

Andreas A. Malikopoulos

Professor, School of Civil and Environmental Engineering,
Courtesy Appointments with Cornell Robotics, Systems Engineering, Applied Mathematics,
Mechanical Engineering, and Electrical and Computer Engineering
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EDUCATION

- University of Michigan, Ann Arbor, MI
Ph.D. in Mechanical Engineering 2008
- University of Michigan, Ann Arbor, MI
M.S. in Mechanical Engineering 2004
- National Technical University of Athens (NTUA), Greece
Diploma in Mechanical Engineering 2000

HONORS AND AWARDS

- Full Member, Sigma Xi, The Scientific Research Honor Society 2025
- ASME Automotive and Transportation Systems Technical Committee (ATS-TC) Best Paper Award 2025
finalist (as advisor) – American Control Conference 2025
- Outstanding Student Paper Prize (as advisor) 2025
- IEEE Control Systems Society Technical Committee on Smart Cities
- Distinguished Lecturer 2025
The 37th Chinese Control and Decision Conference
- Distinguished Lecturer 2024-2027
IEEE Intelligent Transportation Systems Society
- Elected to Board of Governors for 2025-2027, IEEE Intelligent Transportation Systems Society 2024
- Keynote Speaker 2024
2024 BrainLink X-Lab Day, Korean Federation of Science & Technology Societies
- Keynote Speaker 2024
17th IFAC Symposium on Control in Transportation Systems (CTS 2024)
- IFAC Young Author Award - finalist (as advisor) 2024
17th IFAC Symposium on Control in Transportation Systems (CTS 2024)
- Keynote Speaker 2023
International Symposium on Transportation Data & Modelling (ISTDM2023)
- Best Paper Award 2022
IEEE 2nd Annual International Conference on Digital Twins and Parallel Intelligence

– Outstanding Student Paper Prize (as advisor)	2022
– IEEE Control Systems Society Technical Committee on Smart Cities	
– Elected to Board of Governors for 2022-2024, IEEE Intelligent Transportation Systems Society	2021
– Best Student Paper Award – finalist (as advisor)	2020
– 16th IEEE International Conference on Control & Automation	
– College of Engineering Outstanding Junior Faculty Award	2020
– IEEE Intelligent Transportation Systems Young Researcher Award	2019
– Invited participant, Global Grand Challenges Summit – National Academy of Engineering	2019
– Terri Connor Kelly and John Kelly Career Development Endowed Chair	2018
– ASME Fellow	2017
– 1st most cited author in IEEE Transactions on Intelligent Transportation Systems	2017
– IEEE Senior Member	2017
– NAE EU-US Frontiers of Engineering session organizer	2016
– Best presentation in session, American Control Conference	2013
– NAS Kavli Frontiers of Science Scholar	2012
– Best poster, Oak Ridge National Laboratory Directed R&D program	2012
– Alvin M. Weinberg Fellowship	2010
– NAE GE-US Frontiers of Engineering participant	2010
– Author of one of the top 10 most downloaded articles in <i>ASME J. Eng. Gas Turbines Power</i>	2010
– Michigan Teaching Fellow, University of Michigan	2007
– Dare to Dream Opportunity Grant from the Samuel Zell & Robert H. Lurie Institute of University of Michigan Ross School of Business	2007
– Engineering and Science Academic Scholar, University of Michigan	2006
– First place Award in Poster, Engineering Symposium, University of Michigan	2006
– Second place Award in Presentation, Engineering Symposium, University of Michigan	2006
– First place Award in Presentation, Engineering Symposium, University of Michigan	2005
– Second place Award in Poster, Engineering Symposium, University of Michigan	2005
– Gerondelis Foundation Fellowship	2004
– Graduate Student Fellowship, University of Michigan	2003
– Admitted 1st in the Department of Mechanical Engineering at NTUA	1995

ACADEMIC APPOINTMENTS

– Cornell University	Ithaca, NY
Professor	Sep. 2023 – present
– University of Delaware	Newark, DE
Director, Sociotechnical Systems Center	Sep. 2020 – Aug. 2023
– Boston University	Boston, MA
Resident Scholar, Center for Information and Systems Engineering	Sep. 2020 – Dec. 2020
– University of California	Los Angeles, CA
Senior Fellow, NSF Institute of Pure and Applied Mathematics	Sep. 2020 – Dec. 2020
– University of Delaware	Newark, DE
Associate Professor (with tenure)	Sep. 2020 – Aug. 2023
– University of Delaware	Newark, DE
Terri Connor Kelly and John Kelly Career Development Professor	Sep. 2018 – Aug. 2023
– University of Delaware	Newark, DE
Associate Professor (on tenure track)	Feb. 2017 – Aug. 2020
– University of California	Los Angeles, CA
Senior Fellow, NSF Institute of Pure and Applied Mathematics	Aug. 2015 – Dec. 2015
– University of Michigan	Ann Arbor, MI
Postdoctoral Research Associate	Jan. 2008 – May 2008
– University of Michigan	Ann Arbor, MI
Graduate Student Research Assistant	Jan. 2003 – Dec. 2007
– National Technical University of Athens	Athens, Greece
Research Assistant	May 2002 – Dec. 2002
– University of Delaware	Newark, DE
Research Assistant	Sep. 2001 – Apr. 2002

GOVERNMENT EXPERIENCE

– Oak Ridge National Laboratory	Oak Ridge, TN
Deputy Director, Urban Dynamics Institute	Jan. 2014 – Jan. 2017
◦ Led several projects on connected and automated vehicles funded by the Systems and Modeling for Accelerated Research in Transportation (SMART) Mobility consortium of the Department of Energy.	
– Oak Ridge National Laboratory	Oak Ridge, TN
Lead Sustainable Theme, Urban Dynamics Institute	Jan. 2014 – Jan. 2017
◦ Developed various initiatives with the goal to investigate the use of scalable data and informatics to enhance understanding of the environmental implications of connected and automated vehicles and improve transportation sustainability and accessibility.	
– Oak Ridge National Laboratory	Oak Ridge, TN
R &D Staff, Energy & Transportation Science Division	Nov. 2012 – Dec. 2013
◦ Developed the theory and algorithms for optimization and control of connected and automated vehicles with the aim of (1) becoming eco-friendly and operating at zero-based emissions, (2) realizing the optimum performance and efficiency based on consumers' needs and preferences, and (3) learning how traffic information can positively impact on the environment.	
– Oak Ridge National Laboratory	Oak Ridge, TN
Alvin M. Weinberg Fellow, Energy & Transportation Science Division	Nov. 2010 – Oct. 2012
◦ Established a rigorous mathematical framework; formulated numerical algorithms; and conducted a qualitative assessment on deriving an optimal solution for the analysis and stochastic optimization of large-scale complex systems in applications related to energy and transportation.	

- Hellenic Navy, Fleet Headquarters Salamina, Greece
Analyst Jul. 1998 – Apr. 2000
 - Developed software applications and provided computer support for the Hellenic ministry system hardware; system administrator and responsible for network maintenance of the fleet headquarters.

INDUSTRY EXPERIENCE

- General Motors, Global Research & Development Warren, MI
Senior Researcher Feb. 2010 – Aug. 2010
 - Developed computational mathematical models in optimization and control towards making highly energy-efficient and eco-friendly vehicles.
- General Motors, Global Research & Development Warren, MI
Researcher Jun. 2008 – Jan. 2010
 - Conducted research in the area of optimization and stochastic control with an emphasis on applications to advanced propulsion systems.
- General Motors, Global Research & Development Warren, MI
Graduate Student Intern Jun. 2005 – Aug. 2005
 - Worked on propulsion modeling and control design; supported simulation-based and model-based analysis of various control algorithms for advanced propulsion systems.
- Intracom SA Athens, Greece
Product Designer May 2000 – Aug. 2001
 - Conducted industrial design and performed optimization of the assembly process.

PUBLICATIONS

Underlined names are students, postdoctoral research associates, or staff working under my supervision.

Books

1. **Malikopoulos, A.A.**, Ioannou, P. (Eds.) “Next-Gen Mobility: Intelligent Systems for Future Cities,” SIAM, 2025.
2. Gao, W., Jiang, Z-P., and **Malikopoulos, A.A.** (Eds.) “Control, Learning and Optimization with Applications in Connected and Autonomous Vehicles,” The Institution of Engineering and Technology (IET), 2025.
3. Ioannou, P., and **Malikopoulos, A.A.** (Eds.) “Transportation Mobility for Smart Cities,” Springer, 2024.
4. **Malikopoulos, A.A.** *Real-Time, Self-Learning Identification and Stochastic Optimal Control of Advanced Powertrain Systems*, ProQuest, September 2011.

Book Chapters

1. Bai, T., Bang, H., and **Malikopoulos, A.A.**, “Mobility for All: Static and Dynamic Approaches to Fair Transport,” in Next-Gen Mobility: Intelligent Systems for Future Cities, Malikopoulos, A.A., and Ioannou, P. (Eds.), SIAM, 2025.
2. Christofa, E., Kostopoulou, E., and **Malikopoulos, A.A.**, “Sustainable Multimodal Signal Control for Equitable Access,” in Next-Gen Mobility: Intelligent Systems for Future Cities, Malikopoulos, A.A., and Ioannou, P. (Eds.), SIAM, 2025.
3. Bang, H., and **Malikopoulos, A.A.**, “Hierarchical Framework of Network-Level Routing and Trajectory Planning for Emerging Mobility Systems,” in Control, Learning and Optimization with Applications in Connected and Autonomous Vehicles, Weinan Gao, Zhong-Ping Jiang, and Malikopoulos, A.A. (Eds.), IET, 2025.
4. **Malikopoulos, A.A.**, “On Separation Between Learning and Control in Partially Observed Markov Decision Processes,” in Smarter Cyber-Physical Systems: Enabling Methodologies and Applications, Y. Wan, K. G. Vamvoudakis, Y. Chen, F. L. Lewis (Eds.), CRC Press, 2024.

5. **Malikopoulos, A.A.**, “A Control Framework for Socially-Optimal Emerging Mobility Systems,” in *Transportation Mobility for Smart Cities*, Ioannou, P., and Malikopoulos, A.A. (Eds.), pp. 369 – 388, Springer, 2024.
6. Di Cairano, S., Guardiola, C., **Malikopoulos, A.A.**, Seigel, J. “Future Impact and Challenges of Automotive Control,” in *The Impact of Automatic Control Research on Industrial Innovation: Enabling a Sustainable Future*, pp. 85 – 133, John Wiley & Sons, 2023.
7. Chremos, I.V., and **Malikopoulos, A.A.**, “Socioeconomic Impact of Emerging Mobility Markets and Implementation Strategies,” in *AI-enabled Technologies for Autonomous and Connected Vehicles*, Y. Murphhey, I. Kolmanovsky, and P. Watta (Eds.), pp. 481 – 510, Springer, 2022.

