Dr. Artemiadis' role: Research Mentor F'20 - S'22 Jack Swift, University of Delaware, Newark, DE, Mechanical Engineering • Dr. Artemiadis' role: Research Mentor F'21 - S'22 Guilherme Moura E Osorio De Valdoleiros, University of Delaware, Newark, DE, Mechanical Engineering • Dr. Artemiadis' role: Research Mentor, NSF REU mentor F'20 - S'22 Sydney Przywara, University of Delaware, Newark, DE, Mechanical Engineering • Dr. Artemiadis' role: Research Mentor, NSF REU mentor F'20 - S'21. Zachary Thé, University of Delaware, Newark, DE, Mechanical Engineering • Dr. Artemiadis' role: Research Mentor, NSF REU mentor F'20 - S'21 Camille Fischer, University of Delaware, Newark, DE, Mechanical Engineering • Dr. Artemiadis' role: Research Mentor Hayden Rehn, University of Delaware, Newark, DE, Mechanical Engineering F'20 - S'21 • Dr. Artemiadis' role: Research Mentor F'20 - S'21 Makoto Saitoh, University of Delaware, Newark, DE, Mechanical Engineering • Dr. Artemiadis' role: Research Mentor Allysa Mae Tuano, University of Delaware, Newark, DE, Mechanical Engineering S'20 - F'20 • Dr. Artemiadis' role: Research Mentor Matthew Balbierer, University of Delaware, Newark, DE, Mechanical Engineering S'20 - F'20 • Dr. Artemiadis' role: Research Mentor

S'18 - S'20	Lynsey Lehmann, Arizona State University, Tempe, AZ, Mechanical Engineering • Dr. Artemiadis' role: Fulton Undergraduate Research Initiative Mentor, NSF REU mentor
	• Fulton Undergraduate Research Initiative research award Sum'17, F'17, NSF REU award
S'18 - S'19.	Alex Fulginiti, Arizona State University, Tempe, AZ, Mechanical Engineering • Dr. Artemiadis' role: NSF REU mentor • NSF REU award
S'18 - S'19	Brandon Dubbs, Arizona State University, Tempe, AZ, Mechanical Engineering • Dr. Artemiadis' role: NSF REU mentor • NSF REU award
S'18 - S'19	Enoch O'Neal, Arizona State University, Tempe, AZ, Mechanical Engineering • Dr. Artemiadis' role: Undergraduate Research Initiative Mentor
S'18 - S'19	Michael Drolet, Arizona State University, Tempe, AZ, Mechanical Engineering • Dr. Artemiadis' role: Fulton Undergraduate Research Initiative Mentor • Fulton Undergraduate Research Initiative research award Sum'18
Sum'17 - F'17	 Justin Clark, Arizona State University, Tempe, AZ, Mechanical Engineering Dr. Artemiadis' role: Fulton Undergraduate Research Initiative Mentor Fulton Undergraduate Research Initiative research award Sum'17, F'17
S'17 - F'17	Himanshu Dave, Arizona State University, Tempe, AZ, Electrical Engineering • Dr. Artemiadis' role: Fulton Undergraduate Research Initiative Mentor • Fulton Undergraduate Research Initiative research award Sum'17, F'17
S'17 - F'17	 William Kostecki, Arizona State University, Tempe, AZ, Mechanical Engineering Dr. Artemiadis' role: Fulton Undergraduate Research Initiative Mentor Fulton Undergraduate Research Initiative research award S'17, Sum'17
Sum'17 - F'17.	Christopher Weidemann, Arizona State University, Tempe, AZ, Mechanical Engineering
	 Dr. Artemiadis' role: Fulton Undergraduate Research Initiative Mentor Fulton Undergraduate Research Initiative research award Sum'17, F'17
Sum'17 - F'17.	Michael Sanchez, Arizona State University, Tempe, AZ, Mechanical Engineering • Dr. Artemiadis' role: Fulton Undergraduate Research Initiative Mentor • Fulton Undergraduate Research Initiative research award Sum'17, F'17
S'16 - S'17	Tyler Mcdaniel, Arizona State University, Tempe, AZ, Mechanical Engineering • Dr. Artemiadis' role: Fulton Undergraduate Research Initiative Mentor • Fulton Undergraduate Research Initiative research award F'16, S'17
F'16 - S'17	Sebastian Klype, Arizona State University, Tempe, AZ, Mechanical Engineering • Dr. Artemiadis' role: Fulton Undergraduate Research Initiative Mentor • Fulton Undergraduate Research Initiative research award F'16, S'17