Journal Articles (Submitted or in Review)

1. Li, W. and **Malikopoulos, A.A.**, “Actor–Critic Learning for Risk-Constrained Linear Quadratic Regulation,” 2025.
2. Xu, G., Parisini, T., and **Malikopoulos, A.A.**, “When Does Selfishness Align with Team Goals? A Structural Analysis of Equilibrium and Optimality,” 2025.
3. Bang, H. and **Malikopoulos, A.A.**, “Learning-Based Robust Bayesian Persuasion with Conformal Prediction Guarantees,” 2025.
4. Ren, X., Parisini, T., and **Malikopoulos, A.A.**, “A Communication-Efficient Decentralized Actor-Critic Algorithm,” 2025.
5. Bang, H., Venkatesh, N., and **Malikopoulos, A.A.**, “Dynamic Persuasion Through Behavioral Learning of Cognitively Constrained Receiver,” 2025.
6. Wang, S., Typaldos, P., and **Malikopoulos, A.A.**, “CorrA: Leveraging Large Language Models for Dynamic Obstacle Avoidance of Autonomous Vehicles,” 2025.
7. Bai, T., Johansson, K. H., and Mårtensson, J., and **Malikopoulos, A.A.**, “Stable and Fair Benefit Allocation in Mixed-Energy Truck Platooning: A Coalitional Game Approach,” 2025.
8. Aryasomayajula, P., Bai, T., and **Malikopoulos, A.A.**, “Electric Vehicle Charging Optimization: Balancing Speed, Longevity, and Efficiency through Multi-Objective Optimization,” 2025.
9. Venkatesh, N. and **Malikopoulos, A.A.**, “Confounded Model Based Offline Reinforcement Learning,” 2025.
10. Li, W., Kounatidis, P., Jiang, Z-P., and **Malikopoulos, A.A.**, “On the Robustness of Derivative-free Methods for Linear Quadratic Regulator,” 2025.
11. Le, V. and **Malikopoulos, A.A.**, “Distributed Mixed-Integer Quadratic Programming for Mixed-Traffic Intersection Control,” 2025.
12. Tzortoglou, F. N. and **Malikopoulos, A.A.**, “Handling Pedestrian Uncertainty in Coordinating Autonomous Vehicles at Signal-Free Intersections,” 2025.
13. Yang, Y., Sokolich, M., Kirmizitas F. C., Das, S., **Malikopoulos, A.A.**, “Microrobot Vascular Parkour: Analytic Geometry-based Path Planning with Real-time Dynamic Obstacle Avoidance,” 2025.

Journal Articles (Published or in press)

14. **Malikopoulos, A.A.** “Dynamic Team Decision Problems with Two-Member Nonclassical Information Structures,” *Journal of Control and Decision*, 2025.
15. Wang, S., Typaldos, P., Li, C. and **Malikopoulos, A.A.**, “VisioPath: Vision-Language Enhanced Model Predictive Control for Safe Autonomous Navigation in Mixed Traffic,” *IEEE Open Journal of Control Systems*, 2025.
16. Bang, H., and **Malikopoulos, A.A.**, “Optimal Trajectory Planning Meets Network-level Routing: Integrated Control Framework for Emerging Mobility Systems,” *Automatica*, 179, 112389, 2025.
17. Le, V. and **Malikopoulos, A.A.**, “Controller Adaptation via Learning Solutions of Contextual Bayesian Optimization,” *IEEE Robotics and Automation Letters (RA-L)*, Vol. 10, 8, pp. 8308-8315, 2025.
18. Bang, H., Dave, A., Tzortoglou, F. N., Wang, S., and **Malikopoulos, A.A.**, “On Mobility Equity and the Promise of Emerging Transportation Systems,” *IEEE Trans. Intell. Transp. Syst.*, Vol. 26, 7, pp. 10623–10637, 2025.
19. Bai, T., Li, Y., **Malikopoulos, A.A.**, Johansson, K. H., and Mårtensson, J., “Distributed Charging Coordination for Electric Trucks Under Limited Facilities and Travel Uncertainties,” *IEEE Trans. Intell. Transp. Syst.*, Vol. 26, 7, pp. 10278–10294, 2025.

20. Le, V., Chalaki, B., Tzortzoglou, F. N., and **Malikopoulos, A.A.**, “Stochastic Time-Optimal Trajectory Planning for Connected and Automated Vehicles in Mixed-Traffic Merging Scenarios,” *IEEE Trans. on Control Systems Tech.*, Vol. 33, 4, pp. 1403–1417, 2025.
21. Dave, A., Venkatesh, N., and **Malikopoulos, A.A.**, “Approximate Information States for Worst-Case Control and Learning in Uncertain Systems,” *IEEE Trans. Autom. Control*, Vol. 70, 1, pp. 127–142, 2025.
22. Beaver, L. E., Kroninger, C., Dorothy, M., and **Malikopoulos, A.A.**, “A Constraint-Driven Approach to Line Flocking: The V Formation as an Energy-Saving Strategy,” *IEEE Trans. Control Netw. Syst.*, Vol. 12, 1, pp. 438–449, 2025.
23. Le, V.-A., and **Malikopoulos, A.A.**, “Distributed Optimization for Traffic Light Control and Connected Automated Vehicle Coordination in Mixed-Traffic Intersections,” *IEEE Control Systems Letters (L-CSS)*, Vol. 8, pp. 2721–2726, 2024.
24. **Malikopoulos, A.A.** “Combining Learning and Control in Linear Systems,” *European Journal of Control*, Vol. 80, Part A, 101043, 2024.
25. Venkatesh, N., Dave, A., Faros, I. and **Malikopoulos, A.A.**, “Stochastic Control with Distributionally Robust Constraints for Cyber-Physical Systems Vulnerable to Attacks,” *European Journal of Control*, Vol. 80, Part A, 101044, 2024.
26. Dave, A., Bang, H., and **Malikopoulos, A.A.**, “A Framework for Effective AI Recommendations in Cyber-Physical-Human Systems,” *IEEE Control Systems Letters (L-CSS)*, Vol. 8, pp. 1379–1384, 2024.
27. Tzortzoglou, F. N., Beaver, L. E., and **Malikopoulos, A.A.**, “A Feasibility Analysis in Signal-Free Intersections,” *IEEE Control Systems Letters (L-CSS)*, Vol. 8, pp. 2057–2062, 2024.
28. Beaver, L. E., and **Malikopoulos, A.A.**, “Optimal Control of Differentially Flat Systems is Surprisingly Easy,” *Automatica*, 159, 111404, 2024.
29. Chremos, I.V. and **Malikopoulos, A.A.**, “Mechanism Design Theory in Control Engineering: A Tutorial and Overview of Applications in Communication, Power Grid, Transportation, and Security Systems,” *IEEE Control Systems Magazine*, Vol. 44, 1, pp. 20–45, 2024.
30. Faros, I., Dave, A., and **Malikopoulos, A.A.**, “A Q-learning Approach for Adherence-Aware Recommendations,” *IEEE Control Systems Letters (L-CSS)*, 7, pp. 3645–3650, 2023.
31. **Malikopoulos, A.A.**, “On Team Decision Problems with Nonclassical Information Structures,” *IEEE Trans. Autom. Control*, Vol. 68, 7, pp. 3915–3930, 2023.
32. Mahbub, A M. I., Le, V.-A., and **Malikopoulos, A.A.**, “A Safety-Prioritized Receding Horizon Control Framework for Platoon Formation in a Mixed Traffic Environment,” *Automatica*, 155, 111115, 2023.
33. Chremos, I.V. and **Malikopoulos, A.A.**, “A Traveler-centric Mobility Game: Efficiency and Stability Under Rationality and Prospect Theory,” *PLoS ONE*, 18 (5), 2023.
34. **Malikopoulos, A.A.**, “Separation of Learning and Control for Cyber-Physical Systems,” *Automatica*, 151, 110912, 2023.
35. Mahbub, A M. I., Chalaki, B., and **Malikopoulos, A.A.**, “A Constrained Optimal Control Framework for Vehicle Platoons with Delayed Communication,” *Networks & Heterogeneous Media, Special Issue: Traffic and Autonomy*, 18(3), 982–1005, 2023.
36. Chalaki, B., Beaver, L. E., Mahbub, A M. I., Bang, H., and **Malikopoulos, A.A.**, “A Research and Educational Robotic Testbed for Real-time Control of Emerging Mobility Systems: From Theory to Scaled Experiments,” *IEEE Control Systems Magazine*, Vol. 42, 6, pp. 20–34, 2022.
37. Chalaki, B., and **Malikopoulos, A.A.**, “Time-Optimal Coordination for Connected and Automated Vehicles at Adjacent Intersections,” *IEEE Trans. Intell. Transp. Syst.*, Vol. 23, 8, pp. 13330–13345, 2022.
38. Kumaravel, S.D., **Malikopoulos, A. A.**, and Ayyagari, R., “Optimal Coordination of Platoons of Connected and Automated Vehicles at Signal-Free Intersections,” *IEEE Trans. Intell. Veh.*, Vol. 7, 2, pp. 186–197, 2022.
39. Bang, H., Chalaki, B., and **Malikopoulos, A.A.**, “Combined Optimal Routing and Coordination of Connected and Automated Vehicles,” *IEEE Control Systems Letters (L-CSS)*, 6, pp. 2749 – 2754, 2022.
40. Dave, A., Chremos, I.V., and **Malikopoulos, A.A.**, “Social Media and Misleading Information in a Democracy: A Mechanism Design Approach,” *IEEE Trans. Autom. Control*, Vol. 67, 5, pp. 2633–2639, 2022.
41. Chalaki, B., and **Malikopoulos, A.A.**, “A Priority-Aware Replanning and Resequencing Framework for Coordination of Connected and Automated Vehicles,” *IEEE Control Systems Letters (L-CSS)*, 6, pp. 1772–1777, 2022.
42. Beaver, L. E., and **Malikopoulos, A.A.**, “Constraint-Driven Optimal Control of Multi-Agent Systems: A Highway Platooning Case Study,” *IEEE Control Systems Letters (L-CSS)*, 6, pp. 1754–1759, 2022.
43. Zhao, L., and **Malikopoulos, A.A.**, “Enhanced Mobility with Connectivity and Automation: A Review of Shared Autonomous Vehicle Systems,” *IEEE Intelligent Transportation Systems Magazine*, 14, 1, pp. 87–102,

2022.