S'16 - S'17	 Shreya Udupa, Arizona State University, Tempe, AZ, Mechanical Engineering Dr. Artemiadis' role: Fulton Undergraduate Research Initiative Mentor and Honors Thesis Chair Fulton Undergraduate Research Initiative research award Sum'16, F'16 Graduated: S'17 Barrett Honors Thesis: "Robotic 3D Mapping for Virtual Reality Implementation"
S'15 - S'17	 Linda Fou, Arizona State University, Tempe, AZ, Mechanical Engineering Dr. Artemiadis' role: Fulton Undergraduate Research Initiative Mentor and Honors Thesis Chair Fulton Undergraduate Research Initiative research award F'15, S'16 Graduated: S'17 Barrett Honors Thesis: "Implementation of variable damping to gait rehabilitation technology"
S'15 - S'17	Andrew Cook, Arizona State University, Tempe, AZ, Mechanical Engineering • Dr. Artemiadis' role: Committee Member • Graduated: S'17
S'15 - S'17	 Tanguy Toulouse, Arizona State University, Tempe, AZ, Mechanical Engineering Dr. Artemiadis' role: Committee Member Graduated: S'17
S'16 - F'16	Ryian Hunter, Arizona State University, Tempe, AZ, Mechanical Engineering • Dr. Artemiadis' role: Fulton Undergraduate Research Initiative Mentor • Fulton Undergraduate Research Initiative research award S'16, Sum'16
S'16 - F'16	 Adrian Ion, Arizona State University, Tempe, AZ, Mechanical Engineering Dr. Artemiadis' role: Fulton Undergraduate Research Initiative Mentor Fulton Undergraduate Research Initiative research award S'16, Sum'16
S'15 - S'16	Gregory Hutchins, Arizona State University, Tempe, AZ, Mechanical Engineering • Dr. Artemiadis' role: Committee Member • Graduated: S'16
S'15 - F'15	Jasmine Delgado, Arizona State University, Tempe, AZ, Mechanical Engineering • Dr. Artemiadis' role: Fulton Undergraduate Research Initiative Mentor • Fulton Undergraduate Research Initiative research award Sum'15, F'15
S'15 - F'15	Mateo Oramas, Arizona State University, Tempe, AZ, Mechanical Engineering • Dr. Artemiadis' role: Research Mentor
S'14 - F'15.	 Ioannis Kaneris, Arizona State University, Tempe, AZ, Computer Engineering Dr. Artemiadis' role: Fulton Undergraduate Research Initiative Mentor Fulton Undergraduate Research Initiative research award F'14
S'14 - F'15	 Sean Howard, Arizona State University, Tempe, AZ, Mechanical Engineering Dr. Artemiadis' role: Research Mentor Fulton Undergraduate Research Initiative research award S'14, S'15 Graduated: F'15

F'13 - F'15	 Michael Heeb, Arizona State University, Tempe, AZ, Mechanical Engineering Dr. Artemiadis' role: Fulton Undergraduate Research Initiative Mentor Fulton Undergraduate Research Initiative research award Sum'14, F'14 Graduated: F'15
F'13 - S'15	 Elena Whitton, Arizona State University, Tempe, AZ, Mechanical Engineering Dr. Artemiadis' role: Fulton Undergraduate Research Initiative Mentor and Honors Thesis Chair Fulton Undergraduate Research Initiative research award Sum'14, F'14 Graduated: S'15 Barrett Honors Thesis: "Human Perception of Swarm Behavior"
F'13 - S'15	 Danielle Stevens, Arizona State University, Tempe, AZ, Mechanical Engineering Dr. Artemiadis' role: Fulton Undergraduate Research Initiative Mentor Fulton Undergraduate Research Initiative research award F'14, S'15 Graduated: S'15
S'13 - S'15	 Ryan Frost, Arizona State University, Tempe, AZ, Mechanical Engineering Dr. Artemiadis' role: Fulton Undergraduate Research Initiative Mentor Fulton Undergraduate Research Initiative research award S14, Sum'14, S'15
F'12 - S'15	 Andrew Barkan, Arizona State University, Tempe, AZ, Mechanical Engineering Dr. Artemiadis' role: Fulton Undergraduate Research Initiative Mentor and Honors Thesis Chair Fulton Undergraduate Research Initiative research award S'13, Sum'13, F'13, S'14, F'14, S'15 Graduated: S'15 Barrett Honors Thesis: "Variable Stiffness Treadmill (VST): Design, development and implementation of a novel tool for the investigation of human gait"
S'12 - S'15	Alison Gibson, Arizona State University, Tempe, AZ, Mechanical Engineering • Dr. Artemiadis' role: Fulton Undergraduate Research Initiative Mentor, NASA Space Grant Mentor • Graduated: S'15 • Fulton Undergraduate Research Initiative research award S'13, F'13, S'14, Sum'14 • ASU-NASA Space Grant award F12, S13, F13, S14, F14 • Awards/Honors: Outstanding Graduate Award in Aerospace Engineering (2015) ,Overall SEMTE Outstanding Graduate Award 2015, 2015 NSF Graduate Student Fel lowship • Current position: Ph.D. student at Massachusetts Institute of Technology.
F'12 - F'14	Jeremy Johnson, Arizona State University, Tempe, AZ, Mechanical Engineering • Dr. Artemiadis' role: Research Mentor • Fulton Undergraduate Research Initiative research award Sum'13, F'13
F'13 - S'14	Nicolas Jarrett, Arizona State University, Tempe, AZ, Mechanical Engineering • Dr. Artemiadis' role: Research Mentor
F'13 - S'14	Lizaveta Charnavusava, Arizona State University, Tempe, AZ, Mechanical Engineering • Dr. Artemiadis' role: Research Mentor

S'13 - S'14	Jack Lightholder, Arizona State University, Tempe, AZ, Mechanical Engineering • Dr. Artemiadis' role: Research Mentor
F'12 - S'14	 Dillon Card, Arizona State University, Tempe, AZ, Mechanical Engineering Dr. Artemiadis' role: Fulton Undergraduate Research Initiative Mentor and Honors Thesis Chair Fulton Undergraduate Research Initiative research award S'13, Sum'13, F'13, S'14 Graduated: S'14 Barrett Honors Thesis: "Bio-inspired control for robot hand catching and grasping"
F'12 - S'13	 Brad Shoemaker, Arizona State University, Tempe, AZ, Mechanical Engineering Dr. Artemiadis' role: Research Mentor Fulton Undergraduate Research Initiative research award S'13
F'12 - Sum'13	Jonathon Houda, Arizona State University, Tempe, AZ, Mechanical Engineering • Dr. Artemiadis' role: Research Mentor • Fulton Undergraduate Research Initiative research award S'13
F'12 - S'14	 Xavier Vargas, Arizona State University, Tempe, AZ, Mechanical Engineering Dr. Artemiadis' role: Fulton Undergraduate Research Initiative Mentor Fulton Undergraduate Research Initiative research award S'13, Sum'13, S'14
F'12 - S'13	 Eric Yanez, Arizona State University, Tempe, AZ, Mechanical Engineering Dr. Artemiadis' role: Honors Thesis Chair Graduated: S'13 Barrett Honors Thesis: "The Development of a Submersible Magneto-Coupled Robot Arm"
S'12 - S'14	Jennifer Megan Mincieli, Arizona State University, Tempe, AZ, Mechanical Engineering • Dr. Artemiadis' role: Fulton Undergraduate Research Initiative Mentor and Honors Thesis Chair • Fulton Undergraduate Research Initiative research award F'12, S'13, Sum'13, F'13, S'14 • Graduated: S'14 • Barrett Honors Thesis: "Bio-inspired control for robot hand catching and grasping"
S'12 - F'13	 William Lee, Arizona State University, Tempe, AZ, Mechanical Engineering Dr. Artemiadis' role: Fulton Undergraduate Research Initiative Mentor Fulton Undergraduate Research Initiative research award S'13
F'11 - F'13	 Stephen Warren, Arizona State University, Tempe, AZ, Mechanical Engineering Dr. Artemiadis' role: Fulton Undergraduate Research Initiative Mentor Fulton Undergraduate Research Initiative research award F'11, F'12, F'13
F'11 - Sum'12	 Taylor Cerchie, Arizona State University, Tempe, AZ, Mechanical Engineering Dr. Artemiadis' role: Fulton Undergraduate Research Initiative Mentor Fulton Undergraduate Research Initiative research award Sum'12

F'11 - S'13 Gerald O'Neill, Arizona State University, Tempe, AZ, Mechanical Engineering • Graduated: S'13 • Dr. Artemiadis' role: Fulton Undergraduate Research Initiative Mentor and **Honors Thesis Chair** • Barrett Honors Thesis: "A study of 3D human arm impedance towards the development of an EMG-controlled exoskeleton" • Fulton Undergraduate Research Initiative research award Sum'12, F'12, S'13, F'13 F'11 - S'13 Vincent Bevilacqua, Arizona State University, Tempe, AZ, Mechanical Engineering • Dr. Artemiadis' role: Fulton Undergraduate Research Initiative Mentor and **Honors Thesis Chair** • Graduated: S'13 • Barrett Honors Thesis: "An investigation of human error correction in anthropomorphic robotic armatures" • Fulton Undergraduate Research Initiative research award Sum'12, F'12, S'13 F'13 - S'14 Shea Loges, Arizona State University, Tempe, AZ, Mechanical Engineering • Dr. Artemiadis' role: Honors Thesis Committee Member • Graduated: S'14 Troy Torrez, Arizona State University, Tempe, AZ, Mechanical Engineering F'11 - S'12 • Dr. Artemiadis' role: Honors Thesis Committee Member • Graduated: S'12 F'11 - S'12 Joshua Beck, Arizona State University, Tempe, AZ, Mechanical Engineering • Dr. Artemiadis' role: Honors Thesis Committee Member • Graduated: S'12 F'11 - S'12 Riley Shear, Arizona State University, Tempe, AZ, Mechanical Engineering • Dr. Artemiadis' role: Honors Thesis Committee Member

TEACHING

Summary of Teaching Evaluations:

Average teaching evaluation from 25 courses - Instructor Evaluation: 4.67/5.0

F'23 *Instructor*, "MEEG 667: Digital Control", Mechanical Engineering, University of Delaware, Newark, DE

• Students registered: 26

• Graduated: S'12

• Teaching Evaluation for the instructor: **5.0/5.0**.

S'23 *Instructor*, "**MEEG 671: Introduction to robotics**", Mechanical Engineering, University of Delaware, Newark, DE

• Students registered: 35

• Teaching Evaluation for the instructor: **4.80/5.0**.