44. Mahbub, A M. I., and **Malikopoulos, A.A.**, “A Platoon Formation Framework in a Mixed Traffic Environment,” *IEEE Control Systems Letters (L-CSS)*, 6, pp. 1370–1375, 2022 – **IEEE Control Systems Society TC-SC Outstanding Student Paper Prize.**
45. Chalaki, B., and **Malikopoulos, A.A.**, “Optimal Control of Connected and Automated Vehicles at Multiple Adjacent Intersections,” *IEEE Trans. on Control Systems Tech.*, Vol. 30, 3, pp. 972–984, 2022.
46. Mahbub, A M. I., and **Malikopoulos, A.A.**, “Conditions to Provable System-Wide Optimal Coordination of Connected and Automated Vehicles,” *Automatica*, 131, 109751, 2021.
47. Beaver, L. E., and **Malikopoulos, A.A.**, “An Overview on Optimal Flocking,” *Annual Reviews in Control*, 51, pp. 88–99, 2021.
48. **Malikopoulos, A.A.**, Beaver, L.E., and Chremos, I.V., “Optimal Time Trajectory and Coordination for Connected and Automated Vehicles,” *Automatica*, 125, 109469, 2021.
49. Connor, W.D., Wang, Y., **Malikopoulos, A.A.**, Advani, S.G., and Prasad, A. K., “Impact of Connectivity on Energy Consumption and Battery Life for Electric Vehicles,” *IEEE Trans. Intell. Veh.*, 6, 1, pp. 14–23, 2021.
50. Beaver, L. E., and **Malikopoulos, A.A.**, “An Energy-Optimal Framework for Assignment and Trajectory Generation in Teams of Autonomous Agents,” *Systems & Control Letters*, 138, 104670, 2020.
51. Mahbub, A M. I., **Malikopoulos, A.A.**, and Zhao, L., “Decentralized Optimal Coordination of Connected and Automated Vehicles for Multiple Traffic Scenarios,” *Automatica*, 117, 108958, 2020.
52. Beaver, L. E., Chalaki, B., Mahbub, A M. I., Zhao, L., Zayas, R., and **Malikopoulos, A.A.**, “Demonstration of a Time-Efficient Mobility System Using a Scaled Smart City,” *Vehicle System Dynamics*, 58, 5, pp. 787–804, 2020.
53. **Malikopoulos, A.A.**, Hong, S., Park, B., Lee, J., and Ryu, S., “Optimal Control for Speed Harmonization of Automated Vehicles,” *IEEE Trans. Intell. Transp. Syst.*, 20, 7, pp. 2405–2417, 2019.
54. **Malikopoulos, A.A.**, Charalambous, C.D., and Tzortzis, I., “The Average Cost of Markov Chains Subject to Total Variation Distance Uncertainty,” *Systems & Control Letters*, 120, pp. 29–35, 2018.
55. Rios-Torres, J., and **Malikopoulos, A.A.**, “Impact of Partial Penetrations of Connected and Automated Vehicles on Fuel Consumption and Traffic Flow,” *IEEE Trans. Intell. Veh.*, Vol. 3, 4, pp. 453–462, 2018.
56. **Malikopoulos, A.A.**, Cassandras, C.G., and Zhang, Y.Z., “A Decentralized Energy-optimal Control Framework for Connected Automated Vehicles at Signal-free Intersections,” *Automatica*, 93, 244–256, 2018.
57. Rios-Torres, J., and **Malikopoulos, A.A.**, “A Survey on the Coordination of Connected and Automated Vehicles at Intersections and Merging at Highway On-Ramps,” *IEEE Trans. Intell. Transp. Syst.*, Vol. 18, 5, pp. 1066–1077, 2017.
58. Rios-Torres, J., and **Malikopoulos, A.A.**, “Automated and Cooperative Vehicle Merging at Highway On-Ramps,” *IEEE Trans. Intell. Transp. Syst.*, Vol. 18, 4, pp. 780–789, 2017.
59. **Malikopoulos, A.A.**, “A Duality Framework for Stochastic Optimal Control of Complex Systems,” *IEEE Trans. Autom. Control*, Vol. 61, 10, pp. 2756–2765, 2016.
60. Sharma, I., Dong, J., **Malikopoulos, A.A.**, Street, M., Ostrowski, J., Kuruganti, T., and Jackson, R., “A Modeling Framework for Optimal Energy Management in a Residential Building,” *Journal of Energy and Buildings*, Vol. 130, pp. 55–63, 2016.
61. **Malikopoulos, A.A.**, “A Multiobjective Optimization Framework for Online Stochastic Optimal Control in Hybrid Electric Vehicles,” *IEEE Trans. on Control Systems Tech.*, Vol. 24, 2, pp. 440–450, 2016.
62. Shaltout, M., **Malikopoulos, A.A.**, Pannala, S., and Chen, D., “A Consumer-Oriented Control Framework for Performance Analysis in Hybrid Electric Vehicles,” *IEEE Trans. on Control Systems Tech.*, Vol. 23, 4, pp. 1451–1464, 2015.
63. **Malikopoulos, A.A.**, “Supervisory Power Management Control for Hybrid Electric Vehicles: A Survey,” *IEEE Trans. Intell. Transp. Syst.*, Vol. 15, 5, pp. 1869–1885, 2014.
64. **Malikopoulos, A.A.** and Aguilar, J.P., “An Optimization Framework for Driver Feedback Systems,” *IEEE Trans. Intell. Transp. Syst.*, Vol. 14, 2, pp.955–964, 2013.
65. **Malikopoulos, A.A.**, “Impact of Component Sizing in Plug-In Hybrid Electric Vehicles for Energy Resource and Greenhouse Emissions Reduction,” *J. Energy Resour. Technol.*, 135, 4, pp. 041201–9, 2013.
66. Park, S., **Malikopoulos, A.A.**, Kokkolaras, M., and Jung, D., “Thermal Management System Modeling and Component Sizing for Heavy Duty Series Hybrid Electric Vehicles,” *Int. J. Heavy Vehicle Systems*, Vol. 18, 3, pp. 272–287, 2011.
67. **Malikopoulos, A.A.**, Papalambros, P.Y., and Assanis, D.N., “Online Self-Learning Identification and Stochastic Control for Autonomous Internal Combustion Engines,” *J. Dyn. Sys., Meas., Control*, Vol.132, 2, pp.024504–9, 2010.

68. **Malikopoulos, A.A.**, “Convergence Properties of a Computational Learning Model for Unknown Markov Chains,” *J. Dyn. Sys., Meas., Control*, Vol.131, 4, pp. 041011–7, 2009.
69. **Malikopoulos, A.A.**, Papalambros, P.Y., and Assanis, D.N., “A Real-Time Computational Learning Model for Sequential Decision-Making Problems Under Uncertainty,” *J. Dyn. Sys., Meas., Control*, Vol. 131, 4, pp.041010–8, 2009.
70. **Malikopoulos, A.A.**, Assanis, D.N., and Papalambros, P.Y., “Real-Time, Self-Learning Optimization of Diesel Engine Calibration,” *J. Eng. Gas Turbines Power*, Vol. 131, 2, pp. 022803–9, 2009.

Peer-Reviewed Conference Publications

1. Tzortzoglou, F. N. and **Malikopoulos, A.A.** “Data-Driven Modeling and Prediction of Human Drivers in Mixed Traffic Using a Virtual Reality Testbed,” *Proceedings of 24th European Control Conference (ECC)*, 2026 (in review).
2. Xu, G., Parisini, T., and **Malikopoulos, A.A.**, “Inverse Game-Theoretic Learning of Insider Intentions and Control-Based Mitigation Strategies,” *Proceedings of 63rd IFAC World Congress*, 2026 (in review).
3. Le, V.-A. and **Malikopoulos, A.A.**, “Learning to Coordinate for Connected and Automated Vehicles with Graph Neural Networks,” *Proceedings of 63rd IFAC World Congress*, 2026 (in review).
4. Bang, H., Dave, A., and **Malikopoulos, A.A.**, “Safe Merging in Mixed Traffic with Confidence.” *Proceedings of 63rd IFAC World Congress*, 2026 (in review).
5. Ru, X., Xia, W., Bai, T., and **Malikopoulos, A.A.**, “Distributed Traffic Signal Control of Interconnected Intersections: A Two-Lane Traffic Network Model,” *Proceedings of 63rd IFAC World Congress*, 2026 (in review).
6. Zhou, C., Xu, G., Zhao, X., **Malikopoulos, A.A.**, and Zhang, X., “Counterexample-Guided Fairness Adversarial Learning as a Non-Zero-Sum Stackelberg Game,” *International Conference on Tools and Algorithms for the Construction and Analysis of Systems (TACAS)*, 2026 (in review).
7. Kounatidis, P., and **Malikopoulos, A.A.**, “Combined Learning and Control: A New Paradigm for Optimal Control with Unknown Dynamics,” *Proceedings of 2026 American Control Conference*, 2026 (in review).
8. Bang, H., Cho, J. H., Wu, C., and **Malikopoulos, A.A.**, “Route Recommendations for Traffic Management Under Learned Partial Driver Compliance,” *Proceedings of 2026 American Control Conference*, 2026 (in review).
9. Liang, T., Bai, T., and **Malikopoulos, A.A.**, “A Coordinated Routing Approach for Enhancing Bus Timeliness and Travel Efficiency in Mixed-Traffic Environment,” *Proceedings of 2026 American Control Conference*, 2026 (in review).
10. Typaldos, P. and **Malikopoulos, A.A.**, “Connected and Automated Vehicles in Urban Networks,” *Proceedings of 2026 American Control Conference*, 2026 (in review).
11. Kinchen, T., Bai, T., Venkatesh, N., and **Malikopoulos, A.A.**, “Spatiotemporal Forecasting of Incidents and Congestion with Implications for Sustainable Traffic Control,” *Proceedings of 2026 American Control Conference*, 2026 (in review).
12. Kinchen, T., Typaldos, P., and **Malikopoulos, A.A.**, “A United Framework for Planning Electric Vehicle Charging Accessibility,” *Proceedings of 2026 American Control Conference*, 2026 (in review).
13. Cassandras, C.G., Johansson, K.H., **Malikopoulos, A.A.**, “Control, Learning, and Optimization Methods for Autonomous Multi-Agent Systems in Transportation,” *Proceedings of 64th IEEE Conference on Decision and Control*, 2025 (to appear).
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Dissertation

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PATENTS

Underlined names are students, postdoctoral research associates, or staff working under my supervision.

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TEACHING

Courses with an asterisk indicate new courses created and introduced at Cornell University for the first time.

–	ENGRG 1050 – [1 credit]	F25
	Engineering Seminar (17 students)	
–	CEE 6680/SYSEN 5680*/6680* – [3 credits]	F25
	Optimal Control and Decision Theory (22 students)	
–	CEE 6680/SYSEN 5680*/6680* – [3 credits]	S25
	Optimal Control and Decision Theory (17 students)	
–	CEE/SYSEN 6690* – [3 credits]	F24
	Information Design for Strategic Decision-Making (28 students)	
–	CEE 6680/SYSEN 5680*/6680* – [3 credits]	S24
	Optimal Control and Decision Theory (15 students)	

Courses with an asterisk indicate new courses created and introduced at the University of Delaware (UD) for the first time. In parenthesis, the Mean of teaching evaluation at the UD’s College of Engineering in the corresponding year.

–	MEEG 667 – [3 credits]	S23
	Convex Optimization (11 students)	Teaching Evaluation: Evaluations were not recorded

–	MEEG 311 – [3 credits] Control Systems (74 students)	F22 Teaching Evaluation: 4.7/5.0 (4.3/5.0)
–	MEEG 698 – [3 credits] Stochastic Optimal Control (13 students)	S22 Teaching Evaluation: 4.8/5.0 (4.3/5.0)
–	MEEG 895 – [3 credits] Game Theory and Mechanism Design (11 students)	F21 Teaching Evaluation: 4.9/5.0 (4.2/5.0)
–	MEEG 667* – [3 credits] Convex Optimization (12 students)	S21 Teaching Evaluation: 4.1/5.0 (3.8/5.0)
–	MEEG 698 – [3 credits] Stochastic Optimal Control (10 students) [Converted online – COVID-19]	S20 Teaching Evaluation: 4.1/5.0 (3.8/5.0)
–	MEEG 895 – [3 credits] Game Theory and Mechanism Design (5 students)	F19 Teaching Evaluation: 4.9/5.0 (4.3/5.0)
–	MEEG 890* – [3 credits] Nonlinear Programming (14 students)	S19 Teaching Evaluation: 4.7/5.0 (4.3/5.0)
–	MEEG 895* – [3 credits] Game Theory and Mechanism Design (19 students)	F18 Teaching Evaluation: 4.7/5.0 (4.3/5.0)
–	MEEG STAGE867 – [3 credits] Game Theory and Mechanism Design [online course]	F18 Teaching Evaluation: N/A
–	MEEG 401–019L – [6 credits] Senior Design (6 students)	F18 Teaching Evaluation: 5.0/5.0 (4.3/5.0)
–	MEEG 698* – [3 credits] Stochastic Optimal Control (16 students)	S18 Teaching Evaluation: 4.5/5.0 (4.2/5.0)
–	MEEG 311 – [3 credits] Control Systems (72 students)	F17 Teaching Evaluation: 4.8/5.0 (4.2/5.0)

RESEARCH SUPERVISION

Current Postdoctoral Research Associates

–	Dr. Pengbo Zhu Ph.D., École Polytechnique Fédérale de Lausanne (EPFL) ◦ Research topic: Distributed Learning and Control.	Dec. 2025 – present Lausanne, Switzerland
–	Dr. Xiaoxing Ren Ph.D., Shanghai Jiao Tong University ◦ Research topic: Distributed Learning in Teams.	Jun. 2025 – present Shanghai, China
–	Dr. Gehui Xui Ph.D., Academy of Mathematics and Systems Science, Chinese Academy of Sciences ◦ Research topic: Team-Optimal Solution and Nash Equilibrium.	April 2025 – present Beijing, China
–	Dr. Ting Bai Ph.D., Shanghai Jiao Tong University (SJTU) ◦ Research topic: Optimal Routing and Distributed Charging.	Nov. 2024 – present Shanghai, China

- Dr. Heeseung Bang Sep. 2024 – present
 Ph.D., University of Delaware Newark, Delaware
 - Research topic: Persuasion Process for Cognitively Constrained Receivers.

Past Postdoctoral Research Associates

- Dr. Weijian Li Nov. 2024 – Oct. 2025
 Ph.D., University of Science and Technology of China Hefei, China
 - Research topic: Robustness of Derivative-free Methods.
 - Position shortly after: Postdoctoral Research Associate, Notre Dame
- Dr. Panagiotis Typaldos May 2024 – June 2025
 Ph.D., Technical University of Crete Chania, Greece
 - Research topic: Combining Cooperative Re-routing with Coordination for Connected and Automated Vehicles.
 - Position shortly after: Postdoctoral Research Associate, Georgia Institute of Technology
- Dr. Aditya Dave Sep. 2023 – Aug. 2024
 Ph.D., Department of Mechanical Engineering, University of Delaware
 - Research topic: A Framework for Effective AI Recommendations in Cyber-Physical-Human Systems.
 - Position shortly after: Senior Research Scientist, Schneider
- Dr. Liuhui Zhao Jun. 2017 – May 2019
 Ph.D., Department of Civil & Environmental Engineering, New Jersey Institute of Technology
 - Research topic: Optimal control of connected and automated vehicles, and shared mobility with next-generation transportation systems.
 - Position shortly after: Senior Transportation Scientist, New Jersey Institute of Technology
- Dr. Dimitris Assanis Oct. 2017 – Oct. 2018
 Ph.D., Department of Mechanical Engineering, University of Michigan
 - Research topic: Analysis of the new class of driving cycles by connected and automated vehicles.
 - Position shortly after: Assistant Professor, Stony Brook University
- Dr. Jackeline Rios-Torres Sep. 2015 – Mar. 2016
 Ph.D., Department of Automotive Engineering, Clemson University
 - Research topic: Driver feedback systems and optimal control of connected and automated vehicles.
 - Position shortly after: Eugene P. Wigner Fellow, Oak Ridge National Laboratory

Current PhD Students

- Tony Justin Kinchen Expected: Spring 2029
 Dissertation: Equitable and Sustainable Mobility: Integrating Green Technologies for Inclusive Transportation
- Panagiotis Kounatidis Expected: Spring 2029
 Dissertation: Distributive and Adaptive Decision-making in Large-Scale Teams of Humans and Autonomous Systems
- Filippas Tzortoglou Expected: Spring 2027
 Dissertation: Integration of Human Risk Preferences in Control Algorithms of Connected and Automated Vehicles
- Nishanth Venkatesh Expected: Spring 2027
 Dissertation: At the Intersection of Learning and Control in Cyber-physical Systems

Shanting Wang

Expected: Spring 2028

- Dissertation: At the Intersection of Control and Large Language Models in Cyber-physical Systems

Past PhD Students

Viet-Anh Le

August 2025

- Dissertation: Mixed Traffic Control and Coordination: Optimization and Learning-based Approaches
 - Position shortly after: Postdoctoral Research Associate, University of Pennsylvania

Heeseung Bang

August 2024

- Dissertation: Holistic Control of Smart Mobility Systems for Efficiency, Safety, and Equity
 - Position shortly after: Postdoctoral Research Associate, Cornell University

Aditya Dave

August 2023

- Dissertation: On Centralized and Decentralized Decision-Making Problems with Partial Information
 - Position shortly after: Postdoctoral Research Associate, Cornell University

Ioannis Vasileios Chremos

April 2023

- Dissertation: Traveler-Centric Mobility Systems - Analysis and Perspectives Using Game-Theoretic Frameworks
 - Position shortly after: Career & Prof. Develop. Program Manager, University of Michigan

Ishtiaque (Ishti) Mahbub

May 2022

- Dissertation: Optimal Control and Coordination of Connected and Automated Vehicles in a Mixed Traffic Environment
 - Position shortly after: Aptiv - Global Technology Company

Logan Beaver

May 2022

- Dissertation: Emergence via Constrained Optimization: Analysis and Experiments with Constraint-Driven Flocking
 - Position shortly after: Assistant Professor, Old Dominion University

Behdad Chalaki

May 2022

- Dissertation: A Real-time Motion Planning Framework for Connected and Automated Vehicles: From Theory to Scaled Experiments
 - Position shortly after: Honda Research Institute

Current and Past M.S. Students

Jiahe (Simon) Tian

Fall 2024

- M.S. thesis/project title: A Virtual Reality Testbed for Studying the Interaction Between Human and Connected Automated Vehicles

Shanting Wang

Fall 2024

- M.S. thesis/project title: Using A Mobility Equity Metric in Emerging Mobility Systems

Johannes Rolf

Summer 2023

- M.S. thesis/project title: Generalizing Scaled Experiments in Networked and Autonomous Driving Using a Service-Oriented Architecture

Raymond Zayas

Spring 2022

- M.S. thesis/project title: A digital smart city for emerging mobility system

– Amanda Kelly	Spring 2022
– M.S. thesis/project title: Optimal design of robotic connected and automated vehicles	
– Sai Krishna Sumanth Nakka	Fall 2021
– M.S. thesis/project title: Multi-agent deep reinforcement learning for emerging mobility systems	
– Nishanth Senthil Kumar	Spring 2021
– M.S. thesis/project title: Designing incentives for social media platforms	
– Sumeet Gupta	Spring 2020
– M.S. thesis/project title: A user interface framework for scaled city testbeds	
– Apoorva Patil	Spring 2020
– M.S. thesis/project title: A user interface framework for robotic connected and automated vehicles	
– Songzhen (Jason) Gui	Spring 2020
– M.S. thesis/project title: Optimal control for unmanned aerial vehicles	
– Yiming Wan	Spring 2020
– M.S. thesis/project title: Coordination of connected and automated vehicles	
– Harshavardhan Desai	Spring 2019
– M.S. thesis/project title: Optimization of last mile delivery	
– Lavanya Jakka	Spring 2019
– M.S. thesis/project title: Routing optimization in a scaled smart city	
– Ryan Montgomery	Spring 2019
– M.S. thesis/project title: Car-following models for emerging mobility systems	
– Benjamin Remer	Spring 2019
– M.S. thesis/project title: Optimization of last mile delivery with unmanned aerial vehicle Assistance	

Serving PhD Committees

– Maryam Shaygan; Academic Advisor: Dr. Mark Nejad	2023
– Dissertation: Equilibrium Analysis in Urban Traffic: Impact of Electric, Autonomous, and Shared Vehicles	
– Zheng Huai; Academic Advisor: Dr. Guoquan Huang	2023
– Dissertation: Robocentric Visual-Inertial Localization and Mapping	
– Michael Sebok; Academic Advisor: Dr. Bert Tanner	2023
– Ph.D. thesis: A generalized hybrid systems model for heterogeneous robotic systems with physical interaction	
– Ashkan Zehfroosh; Academic Advisor: Dr. Bert Tanner	2022
– Dissertation: Decision-Making and Control of an Autonomous Agent in Interaction with Partially-Known Agents	
– Cong Wei; Academic Advisor: Dr. Bert Tanner	2021
– Dissertation: Synchronization for Large Network of Marine Active Drifting Sensors Through Periodic Intermittent Rendezvous	
– Sharmila Devi Kumaravel; Academic Advisor: Dr. Ramakalyan Ayyagari, National Institute of Technology	2021
– Dissertation: Graph Theoretic Modeling and Control for Decongesting Transportation Networks	
– Yongqiang Wang; Academic Advisor: Dr. Ajay Prasad	2020
– Dissertation: Health Conscious Energy Management Strategies For Fuel Cell/Battery Hybrid Vehicles	
– Adam Stager; Academic Advisor: Dr. Bert Tanner	2020
– Dissertation: Novel Designs and Motion Behaviors for Small and Low-Cost Mobile Robots	