F*22	 Instructor, "MEEG 311: Control Systems", Mechanical Engineering, University of Delaware, Newark, DE Students registered: 78 Teaching Evaluation for the instructor: 4.76/5.0.
S'22	 Instructor, "MEEG 671: Introduction to robotics", Mechanical Engineering, University of Delaware, Newark, DE Students registered: 26 Teaching Evaluation for the instructor: 4.93/5.0.
F'21	 Instructor, "MEEG 667: Digital Control", Mechanical Engineering, University of Delaware, Newark, DE Students registered: 12 Teaching Evaluation for the instructor: 4.93/5.0.
S'21	 Instructor, "MEEG 671: Introduction to robotics", Mechanical Engineering, University of Delaware, Newark, DE Students registered: 17 Teaching Evaluation for the instructor: 4.77/5.0.
F'20	 Instructor, "MEEG 311: Control Systems", Mechanical Engineering, University of Delaware, Newark, DE Students registered: 152 Teaching Evaluation for the instructor: 4.47/5.0.
S'20	 Instructor, "MEEG 671: Introduction to robotics", Mechanical Engineering, University of Delaware, Newark, DE Students registered: 18 (+ 3 online) Teaching Evaluation for the instructor: 4.83/5.0.
S'19	 Instructor, "MAE 547: Modeling and Control of Robots", Mechanical and Aerospace Engineering, Arizona State University, Tempe, AZ Students registered: 23 Teaching Evaluation for the instructor (Part 2): 4.91/5.0.
S'18	 Instructor, "MAE 508: Digital Control: Design and Implementation", Mechanical and Aerospace Engineering, Arizona State University, Tempe, AZ Students registered: 35 Teaching Evaluation for the instructor (Part 2): 4.76/5.0.
F'17	 Instructor, "MAE 394: Honors Research Methods", Mechanical and Aerospace Engineering, Arizona State University, Tempe, AZ Students registered: 46 Teaching Evaluation for the instructor (Part 2): 4.55/5.0.
F'17	 Instructor, "MAE 547: Modeling and Control of Robots", Mechanical and Aerospace Engineering, Arizona State University, Tempe, AZ Students registered: 32 Teaching Evaluation for the instructor (Part 2): 4.74/5.0.

S'17 Instructor, "MAE 508: Digital Control: Design and Implementation", Mechanical and Aerospace Engineering, Arizona State University, Tempe, AZ • Developed a new final project and organized the 4th ASU Autonomous Mobile Robot Competition. • Students registered: 55 • Teaching Evaluation for the instructor (Part 2): 4.47/5.0. F'16 Instructor, "MAE 547: Modeling and Control of Robots", Mechanical and Aerospace Engineering, Arizona State University, Tempe, AZ • Students registered: 38 • Teaching Evaluation for the instructor (Part 2): **4.41/5.0**. S'16 Instructor, "MAE 508: Digital Control: Design and Implementation", Mechanical and Aerospace Engineering, Arizona State University, Tempe, AZ • Developed a new final project and organized the 3rd ASU Autonomous Mobile Robot Competition. • Students registered: 55 • Teaching Evaluation for the instructor (Part 2): 4.48/5.0. F'15 Instructor, "MAE 318: System Dynamics and Control", Mechanical and Aerospace Engineering, Arizona State University, Tempe, AZ • Developed a new final project on autonomous cars. • Students registered: 87 • Teaching Evaluation for the instructor (Part 2): 4.73/5.0. F'15 Instructor, "MEE 101: The ASU experience", Mechanical and Aerospace Engineering, Arizona State University, Tempe, AZ • Students registered: 21 • Teaching Evaluation for the instructor (Part 2): 4.64/5.0. S'15 Instructor, "MAE 598: Digital Control: Design and Implementation", Mechanical and Aerospace Engineering, Arizona State University, Tempe, AZ • Developed a new final project and organized the 3rd ASU Autonomous Mobile Robot Competition. • Students registered: 39 • Teaching Evaluation for the instructor (Part 2): 4.56/5.0. F'14 Instructor, "MAE 547: Modeling and Control of Robots", Mechanical and Aerospace Engineering, Arizona State University, Tempe, AZ • Developed a new course on robotics. • Students registered: 31 • Teaching Evaluation for the instructor (Part 2): 4.81/5.0. F'14 Instructor, "MEE 101: The ASU experience", Mechanical and Aerospace Engineering, Arizona State University, Tempe, AZ • Students registered: 19

• Teaching Evaluation for the instructor (Part 2): 4.37/5.0.