Supervised Research Projects of Undergraduate Students and K12 Interns

– Cion Kim	2024-25
– Janae Camargo	2024-25
– John Kang	2024-25
– Harsh Hemal Patel	2024-25
– Nathan Shibu Varghese	2024-25
– Nathan Shibu Varghese	2024-25
– Zoey Mo – K12	2023–present
– Ilia Raiszadeh – K12	2023–present
– Joshua Ryan – K12	2023–present
– Ravi Cohen – K12	2023–present
– Tony Justin Kinchen	2023-24
– Sana Chawla	2023-24
– Saad Tasnim	2023
– Anish Dudeja – K12	2021
– Clare O’Dwyer – K12	2021
– Ojas Purandare – K12	2020-21
– Meera Ratnagiri – K12	2021
– Ethan Stoecker – K12	2021
– Frank Doyle	2020-21
– Juan Manuel Nunez Bastidas	2020-21
– Joel Diaz Goenaga	2020-21
– Nikki Pilla	2020-21
– Jenny Ziegler	2020-21
– Elizabeth Amy Santoso	2019-20
– Kristina Kowal	2019-21
– Michael Lashner	2017-19
– Kunzheng Li	2017-19
– Sophia Loewenguth	2017-19
– Melody Cerro	2017-19
– Taylor Coleman	2017-19
– Bryce Cushing	2017-19
– Dean D’ Souza	2017-19
– Haley Lloyd	2017-19
– John Naphier	2017-19
– Thomas Patterson	2017-19
– Phillip Penn	2017-19
– Yue Feng	2017-19
– Nikhil Kanamarla	2018-19
– Lucas Ramsey – K12 (shortly after at the University of Michigan)	2018-20
– Christophoros Kontomaris – K12 (shortly after at Georgia Institute of Technology)	2018-20
– Brennan Scheffler	2017-19
– Rachel Silverman	2017-19
– Yiming Wan	2017-19
– Rebecca (Becky) Williams	2017-19
– Raymond Zayas	2017-20
– Luke Bhan – K12 (shortly after at Vanderbilt University)	2017-18

Past Graduate/Undergraduate Students Supervised Internship at ORNL

– Yue Joyce Zhang	May 2015 – Aug. 2015
– Ph.D. student, Electrical & Computer Engineering, Boston University, Boston	

– Jackeline Rios-Torres	Sep. 2014 – Aug. 2015
– Ph.D. student, Automotive Engineering, Clemson University, Clemson	
– Erik Miehl	Jun. 2013 – Aug. 2013
– Ph.D. student, Electrical & Computer Engineering, University of Michigan, Ann Arbor	
– Mohamed L. Shaltout	Jun. 2013 – Aug. 2013
– Ph.D. student, Mechanical Engineering, University of Texas, Austin	
– Yang Shen	May 2012 – Aug. 2012
– M.S. student, Mathematics, University of Tennessee, Knoxville	
– Sherrill Toran	Jun. 2012 – Aug. 2012
– M.S. student, Mathematics, Tennessee State University, Nashville	
– Zachary A. Henderson	Jun. 2012 – Aug. 2012
– Undergraduate student, Mechanical Engineering, Tennessee Tech University, Cookeville	
– Michael E. Cholette	May 2011 – Aug. 2011
– Ph.D. student, Mechanical Engineering, University of Texas, Austin	
– Juan P. Aguilar	May 2011 – Aug. 2011
– M.S. student, Mechanical Engineering, Georgia Institute of Technology	

Student Awards and Honors

– Viet-Anh Le, ASME Automotive and Transportation Systems TC Best Paper Award (finalist)	2025
– Filippou Tzortzoglou, Outstanding Student Paper Prize, IEEE CSS TC on Smart Cities	2025
– Ioannis Vasileios Chremos, University of Delaware COE Diversity and Inclusion Award	2023
– Behdad Chalaki, Allan P. Colburn Prize in Mathematical Sciences and Engineering Nominee	2023
– Behdad Chalaki, Tsu-Wei & Mei-Sheng Lo Chou Best Dissertation Award	2023
– Ishtiaque (Ishti) Mahbub, Outstanding Student Paper Prize, IEEE CSS TC on Smart Cities	2022
– Behdad Chalaki, Iranian American Academics and Professionals (IAAP) Scholarship	2022
– Ioannis Vasileios Chremos, University of Delaware Doctoral Fellowship Award	2022
– Ioannis Vasileios Chremos, College of Engineering Graduate Student Service Award	2021
– Logan Beaver, University of Delaware Graduate Scholar Award	2020-21
– Behdad Chalaki, Graduate Student Achievement Award	2020-21
– Ioannis Vasileios Chremos, Graduate Student Government Outstanding Senator Award	2020-21
– Behdad Chalaki and Logan Beaver, Best Student Paper Award Finalist, IEEE ICCA	2020
– Logan Beaver, Graduate Student Achievement Award	2020
– Ishtiaque (Ishti) Mahbub, University of Delaware Research Grant	2019
– Ishtiaque (Ishti) Mahbub, University of Delaware Professional Development Award	2019
– Ishtiaque (Ishti) Mahbub, Outstanding Presentation Award, Annual Graduate Students' Forum	2019
– Logan Beaver, Summer Doctoral Fellowship Award	2018
– Logan Beaver, Helwig Fellowship	2017-21
– Jackeline Rios-Torres, Eugene P. Wigner Fellowship – Oak Ridge National Laboratory	2016

RESEARCH GRANTS

Principal Investigator

- National Science Foundation September 2024 – August 2027
Total Budget: \$799,965
 - Project title: Collaborative Research: SLES: Improving Safety by Synthesizing Interacting Model-based and Model-free Learning Approaches.
 - Co-Investigator: Kyriakos G. Vamvoudakis, Georgia Institute of Technology
- National Science Foundation June 2024 – December 2024
Total Budget: \$53,757
 - Project title: NRI: Addressing Safe Interaction Between Autonomous and Human-driven Vehicles.
- Mathworks February 2024 – February 2028
Total Budget: \$320,000
 - Project title: A Research and Educational Scaled, Smart City Testbed for Real-Time Control of Autonomous Driving Systems.
- Delaware Department of Transportation September 2023 – August 2024
Total Budget: \$99,843
 - Project title: Online Travel Demand Distribution for Socially Optimal Mobility Systems.
- National Science Foundation – National Robotics Initiative 3.0 Program October 2022 – March 2027
Total Budget: \$475,787
 - Project title: NRI: Addressing Safe Interaction Between Autonomous and Human-driven Vehicles.
- National Science Foundation – Cyber-physical Systems Program July 2022 – June 2026
Total Budget: \$1,179,554
 - Project title: Collaborative Research: CPS: Medium: An Online Learning Framework for Socially Emerging Mixed Mobility.
 - Co-Investigators: (1) Christos Cassandras, Boston University, and (2) Cathy Wu, MIT
- National Renewable Energy Laboratory Feb. 2021 – Aug. 2022
Total Budget: \$92,670
 - Project title: Incorporation of Connected and Automated Vehicles Energy Impacts into RouteE
- Delaware Energy Institute Feb. 2019 – May. 2021
Total Budget: \$208,171
 - Project title: Establishment of Sociotechnical Systems Center
- UT Battelle Jun. 2017 – May 2020
Total Budget: \$210,000
 - Project title: System Optimization Opportunities due to Vehicle Connectivity and Automation.
- ARPA-E NEXTCAR Program Apr. 2017 – Dec. 2020
Total Budget: \$4,196,481
 - Project title: Simultaneous optimization of vehicle and powertrain operation using connectivity and automation.
 - Co-Investigators: (1) Christos Cassandras, Boston University, (2) Huei Peng, University of Michigan, (3) Shyam Jade, Bosch, and (4) Jackeline Rios-Torres, Oak Ridge National Laboratory.
- US Department of Energy, Vehicle Technology Office Oct. 2016 – Sep. 2017
Total Budget: \$880,000
 - Project title: Decentralized optimal control for connected and automated vehicles.
- US Department of Energy, Vehicle Technology Office Oct. 2015 – Sep. 2016
Total Budget: \$225,000
 - Project title: An optimization framework for improving the efficiency of connected and automated vehicles.

- LDRD Program, Oak Ridge National Laboratory Oct. 2014 – Sep. 2016
Total Budget: \$889,987
 - Project title: Scalable data and informatics for connected vehicles leveraged to enhance efficiency.
- US Department of Energy, Vehicle Technology Office Oct. 2013 – Sep. 2014
Total Budget: \$109,997
 - Project title: Analysis for improving efficiency with connected vehicles.
- US Department of Energy, Vehicle Technology Office Oct. 2013 – Sep. 2015
Total Budget: \$302,883
 - Project title: Gas turbine heavy hybrid powertrain variants: opportunities and potential for systems optimization.
- LDRD Program, Oak Ridge National Laboratory Oct. 2013 – Sep. 2015
Total Budget: \$185,000
 - Project title: Optimal supervisory power management control in plug-in hybrid electric vehicles.
- US Department of Energy, Vehicle Technology Office Oct. 2011 – Sep. 2013
Total Budget: \$412,582
 - Project title: An optimal control framework for autonomous intelligent hybrid propulsion systems.
- Alvin M. Weinberg Award, Oak Ridge National Laboratory Nov. 2010 – Sep. 2012
Total Budget: \$199,455
 - Project title: Stochastic control for intelligent advanced propulsion systems.

Co- Investigator

- LDRD Program, Oak Ridge National Laboratory Oct. 2014 – Sep. 2016
Total Budget: \$2,659,850; received: \$775,832
 - Optimal control for an off-grid building management system.

INVITED SEMINARS, HONORARY LECTURES, NAMED LECTURES

1. Distinguished Lecture, The 37th Chinese Control and Decision Conference, “On Team Decision Problems with Nonclassical Information Structures,” May 17, 2025.
2. Binghamton University, Center for Complex Systems, Host: Professor Robert J. Wagner, “Separation of Learning and Control for Cyber-Physical Systems,” Mar. 28, 2025.
3. University of Pennsylvania, General Robotics, Automation, Sensing and Perception (GRASP) Lab, Host: Professor Rahul Mangharam, “On Team Decision Problems with Nonclassical Information Structures,” Feb. 25, 2025.
4. Cornell University, *Center of Applied Mathematics Colloquium*, Host: Professor David Bindel, “Social Media and Misleading Information in a Democracy: A Mechanism Design Approach,” January 31, 2025.
5. Keynote Talk, 2024 IFAC Symposium on Control in Transportation Systems, “A Mobility Equity Metric for Socially Optimal Emerging Mobility Systems,” July 1, 2024.
6. University of Massachusetts Amherst, Tay Gavin Erickson Lecture, Host: Professor Eleni Christofa, “Combining Learning and Control in Cyber-Physical Systems,” May 9, 2024.
7. University of California at Berkeley, *Semiautonomous Seminar Series*, Host: Professor Shankar Sastry, “On Team Decision Problems with Nonclassical Information Structures,” May 3, 2024.
8. University of California at Berkeley, *Institute of Transportation Studies Seminar*, Host: Professor Alexandre Bayen, “Separation of Learning and Control in Emerging Mobility Systems,” May 3, 2024.
9. New York University, Electrical and Computer Engineering, *Control Seminar Series*, Host: Professor Zhong-Ping Jiang, “Combining Learning and Control in Emerging Mobility Systems,” April 25, 2024.

10. Cornell University, *Center of Applied Mathematics Colloquium*, Host: Professor Alexander Vladimirovsky, “On Team Decision Problems with Nonclassical Information Structures,” April 19, 2024.
11. Cornell Tech, Host: Professor Anna Scaglione, “Combining Learning and Control in Cyber-Physical Systems,” April 12, 2024.
12. Mathworks Special Session, “Combining Learning and Control in Cyber-Physical Systems,” 62nd IEEE Conference on Decision and Control, Singapore, Dec 14, 2023.
13. University of Minnesota, *Distinguished Warren Seminar Series*, Host: Professor Raphael Stern, “Separation of Learning and Control for Cyber-Physical Systems,” Oct. 27, 2023.
14. Cornell University, Systems Engineering, Host: Professor Francesca Parise, “Combining Learning and Control in Cyber-Physical Systems,” Oct. 20, 2023.
15. Boston University, *Center for Information and Systems Engineering*, Host: Professor Christos Cassandras, “A Traveler-Centric Mobility Game Under Rationality and Prospect Theory,” Oct. 6, 2023.
16. Keynote Talk, 2023 International Symposium on Transportation Data and Modeling, “Learning and Control for Emerging Mobility Systems,” June 21, 2023.
17. University of Delaware, Mobility Forum Seminar Series, Host: Professor Weisong Shi, “Combining Learning and Control in Cyber-Physical Systems with Emphasis on Emerging Mobility Systems,” May 12, 2023.
18. Cornell University, Department of Civil & Environmental Engineering, Host: Professor Samitha Samaranayake, “Learning and Control in Cyber-Physical Systems: Challenges and Opportunities,” March 9, 2023.
19. University of Michigan, Department of Civil & Environmental Engineering, Host: Professor Jeff Scruggs, “Learning and Control in Cyber-Physical Systems: Challenges and Opportunities,” Feb. 23, 2023.
20. Georgia Institute of Technology, IRIM Seminar Series, Host: Professor Kyriakos G. Vamvoudakis, “Combining Learning and Control in Cyber-Physical Systems,” Jan. 25, 2023.
21. University of California at Berkeley, *Semiautonomous Seminar Series*, Host: Professor Shankar Sastry, “The Design and Analysis of a Mobility Game,” Oct. 7, 2022.
22. RWTH Aachen University, Germany, Host: Professor Bassam Alrifae, “Separation of Learning and Control for Cyber-Physical Systems,” Feb. 3, 2022.
23. University of Pennsylvania, General Robotics, Automation, Sensing and Perception (GRASP) Lab, Host: Professor Rahul Mangharam, “Separation of Learning and Control for Cyber-Physical Systems,” Jan. 28, 2022.
24. ETH Zurich, Autonomy Talks, Host: Professor Emilio Frazzoli, “Separation of Learning and Control for Cyber-Physical Systems,” Jan. 25, 2022.
25. Massachusetts Institute of Technology, *Henry L. Pierce Laboratory Seminar Series*, Department of Civil and Environmental Engineering, Host: Professor Cathy Wu, “Learning and Control for Emerging Mobility Systems,” Dec. 8, 2021.
26. University of Delaware, Department of Electrical & Computer Engineering, Host: Professor Abhyudai Singh, “Separation of Learning and Control for Cyber-Physical Systems,” Dec. 6, 2021.
27. Stanford University, Department of Electrical Engineering and Computer Science, Host: Professor Marco Pavone, “Separation of Learning and Control for Cyber-Physical Systems,” Dec. 3, 2021.
28. Boston University, *Center for Information and Systems Engineering*, Host: Professor Christos Cassandras, “Separation of Learning and Control for Cyber-Physical Systems,” Nov. 19, 2021.
29. Rutgers University, Host: Professor Benedetto Piccoli, “Learning and Control for Emerging Mobility Systems,” Oct. 22, 2021.

30. University of Michigan, *Control Seminar Series*, Host: Professor Huei Peng, “Optimal Time Trajectory with Provable Safety for Connected and Automated Vehicles,” Feb. 5, 2021.
31. Google, Mountain View, Host: Dr. Rick Bukowski, “Optimal Path Planning and Coordination for Connected and Automated Vehicles,” Jan. 27, 2021.
32. University of Massachusetts Amherst, Department of Civil and Environmental Engineering, Host: Professor Eleni Christofa, “Optimal Path Planning and Coordination for Connected and Automated Vehicles,” Oct. 15, 2020.
33. Boston University, *Center for Information and Systems Engineering*, Host: Professor Christos Cassandras, “Optimal Path Planning and Coordination for Connected and Automated Vehicles,” Oct. 9, 2020.
34. Carnegie Mellon University, Department of Systems Engineering, Host: Professor Jeremy J. Michalek, “A Decentralized Optimal Control Framework for Energy-Efficient Mobility Systems,” March 29, 2019.
35. Cornell University, Ezra’s Round Table Systems Seminar series, Host: Professor Samitha Samaranayake, “Decentralized Optimal Control for Energy-Efficient Mobility Systems,” Feb. 22, 2019.
36. University of Pennsylvania, Department of Electrical and Systems Engineering, Host: Professor Rahul Mangharam, “A Decentralized Optimal Control Framework for Coordination of Connected and Automated Vehicles,” Oct. 5, 2018.
37. Penn State University, Department of Department of Mechanical & Nuclear Engineering, Host: Professor Hosam Fathy, “A Decentralized Energy-Optimal Control Framework for Connected and Automated Vehicles,” May 24, 2018.
38. University of Delaware, Department of Civil & Environmental Engineering, Host: Professor Christopher Meehan, “An Optimal Control Framework for Energy-Efficient Mobility Systems,” Feb. 13, 2018.
39. Ohio State University, *Center of Automotive Research Seminar*, Host: Professor Giorgio Rizzoni, “Optimal Control of Vehicle and Powertrain Operation Using Connectivity and Automation,” Dec. 5, 2017.
40. University of Maryland, Baltimore, MD, Department of Mathematics and Statistics, Applied Mathematics Colloquium, Host: Professor Jinglai Shen, “Optimal Control for Vehicle Coordination Using Connectivity and Automation,” Oct. 13, 2017.
41. Temple University, Department of Applied Mathematics and Scientific Computing, Host: Professor Benjamin Seibold, “A Decentralized Optimal Control Framework for Improving Energy Consumption of Connected and Automated Vehicles,” Apr. 12, 2017.
42. University of California at Berkeley, *Institute of Transportation Studies Seminar*, Host: Professor Alexandre Bayen, “Coordinated Decentralized Optimal Control for Connected and Automated Vehicles,” Feb. 10, 2017.
43. University of Delaware, Department of Mechanical Engineering, Host: Professor Suresh Advani, “Decentralized Optimal Control for Connected and Automated Vehicles,” Dec. 5, 2016.
44. Massachusetts Institute of Technology, *Pierce Lab Seminar Series*, Department of Civil and Environmental Engineering, Host: Professor Carolina Osorio, “Decentralized Optimal Control for Online Coordination of Connected and Automated Vehicles,” Sep. 21, 2016.
45. Massachusetts Institute of Technology, *Guest Lecture*, Department of Civil and Environmental Engineering, Host: Professor Carolina Osorio, “The Role of Optimization and Control in Transportation,” Sep. 20, 2016, Cambridge, MA.
46. University of Maryland, College Park, Department of Mechanical Engineering, Host: Professor Patrick F. McCluskey, “A Decentralized Optimal Control Framework for Connected and Automated Vehicles,” Sep. 1, 2016.
47. University of Michigan, Department of Civil and Environmental Engineering, Host: Professor Henry Liu, “Decentralized Optimal Control for Online Coordination of Connected and Automated Vehicles,” Mar. 7, 2016.

48. University of California at Berkeley, *Institute of Transportation Studies Seminar*, Host: Professor Pravin Varaiya, "Decentralized Optimal Control for Online Coordination of Connected and Automated Vehicles," Feb. 17, 2016.
49. University of Wisconsin, Madison, WI, Department of Mechanical Engineering, Host: Professor Dan Negrut, "Decentralized Optimal Control for Online Coordination of Connected and Automated Vehicles," Jan. 20, 2016.
50. University of South California, Viterbi, Department of Electrical Engineering, Host: Professor Petros Ioannou, "Decentralized Online Optimal Control for Coordination of Connected and Automated Vehicles," Nov. 19, 2015.
51. University of Tennessee, Department of Civil and Environmental Engineering, Host: Professor Asad Khattak, "Decentralized Optimal Control of Connected and Automated Vehicles," Sep. 24, 2015.
52. McGill University, Montreal, Canada, *Group for Research in Decision Analysis (GERAD) Seminar*, Host: Professor Michael Kokkolaras, "Complex systems in Transportation," May 21, 2015.
53. University of Tennessee, Department of Mathematics, Host: Professor Vasileios Alexiadis, "Optimal Control for Complex Systems in Energy and Transportation," Mar. 11, 2015.
54. University of Virginia, Department of Civil and Environmental Engineering, Host: Professor Brian Park, "System-Wide Optimal Control for Complex Systems in Transportation," Feb. 20, 2015.
55. Boston University, Boston, MA, Center of Information & Systems Engineering, Host: Professor Christos Cassandras, "A Multiobjective Optimization Framework for Stochastic Optimal Control in Complex Transportation Systems," Dec. 19, 2013.
56. University of Tennessee, Department of Industrial and Systems Engineering, Host: Professor Mingzhou Jin, "A Duality Framework for Online Optimal Control in Transportation Systems," Nov. 8, 2013.
57. University of Minnesota, Department of Mechanical Engineering, Host: Professor Zongxuan Sun "A Multiobjective Optimization Framework for Online Optimal Control of Hybrid Electric Vehicles," Oct. 30, 2013.
58. Georgia Institute of Technology, School of Aerospace Engineering, Host: Professor Panos Tsiotras, "A Multiobjective Optimization Framework for Stochastic Optimal Control in Complex Systems," May 23, 2013.
59. Massachusetts Institute of Technology, *Seminar in the Aerospace Robotics and Embedded Systems Laboratory*, Host: Professor Emilio Frazzoli, "Average Cost Criterion in Controlled Markov Chains: Enabling Theoretical Framework for Optimal Solution Characterization," Jun. 18, 2012.
60. University of Michigan, Department of Aerospace, Host: Professor Ilya Kolmanovsky, "Dual Constrained Optimization of the Average Cost in Markov Chain," Apr. 30, 2012.
61. University of Tennessee, Department of Mathematics, Host: Professor Vasileios Maroulas, "Equilibrium Control Policies for Markov Chains," Feb. 24, 2012.
62. University of Texas, Austin, Department of Electrical Engineering, Host: Professor Dragan Djurdjanovic, "Stochastic Control and Optimization for Eco-Driving Feedback Technologies," Oct. 24, 2011.
63. University of Tennessee, Department of Mathematics, Host: Professor Vasileios Alexiadis, "Self-Learning Identification and Stochastic Control for Autonomous Intelligent Propulsion Systems," Apr. 27, 2011.

INVITED TALKS IN INDUSTRY, WORKSHOPS, PANELS

1. Delivered a lecture in the Tutorial Session "IEEE CSS TC on Smart Cities Tutorial Session: Challenges and Opportunities for Control in Smart Cities" at the *64th IEEE Conference on Decision and Control*, Rio de Janeiro, Brazil, "At the Intersection of Learning and Control for Emerging Mobility Systems," Dec 9, 2025.
2. Delivered a lecture in the Tutorial Session "Control, Learning, and Optimization Methods for Autonomous Multi-Agent Systems in Transportation" at the *64th IEEE Conference on Decision and Control*, Rio de Janeiro, Brazil, "Mobility Equity and the Promise of Emerging Transportation Systems," Dec 9, 2025.