S'14 Instructor, "MAE 598: Digital Control: Design and Implementation", Mechanical and Aerospace Engineering, Arizona State University, Tempe, AZ • Organized the 2nd ASU Autonomous Mobile Robot Competition. • Students registered: 31 • Teaching Evaluation for the instructor (Part 2): 4.44/5.0. F'13 Instructor, "MAE 318: System Dynamics and Control", Mechanical and Aerospace Engineering, Arizona State University, Tempe, AZ • Developed a new final project on a Mars rover landing mechanism. • Students registered: 72 • Teaching Evaluation for the instructor (Part 2): **4.56/5.0**. S'13 Instructor, "MAE 598: Digital Control: Design and Implementation", Mechanical and Aerospace Engineering, Arizona State University, Tempe, AZ • Organized the 1st ASU Autonomous Mobile Robot Competition. • Students registered: 32 • Teaching Evaluation for the instructor (Part 2): 4.52/5.0. F'12 Instructor, "MAE 318: System Dynamics and Control", Mechanical and Aerospace Engineering, Arizona State University, Tempe, AZ • Developed a new final project on a mechanism for earthquake oscillations suppression in buildings. • Students registered: 72 • Teaching Evaluation for the instructor (Part 2): 4.66/5.0. S'12 Instructor, "MAE 598: Digital Control: Design and Implementation", Mechanical and Aerospace Engineering, Arizona State University, Tempe, AZ • Developed a new class on digital control and estimation. • Students registered: 19 • Teaching Evaluation for the instructor (Part 2): 4.75/5.0. S'11 Lab Instructor, "Dynamics and Control II (2.004)", Mechanical Engineering, Massachusetts Institute of Technology, Cambridge, MA

PROFESSIONAL SOCIETY SERVICE

Summary of Professional Society Activities and Service:

- 1. Proposed and organized 13 workshops in international conferences.
- 2. Proposed, organized and (co-)chaired 8 special sessions in international conferences.
- 3. Served in 7 international program committees for conferences.

February 2021	Award Selection Panel Member, 2021 IEEE ICRA Best Automation Paper Award Selection Committee.
May 2020	<i>Co-Organizer</i> , Workshop on Human-Swarm Interaction, ICRA 2020, Paris, France. [Acceptance rate for workshop proposals: 45%].
May 2020	<i>Co-Organizer</i> , Workshop on Advances in Lower Limb Dynamic Prostheses for Agile and Dynamic Walking, ICRA 2020, Paris, France. [Acceptance rate for workshop proposals: 45%].
May 2017	<i>Co-Organizer</i> , Workshop on Mechanics of Human Locomotion and the Development of Wearable Robotic Systems, ICRA 2017, Marina Bay Sands, Singapore. [Acceptance rate: 50%].
Oct 2018	Scientific Program Committee member, IEEE International Conference on Robotic Computing, IRC 2018, Italy.
Jan 2018	<i>Chair</i> , SouthWest Robotics Symposium, Arizona State University, Tempe AZ. [Secured \$37,000 in industry sponsorships]
Oct. 2017	Session co-chair, Session on Human Assistive Systems , 2017 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), Vancouver, Canada.
Oct. 2017	Special session co-organizer, Invited session on Biomechatronics and Physical Human Robot Interaction, 2017 ASME Dynamics Systems and Control Conference (DSCC), Tysons Corner, VA.
Sep. 2017	Special session co-organizer, Symposium on Multi-Scale Integration in Upper-Limb Prosthetics, 2017 AOPA hosted World Congress, Las Vegas, NV
May 2017	<i>Co-Organizer</i> , Workshop on Mechanics of Human Locomotion and the Development of Wearable Robotic Systems, ICRA 2017, Marina Bay Sands, Singapore. [Acceptance rate: 50%].
Feb. 2017	Co-organizer and committee co-chair, 5th ASU Rehabilitation Robotics Workshop, Arizona State University, Tempe AZ. [Secured \$12,000 in industry sponsorships]
Oct. 2016	<i>Special session chair and co-organizer</i> , Invited session on Biomechatronics and Physical Human Robot Interaction, 2016 ASME Dynamics Systems and Control Conference (DSCC), Minneapolis, MI.
May 2016	Session Chair, Rehabilitation Robotics, ICRA 2016, Stockholm, Sweden.

May 2016	<i>Organizer</i> , Workshop on Human-Robot Interfaces for Enhanced Physical Interactions, ICRA 2016, Stockholm, Sweden. [Acceptance rate: 50%].
Feb. 2016	Co-organizer and committee co-chair, 4th ASU Rehabilitation Robotics Workshop, Arizona State University, Tempe AZ. [Secured \$18,000 in industry sponsorships]
Oct. 2015	Special session chair and co-organizer, Invited session on Biomechatronics and Physical Human Robot Interaction, 2015 ASME Dynamics Systems and Control Conference (DSCC), Columbus, OH.
Aug 2015	Scientific Program Committee member, International Conference on Rehabilitation Robotics, ICORR 2015, Singapore.
Aug 2015	<i>Organizer</i> , Workshop on Present and future of non-invasive PNS-Machine Interfaces: progress in Restoring the Human Functions, International Conference on Rehabilitation Robotics, ICORR 2015, Singapore.
May 2015	Organizer, Workshop on Rehabilitation Robotics and Human-Robot Interaction, ICRA 2015, Seattle WA.
Feb. 2015	Co-organizer and committee co-chair, 3rd ASU Rehabilitation Robotics Workshop, Arizona State University, Tempe AZ. [Secured \$12,000 in industry sponsorships]
Dec 2014	Co-organizer, ASU Advanced Controls Symposium, Tempe, AZ
March 2014	Special session chair and co-organizer, Physical Human-Robot Interactions and Human Assistive Systems, 2014 ASME Dynamics Systems and Control Conference (DSCC), San Antonio, TX.
March 2014	Program committee member, Workshop on Wearable Technology and Human-Wearable Robot Interaction, 2014 IEEE International symposium on Robot and Human interactive communication (RO-MAN), Scotland, UK.
Feb. 2014	Co-organizer and committee co-chair, 2nd ASU Rehabilitation Robotics Workshop, Arizona State University, Tempe AZ.
July 2013	Community chair, Peripheral Nervous System Human-Machine Interface (PNS-MI) community.
June 2013	<i>Co-Organizer</i> , Workshop on "Present and future of non-invasive PNS-Machine Interfaces" in IEEE International Conference on Rehabilitation Robotics, Seattle WA.
Feb. 2013	Co-organizer and committee co-chair, 1st Piper Health Solutions Rehabilitation Robotics Workshop, Arizona State University, Tempe AZ.
June 2012	<i>Program Committee Member</i> , IEEE International Conference on Biomedical Robotics and Biomechatronics.
June 2012	Organizer and invited sessions chair (United States Division), IEEE International Conference on Biomedical Robotics and Biomechatronics.
June 2012	Organizer and chair of a special session, "Bio-Inspired Design and Control of Robot Hands", IEEE International Conference on Biomedical Robotics and Biomechatronics.

June 2012	Co-organizer and co-chair of special session, "Assistive Robotics II", IEEE International Conference on Biomedical Robotics and Biomechatronics.
June 2011	<i>Member of International Program Committee</i> , International Conference on Intelligent Robotics and Applications, 2011.
June 2010	<i>Member of International Program Committee</i> , International Conference on Intelligent Robotics and Applications, 2010.
Aug. 2010	Co-chair of Special Session, "Adaptive robots and assistive and rehabilitation systems", 32nd Annual International Conference of the IEEE Engineering in Medicine and Biology Society EMBC 2010.

EDITORIAL SERVICE

Summary of Editorial Service:

- 1. Editor in Chief in 1 journal.
- 2. In Editorial Boards of 15 journals, societies or conference committees.
- 3. Guest editor in 4 special issue in journal.

September 2022	<i>Editor</i> , 2022 9th IEEE International Conference on Biomedical Robotics and Biomechatronics (Biorob)
June 2020	<i>Guest Editor</i> , "Decentralized Cooperative Aerial Multi-Robot Systems" in Frontiers in Robotics and AI.
Dec. 2019-Dec. 2022.	Editorial Board Member, ASME Journal of Mechanisms and Robotics.
September 2020	<i>Editor</i> , 2020 8th IEEE International Conference on Biomedical Robotics and Biomechatronics (Biorob)
September 2019-Pres.	Associate Editor, Wearable Technologies, Cambridge University Press.
December 2020-2023.	Associate Editor, Robotica, Cambridge University Press.
October 2017- Pres.	Associate Editor, IEEE Transactions on Neural Systems and Rehabilitation Engineering.
Dec. 2011- 2023.	Editor in Chief, Journal of Advances in Robotics & Automation.
Dec. 2011-Pres.	Editorial Board Member, International Journal of Advanced Robotic Systems.
Aug. 2011- Pres.	Editorial Board Member and Associate Editor, IEEE Robotics & Automations Society (RAS).
2010-Pres.	Associate Editor, annually for IEEE International Conference on Robotics and Automation (ICRA & IROS).

Jan. 2013-Pres.	Editorial Board Member, Bioprocessing Technology, Herbert Publications.
September 2018	Associate Editor, WearRAcon 19, Scottsdale, AZ.
August 2018	<i>Guest Editor</i> , Muscle Synergies: Use and Validation in Clinics, Robotics, and Sports, Applied Bionics and Biomechanics.
October 2017	<i>Editor</i> , 2018 7th IEEE International Conference on Biomedical Robotics and Biomechatronics (Biorob)
May 2017	<i>Guest Editor</i> , Applied Bionics and Biomechanics Journal, Special Session on: Muscle Synergies: Use and Validation in Clinics, Robotics, and Sports.
January 2017- 2021	Associate Editor, IEEE Robotics & Automation Magazine.
January 2017	Associate Editor, IEEE International Conference on Rehabilitation Robotics, London, UK.
December 2016	<i>Editorial Board Member</i> , Journal of Rehabilitation and Assistive Technologies Engineering (RATE).
March 2016	Associate Editor, 2016 IEEE RAS & EMBS International Conference on Biomedical Robotics and Biomechatronics (BioRob).
August 2013	<i>Guest Editor</i> , Special Issue on Rehabilitation Robotics and Human-Robot Interaction, ROBOTICA.
August 2013	<i>Editorial Board Member</i> , International Conference and Exhibition on Robotics & Mechatronics (RoboMech), Raleigh, NC.