3. Invited speaker in *4th Workshop on Intelligent and Automated Waterway Transportation*, at 2025 IEEE International Conference on Intelligent Transportation Systems, Gold Coas, Australia, “Autonomous Vehicles: Where Learning Meets Control,” Nov 18, 2025.
4. Delivered a Tutorial at the *9th Nonlinear Systems and Control Conference*, Guangzhou, China, on “Separation of Learning and Control on Team Decision Problems with Applications on Emerging Mobility Systems,” May 19, 2025.
5. Invited speaker in the Workshop on *Data to Decisions — Bridging the Gap with ML*, at KFUPM, Dhahran, Saudi Arabia, “Data-driven System Approaches for Cyber-physical Systems at the Intersection of Learning and Control,” Feb 9, 2025.
6. Invited speaker in the Workshop on *From Formal Methods to Data-Driven Verification and Control*, at 63rd IEEE Conference on Decision and Control, Milan, Italy, “Data-Driven Optimal Decentralized Control on Team Decision Problems,” Dec 15, 2024.
7. Invited speaker and panelist in the Workshop on *Safe and Secure Learning-Enabled Systems*, at 63rd IEEE Conference on Decision and Control, Milan, Italy, “Safe-Enabled Social Media Platforms: A Mechanism Design Approach,” Dec 15, 2024.
8. Invited speaker and panelist in the Workshop on *Fair Decision-Making and Societally-Aware Control in Networked Systems*, at 63rd IEEE Conference on Decision and Control, Milan, Italy, “Fair Decision-Making for Socially Optimal Emerging Mobility Systems,” Dec 15, 2024.
9. Invited speaker in Cornell’s Engineering Management Distance Learning program, “A Resource Allocation Mechanism to Incentivize Misleading Information in Social Media,” Dec 5, 2024.
10. Invited speaker in the Workshop on *Equity, Accessibility, and Inclusiveness in ITS*, at 27th IEEE International Conference on Intelligent Transportation Systems (ITSC), Edmonton, Canada, “A Mobility Equity Metric for Socially Optimal Emerging Mobility Systems,” September 24-27, 2024.
11. Invited speaker in the Workshop on *Sixth Workshop on Autonomous, Connected, and Electrified Mobility Systems: Humans in the Loop?*, at 22nd European Control Conference (ECC) in Stockholm, Sweden, “Routing in Mixed Transportation Systems for Mobility Equity,” June 25-28, 2024.
12. Invited panelist in the Workshop on *Learning Enabled Control and Coordination for Societally-Aware Transportation Systems*, at 62nd IEEE Conference on Decision and Control, Singapore, Dec 12, 2023.
13. Invited talk in the Workshop on *Cooperative Decision-making for Connected and Automated Vehicles in Intelligent Transportation Systems*, at 26th IEEE International Conference on Intelligent Transportation Systems, Bilbao, Spain, “Combining Learning and Control in Emerging Mobility Systems,” Sep 29, 2023.
14. Invited talk in the Workshop on Adaptive Control to Intelligent Transportation Systems – In Celebration of Prof. Petros Ioannou’s 70th Birthday – Host: Dr. Marios Polycarpou and Jing Sun, “Self-learning control for advanced powertrain systems,” June 29, 2023.
15. Invited talk in Mathworks, Host: Dr. Anastasia Mavromati, “Optimal Control of Vehicle and Powertrain Operation Using Connectivity and Automation,” May 16, 2023.
16. Invited talk at the *CPS-IoT 2023 Workshop*, on *Bridging Learning and Algorithmic Fairness in the Operation of Urban Infrastructure and Network Systems*, San Antonio, Texas, “Combining Learning and Control in Cyber-Physical Systems,” May 9, 2023.
17. Invited talk at the *CDC workshop: Combining Learning and Control in Cyber-Physical Systems*, Cancún, Mexico, “Separation of Learning and Control for Cyber-Physical Systems,” Dec. 5, 2022.
18. Invited talk at the *NSF workshop: The Frontiers of Artificial Intelligence-Empowered Methods and Solutions to Urban Transportation Challenges*, Seattle, WA, “At the Intersection of Learning and Control for Emerging Mobility Systems,” Jun. 4, 2022.

19. Invited talk at the *US Department of Energy, Energy-Efficient Mobility Systems Program*, Washington, D.C., “Simultaneous Optimization of Vehicle and Powertrain Operation Using Connectivity and Automation,” Dec. 7, 2021.
20. Invited talk at *ExxonMobil*, Clinton, NJ, “Emerging Mobility Systems in Smart Cities,” Oct. 28, 2021.
21. *1st CIRCLES Workshop on Traffic and Autonomy*, “Learning and Control for Emerging Mobility Systems,” Sep. 23, 2021.
22. Workshop on *Autonomous, Connected and Electrified Mobility Systems: Modeling, Control, and Deployment* at the 24th IEEE International Conference on Intelligent Transportation Systems, Indianapolis, Indiana, “At the Intersection of Learning and Control for Connected and Automated Vehicles,” Sep. 19, 2021.
23. *2nd Workshop on Internet of Things in Intelligent Transportation Systems: Opportunities and Challenges* at the 24th IEEE International Conference on Intelligent Transportation Systems, Indianapolis, Indiana, “Optimal Time Trajectory with Provable Safety for Connected and Automated Vehicles,” Sep. 19, 2021.
24. Workshop on *Motion Planning, Control, and Learning for Autonomous Driving Systems* at the 2021 IEEE Conference on Control Technology and Applications (CCTA), San Diego, California, “An Efficient Emerging Mobility System for Smart Cities,” Aug. 8, 2021.
25. *SIAM Conference on Control and Its Applications*, Spokane, Washington, “Optimal Time Trajectory and Coordination for Connected and Automated Vehicles,” Jul. 21, 2021.
26. Workshop on *Modeling and Control Tools for Sustainable and Connected Mobility in Smart Cities* at the 29th Mediterranean Conference on Control and Automation (MED 2021), Puglia, Italy, “A Socially-Efficient Emerging Mobility Market,” Jun. 22, 2021.
27. Workshop on *Control, Optimization, and Learning Methods for Emerging Mobility Systems*, at the 59th Conference on Decision and Control (CDC 2020), Jeju Island, Republic of Korea, “Optimal Path Planning with Provable Safety for Connected and Automated Vehicles,” Dec. 13, 2020.
28. *IEEE Delaware Bay Section and ASME Delaware Section Joint Meeting*, “Optimal Time Trajectory and Coordination for Connected and Automated Vehicles,” Nov. 19, 2020.
29. *IPAM, NSF Mathematical Sciences Institute*, Workshop on *Safe Operation of Connected and Autonomous Vehicle Fleets*, Los Angeles, CA, “Optimal Path Planning and Coordination for Connected and Automated Vehicles,” Oct. 29, 2020.
30. *IEEE Delaware Bay Section*, “Optimal Path Planning and Coordination for Emerging Mobility Systems,” Mar. 10, 2020.
31. *INFORMS Annual Meeting*, Methods and Results for the Costs and Environmental Impacts of Ride-Hailing, “Socially Adoptable Energy-efficient Mobility Systems,” Oct. 23, 2019.
32. *3rd IAVSD Workshop on Dynamics of Road Vehicles: Connected and Automated Vehicles*, University of Michigan, “A Sociotechnical Systems Approach for Energy-Efficient Mobility in Smart Cities,” Apr. 29, 2019.
33. Workshop on Risk Analysis for Autonomous Vehicles: Issues and Future Directions, University of Maryland, “A Decentralized Energy-Optimal Control Framework for Connected and Automated Vehicles,” Apr. 26, 2019.
34. International Workshop on Cyberphysical Systems and Cyber-resilience, “A Sociotechnical Systems Approach for Energy- Efficient Mobility of Smart Cities,” Mar. 20, 2019.
35. Symposium on Societal and Technological Research Challenges for Highly Automated Road Transportation Systems in Germany and the US: Diversities and Synergy Potentials, “A Sociotechnical Systems Approach for Energy- Efficient Mobility of Smart Cities,” Oct. 30, 2018.
36. *ASME Dynamic Systems and Control Conference, Connected and Autonomous Vehicles Workshop*, “Decentralized Optimal Control for Connected and Automated Vehicles,” Sept. 30, 2018.

37. *Office of Naval Research*, “A Decentralized Optimal Control Framework for Coordination of Connected and Automated Vehicles,” Sept. 19, 2018.
38. *2018 Automated Vehicle Symposium*, San Francisco, CA, “Simultaneous Optimization of Vehicle and Powertrain Operation Using Connectivity and Automation,” Jul. 10, 2018.
39. *2018 Automated Vehicle Symposium*, San Francisco, CA, “Decentralized Optimal Control for Connected and Automated Vehicles at Signal-free Intersections,” Jul. 9, 2018.
40. *Ford Motor Company*, Dearborn, MI, “Optimal Control of Vehicle and Powertrain Operation Using Connectivity and Automation,” Feb. 16, 2018.
41. *US ARMY Research Laboratory*, Aberdeen Proving Ground, MD, “Decentralized Optimal Control for Vehicle Coordination Using Connectivity and Automation,” Feb. 8, 2018.
42. *ASME Delaware Section*, Mendenhall, PA, “Decentralized Optimal Control for Connected and Automated Vehicles,” Jan. 16, 2018.
43. *2017 Automated Vehicle Symposium*, San Francisco, CA, “Coordinated Decentralized Optimal Control for Connected and Automated Vehicles,” Jul. 11, 2017.
44. *VOLPE Center (US DOT)*, Boston, MA, “Online Coordination of Connected and Automated Vehicles to Improve Traffic Flow,” Sep. 20, 2016.
45. *Mobility Advisory Committee*, City-County Building, “Online Coordination of Connected and Automated Vehicles to Improve Traffic Flow,” Oct. 27, 2016.
46. *Low Voltage Vehicle Electrification Summit*, Detroit, MI, “Reviewing Optimal Power Management Control of Hybrid Electric Vehicles Allowing for Optimized Power Distribution,” Apr. 27, 2016.
47. *Urban Autonomous Vehicles Roundtable* at FedEx Institute of Technology, Memphis, TN, “Online Coordination of Connected and Automated Vehicles,” Apr. 21, 2016.
48. *IPAM, NSF Mathematical Sciences Institute, Workshop on Traffic Estimation*, Los Angeles, CA, “Decentralized Optimal Control for Online Coordination of Connected and Automated Vehicles,” Oct. 12-16, 2015.
49. *2015 Automated Vehicle Symposium*, Ann Arbor, MI, “Decentralized Optimal Control of Connected Vehicles at Intersections,” Jul. 21-23, 2015.
50. *iTEC2015*, Dearborn, MI, “System-Wide Optimal Control for Connected Vehicles,” Jun. 15, 2015.
51. *iTEC2015*, Dearborn, MI, “Optimal Control for Hybrid Electric Vehicles,” Jun. 15, 2015.
52. *Big Data for Connected Cars and Internet of Things Conference*, Novi, MI, “System-Wide Optimal Control for Connected Vehicles,” Jun. 2, 2015.
53. *Advanced Hybrid division at Cummins Corporate Research & Technology*, Columbus, IN, “A Consumer-Oriented Control Framework for Performance Analysis in Hybrid Electric Vehicles,” Oct. 21, 2014.
54. *3rd Midwest Workshop on Control and Game Theory*, Columbus, OH, “A Duality Framework for Stochastic Optimal Control of Complex Systems,” Apr. 20, 2014.
55. *2013 IEEE Workshop on Open Problems and Challenges in Automotive Control*, Washington, D.C., “A Multiobjective Optimization Framework for Stochastic Optimal Control of Advanced Propulsion Systems,” Jun. 20, 2013.
56. *2012 DOE Crosscut Workshop on Lean Emissions Reduction Simulation Workshop*, University of Michigan, Dearborn, MI, “Stochastic Optimal Control for Advanced Propulsion Systems,” Apr. 30 – May 2, 2012.
57. *2011 DOE Crosscut Workshop on Lean Emissions Reduction Simulation Workshop*, University of Michigan, Dearborn, Michigan, “Self-Learning Identification and Stochastic Control for Autonomous Intelligent Propulsion Systems,” Apr. 19-21, 2011.