UNIVERSITY SERVICE

Summary of Professional Society Activities and Service:

- 1. Served in 7 faculty search committees 2 as chair, 3 as member.
- 2. Served in 8 school committees and 3 university-level committees.
- 3. Served as program assessor for **2** semesters.

School level

Fall'22- Pres.	<i>Member</i> , Mechanical Engineering Department Industry Liaison Committee , University of Delaware, Newark, DE.
Fall'21- Pres.	Member, Mechanical Engineering Department Graduate Curriculum Committee, University of Delaware, Newark, DE.
Fall'22- Pres.	<i>Member</i> , Mechanical Engineering Department Lab Coordinator II search Committee , University of Delaware, Newark, DE.

Fall'22- Spring'23	<i>Member</i> , Mechanical Engineering Department Graduate Advisor search Committee , University of Delaware, Newark, DE.
Fall'19- Spring'20	<i>Member</i> , Mechanical Engineering Department Undergraduate lab Committee , University of Delaware, Newark, DE.
Fall'18 - Spring'19	Chair, School for Engineering of Matter, Transport and Energy, Faculty Search Committee on Robotics and Autonomous Systems, Arizona State University, Tempe, AZ.
Fall'18 - Spring'19	co-Chair, School for Engineering of Matter, Transport and Energy, Faculty Search Committee on Expressive and Interactive Robotics (joint search with the School of Arts, Media and Engineering), Arizona State University, Tempe, AZ.
Fall'17 - Spring'18	co-Chair, School for Engineering of Matter, Transport and Energy, Faculty Search Committee on Expressive and Interactive Robotics (joint search with the School of Arts, Media and Engineering), Arizona State University, Tempe, AZ.
Fall'16 - Spring'17	co-Chair, School for Engineering of Matter, Transport and Energy, Faculty Search Committee on Expressive Robotics (joint search with the School of Arts, Media and Engineering), Arizona State University, Tempe, AZ.
Spring'17	Aerospace and Mechanical Engineering Program Assessor, School for Engineering of Matter, Transport and Energy, Arizona State University, Tempe, AZ.
Spring'16 - Spring'19.	Executive Committee Member, School for Engineering of Matter, Transport and Energy, Arizona State University, Tempe, AZ.
Fall'15 - Spring'16	Chair, School for Engineering of Matter, Transport and Energy, Faculty Search Committee on Robotics, Arizona State University, Tempe, AZ.
Spring'15	Aerospace and Mechanical Engineering Program Assessor, School for Engineering of Matter, Transport and Energy, Arizona State University, Tempe, AZ.
Fall'14 - Spring'15	Chair, School for Engineering of Matter, Transport and Energy, Faculty Search Committee on Autonomous, Intelligent and Robotic Systems, Arizona State University, Tempe, AZ.
Fall'14 - Spring'15	Member, School for Engineering of Matter, Transport and Energy, Faculty Search Committee on Wearable Robot Technologies, Arizona State University, Tempe, AZ.
Spring'14 - Spring'19	<i>Graduate Affairs Committee</i> , Mechanical & Aerospace Engineering , Arizona State University, Tempe, AZ.
Spring'14	<i>Member</i> , School for Engineering of Matter, Transport and Energy, Faculty Search Committee on Robotics, Arizona State University, Tempe, AZ.
Fall'12	Member, School of Biological and Health Systems Engineering Faculty Search Committee on Neurorehabilitation, Arizona State University, Tempe, AZ.

College/University level

Fall'19 - Pres.	Mechanical Engineering Department Promotion & Tenure Committee member, Mechanical Engineering Department, University of Delaware, Newark, DE.
Fall'19 - Pres.	Biomedical Engineering Department Promotion & Tenure Committee member, Biomedical Engineering Department, University of Delaware, Newark, DE.
Fall'19 - Pres.	<i>Graduate Program Director</i> , Master of Science in Robotics , University of Delaware, Newark, DE.
Fall'18 - Spring'19.	<i>Graduate Program Chair</i> , Robotics and Autonomous Systems Graduate Program , Arizona State University, Tempe, AZ.
Fall'15	Member, School for Engineering of Matter, Transport and Energy, Director Search Committee, Arizona State University, Tempe, AZ.
Fall'15 - Spring'19	Research Advisory Board Member, Ira A. Fulton Schools of Engineering, Arizona State University, Tempe, AZ.
Spring'14 - Spring'19	Affiliated Faculty, Global Security Initiative (GSI), Arizona State University, Tempe, AZ.
Spring'15 - Spring'19	Affiliated Faculty, Center on the Future of War, Arizona State University, Tempe, AZ.
Spring'15 - Spring'19	Development Faculty Chair, Ira A. Fulton Schools of Engineering, Arizona State University, Tempe, AZ.

OUTREACH	
Sum'14	Faculty mentor participant, "Highschool Summer Research program", Ira A. Fulton Schools of Engineering, Arizona State University, Tempe, AZ.
F'13	Featured, "STEM Journals TV show", Cox TV Channel 7 • Video clip at: https://www.youtube.com/watch?v=hxYmwi1ejz4
S'13	Faculty participant, "Feasting with Faculty", Undergraduate Initiatives Office in the Ira A. Fulton Schools of Engineering, Arizona State University, Tempe, AZ.
S'13	<i>HORC Lab participation</i> "2013 Engineering Open House" , Ira A. Fulton Schools of Engineering, Arizona State University, Tempe, AZ.
F'11	Guest Speaker, "ASU ASME student section", Arizona State University, Tempe, AZ

IN THE NEWS

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- UDaily (May 2022): "Programming Agility"

https://www.udel.edu/udaily/2022/may/engineering-dependable-robots-two-legged-nsf-digit-national-science-foundation/

- UDaily (February 2021): "Training robots to collaborate" https://www.udel.edu/udaily/2021/february/robotics-panos-artemiadis-biomechanics-engineering/
- Phys.org (October 2017): "Drones controlled with brain-computer interface". https://phys.org/news/2017-10-drones-brain-computer-interface.html
- Newswise (October 2017): "Brain-Controlled Drones Are Here. What's Coming in the Next Five Years?".
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- Expouav (October 2017): "Decoding the Brain to Control a Swarm of Drones". https://www.expouav.com/news/latest/decoding-brain-control-swarm-drones/
- Sciencedaily (October 2017): "Brain-controlled drones are here: What's coming in the next five years?"
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- Techradar (October 2017): "The brain-controlled drone swarm revolution is coming".
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- Insideoandp (October 2017): "ASU scientists receive NSF grant to develop smart ankle". https://www.insideoandp.com/single-post/2017/09/19/ASU-scientists-receive-NSF-grant-to-develop-smart-ankle
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- Washington Post (July 2016): "Meet the man who controls drones with his mind".
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- KJZZ Radio (July 2016): "How an ASU Professor Controls Drones Using His Mind". http://kjzz.org/content/342367/how-asu-professor-controls-drones-using-his-mind
- PDDnet.com (July 2016): "ASU Researcher controls drone 'swarm' with his mind". https://www.pddnet.com/news/2016/07/asu-researcher-controls-drone-swarm-his-mind
- Nerdist.com (July 2016): "Soon, you'll control swarms of drones with your mind". http://nerdist.com/soon-youll-control-swarms-of-drones-with-your-mind/
- Memeburn (July 2016): "Arizona State University finds a way to control drones using brainwaves". http://memeburn.com/2016/07/arizona-state-university-drones-brainwaves/

- C/Net Tomorrow Daily (July 2016): "SWAGBOT: Move over cowboys, drones are herding cattle now".
 http://www.cnet.com/videos/yeehaw-swagbot-is-the-worlds-finest-robot-cowboy-tomorrow-daily
 - http://www.cnet.com/videos/yeehaw-swagbot-is-the-worlds-finest-robot-cowboy-tomorrow-daily-393/
- WMMT West Michigan (July 2016): "Researchers create mind controlled drone device". http://wwmt.com/news/offbeat/researches-create-mind-controlled-drone-device
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- Mirror (July 2016): "US Army helps develop drones that can be flown using mind control". http://www.mirror.co.uk/tech/army-helps-develops-drones-can-8452189
- The Science Explorer (July 2016): "With this interface, one person can control a swarm of drones with their mind".
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- techfactslive.com (July 2016): "Scientist controls multiple drones just by thinking". http://techfactslive.com/scientist-controls-multiple-drones-just-thinking/3687/
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- SEMTE news (January 2015): "Fortifying national defense with robot swarms, resilient materials". http://semte.engineering.asu.edu/news/fortifying-national-defense-robot-swarms-resilient-materials/ [re-published in 6 sites]
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JOURNAL AND CONFERENCE PAPER REVIEWER (ad hoc)

IEEE Transactions on Robotics; IEEE Transactions on Biomedical Engineering; IEEE Transactions on Mechatronics; IEEE International Conference on Robotics and Automation; IEEE/RSJ International Conference on Intelligent Robots and Systems; IEEE/RAS-EMBS International Conference on Biomedical Robotics and Biomechatronics; ASME Dynamic Systems and Control Conference; IEEE Mediterranean Conference on Control and Automation; IEEE European Control Conference; IFAC Journal of Mechatronics; Journal of NeuroEngineering and Rehabilitation; Journal of Mechatronics; Neural Information Processing Systems Conference; Applied Bionics and Biomechanics; Clinical Neurophysiology; IEEE Engineering in Medicine and Biology Conference; IEEE International Conference on Rehabilitation Robotics; IEEE International Symposium on Robot and Human Interactive Communication; Motor Control; Robotics: Science and Systems Conference (RSS); Sensors

PROPOSAL REVIEWER (ad hoc)

National Science Foundation (programs: NRI, PFI, RI, FRR, SCH, GRFP), Air Force Office of Scientific Research (AFOSR) YIP application review (2 times), NASA PostDoctoral program, National Institute of Health (NIH), Pennsylvania Department of Health

PROFESSIONAL AFFILIATIONS

IEEE (Senior Member); IEEE Engineering in Medicine and Biology Society (EMBS); IEEE Robotics and Automation Society (RAS); ASME; American Heart Association (AHA)