58. *2010 National Academy of Engineering (NAE) German-American Frontiers of Engineering Symposium*, Oak Ridge National Laboratory, “Self-Learning Identification and Stochastic Control for Autonomous Intelligent Propulsion Systems,” Apr. 23 – 25, 2010, Oak Ridge, TN.

ACADEMIC SERVICE

- Systems Engineering Program Reappointment Committee of Professor of Practice, Chair 2025 – present
- School of CEE Search Committee Professor of Practice, Member 2024 – present
- Cornell’s College of Engineering (CoE) Policy committee 2024 – present
- Department Chair’s Search Committee in Mechanical Engineering at UD, Member 2022 – 2023
- Department’s Graduate Admissions Committee at UD, Member 2021 – 2023
- Lead for Automotive Concentration at UD 2017 – 2023
- Member of the guiding Coalition Group for UD’s CoE Strategic and Implementation Plan 2020
- Department’s Graduate Curriculum Committee at UD, Member 2017 – 2021
- ASME Faculty Advisor at UD 2017 – 2021
- Senior Design Faculty Advisor and Sponsor at UD Fall 2018
- Faculty search committee in Robotics at UD, Member 2017 – 2019
- Department’s Distinguished Seminar Committee at UD, Chair 2017 – 2019
- UD Organizing committee, Symposium on Smart Cities & Sustainable Energy 2017

PROFESSIONAL AFFILIATIONS

- AAAS, Member, American Association for the Advancement of Science 2017 – present
- IEEE, Senior Member, Institute of Electrical & Electronics Engineers 2017 – present
- ASME, Fellow, American Society of Mechanical Engineers 2017 – present

PROFESSIONAL SERVICE

National Science Foundation (NSF) Panel

- Dynamics, Control and System Diagnostics (DCSD) program 2025
- Civil Infrastructure Systems (CIS) program 2024
- Dynamics, Control and System Diagnostics (DCSD) program 2022
- Cyber-Physical Systems (CPS) program 2021
- Dynamics, Control and System Diagnostics (DCSD) program 2021
- Civil Infrastructure Systems (CIS) Program 2018

Department of Energy (DOE) Reviewer

- Energy-Efficient Mobility Systems (EEMS) Program – National Labs 2010 – 2021
- Energy-Efficient Mobility Systems (EEMS) Program – FOA 2010 – 2021

Editorial Board

- Senior Editor, IEEE Transactions on Intelligent Transportation Systems 2023 – present
- Editor-in-Chief, Frontiers in Sustainable Cities – Urban Transport. Syst. and Mobility 2021 – 2022
- Associate Editor, IEEE Transactions on Automatic Control 2020 – present
- Associate Editor, Automatica 2020 – present
- Guest IEEE Transactions on Intelligent Transportation Systems, 2020 – 2021
- Special Issue: Big Data and AI for Computational Transportation in the Cyber-Physical-Social Space
- Member, Control Systems Society Conference Editorial Board 2018 – 2024
- Associate Editor, IEEE Transactions on Intelligent Transportation Systems 2017 – 2020
- Associate Editor, IEEE Transactions on Intelligent Vehicles 2017 – 2020

– Associate Editor, 2022 Conference on Decision and Control, Cancún, Mexico	2022
– Associate Editor, 2022 American Control Conference, Atlanta, Georgia	2022
– Associate Editor, 2021 Conference on Decision and Control, Austin, Texas	2021
– Associate Editor, 2021 American Control Conference, New Orleans, Louisiana	2021
– Associate Editor, 2020 Conference on Decision and Control, Jeju Island, Republic of Korea	2020
– Associate Editor, 2020 American Control Conference, Denver, CO	2020
– Associate Editor, 2019 Conference on Decision and Control, Nice, France	2019
– Associate Editor, 2019 American Control Conference, Philadelphia, PA	2019
– Associate Editor, 21st IEEE Intern. Conf. on Intelligent Transportation Systems, Maui, Hawaii	2018
– Associate Editor, IEEE 14th Conference on Automation Science Engineering, Munich, Germany	2018
– Associate Editor, IFAC 2017 World Congress, Toulouse, France	2017
– Associate Editor, IEEE 13th Conference on Automation Science Engineering, Xi'an, China	2017

Reviewer

– IEEE Transactions on Automatic Control
– Automatica
– IEEE Transactions on Control Systems Technology
– IEEE Transactions on Intelligent Transportation Systems
– Transportation Research Part B: Methodological
– Transportation Research Part C: Emerging Technologies
– IEEE Conference on Decision and Control Conference (CDC)
– American Control Conference (ACC)
– European Control Conference (ECC)
– IEEE Conference on Intelligent Transportation Systems (ITSC)

Conference, Invited Session, Tutorial, and Workshop Organizer

– General Chair	2027
– 30th IEEE International Conference on Intelligent Transportation Systems (IEEE ITSC 2027)	
– Program co-Chair	2026
– 29th IEEE International Conference on Intelligent Transportation Systems (IEEE ITSC 2026)	
– Registration Chair	2025
– The 64th Conference on Decision and Control	
– Co-Organizer: Challenges and Opportunities for Control in Smart Cities	2025
– Tutorial Session at the 64th Conference on Decision and Control	
– Co-Organizer: Traffic Flow Optimization and Cooperative Control in Intelligent Transportation Systems	2025
– Invited Session at the 64th Conference on Decision and Control	
– Co-Organizer: Intelligent Routing and Traffic Management in Mixed-Autonomy Systems	2025
– Invited Session at the 64th Conference on Decision and Control	
– Co-Organizer: Advancements in Intelligent Transportation Systems: Control, Optimization, and Estimation	2025
– Invited Session at the 64th Conference on Decision and Control	
– Co-Organizer: Advancements in Autonomous and Connected Vehicle Systems for Mixed Traffic Environments	2025
– Invited Session at the 64th Conference on Decision and Control	
– Organizer	2025
– IEEE ITSS-Sponsored Workshop entitled “Mobility for Smart Cities”	
– Co-Organizer: Learning and Control Approaches for Human-AI Collaboration	2024
– Invited Session at the 63rd Conference on Decision and Control	

– Co-Organizer: Confluence of Learning and Control Approaches in Multi-Agent Systems Workshop at the 2024 American Control Conference	2024
– Co-Organizer: Control and Optimization for Emerging Mobility Systems Invited Session at the 22nd European Control Conference	2024
– Organizer: Designing an Online Learning Framework for Socially Optimal Mixed Transportation Tutorial Session at the 22nd European Control Conference	2024
– Organizer: Addressing Safe Interaction Between Autonomous and Human-driven Vehicles NSF NRI PI Meeting Workshop	2024
– Co-Organizer: Learning and Control for Accessible, Safe, and Equitable Transportation Invited Session at the 62nd Conference on Decision and Control	2023
– Workshop and Panel Co-chair The 62nd Conference on Decision and Control	2023
– Invited Sessions Chair 2023 IEEE International Automated Vehicle Validation Conference (IAVVC)	2023
– Organizer IEEE ITSS-Sponsored Workshop entitled “The Road to Emerging Mobility Systems for Smart Cities”	2023
– Publicity Chair The 61st Conference on Decision and Control	2022
– Organizer: Combining Learning and Control in Cyber-Physical Systems Workshop at the 61st IEEE Conference on Decision and Control	2022
– Co-Organizer: Motion Planning, Control, and Learning for Autonomous Driving Systems Workshop at the 2021 5th IEEE Conference on Control Technology and Applications	2021
– Co-Organizer: Modeling and Control Tools for Sustainable and Connected Mobility in Smart Cities Workshop at the 29th Mediterranean Conference on Control and Automation	2021
– Co-Organizer: Control, Optimization, and Learning Methods for Emerging Mobility Systems Workshop at the 59th Conference on Decision and Control	2020
– Co-Organizer: Traffic Management for Future Mobility – CAVs in a Mixed Traffic Environment Workshop at the 23rd IEEE International Conference on Intelligent Transportation Systems	2020
– Organizer: Inaugural Symposium of the Sociotechnical Systems Center University of Delaware	2020
– Organizer: Sociotechnical Systems Approach for Energy-Efficient Mobility in Smart Cities Workshop at the 2019 American Control Conference	2019
– Organizer: Next Generation Mobility Systems: Implications on Energy and Social Aspects Workshop at the 21st IEEE International Conference on Intelligent Transportation Systems	2018
– Chair, Session: The Road to Future Urban Mobility NAE EU-US Frontiers of Engineering	2016
– Co-organizer NSF workshop on Smart Cities	2015
– Organizer and Chair ORNL workshop on connected and automated vehicles	2015

Technical Committees

- Chair, IEEE Technical Committee on Smart Cities 2020 – present
- Vice Chair, IFAC Technical Committee on Smart Cities 2015 – present
- Member, IEEE Technical Committee on Automotive Control 2011 – present
- Member, IFAC Technical Committee on Stochastic Systems 2011 – present
- Member, IFAC Technical Committee on Automotive Control 2011 – present
- Member, IFAC Technical Committee on Intelligent Autonomous Vehicles 2011 – present
- Member, SAE Dynamical Modeling and Simulation Committee 2010 – 2014
- Secretary, ASME Technical Committee on Model Identification and Intelligent Systems (MIIS) 2008 – 2010

PRESS RELEASES, INTERVIEWS, MEDIA ARTICLES

Press Releases

- University of Delaware’s College of Engineering news, “College of Engineering Announces 2020 Dean’s Awards: Malikopoulos receives the Outstanding Junior Faculty award,” Jul. 31, 2020.
- University of Delaware, “UD Engineering’s best of 2017,” Dec. 20, 2017.
- University of Delaware, “Andreas Malikopoulos on connected and automated vehicles,” Dec. 4, 2017.

TV Interviews

- NBC-10 “Growing Greater Philadelphia,” Mar. 26, 2019, interview by John Lewis.
<https://ids-lab.net/nbc-featured-the-research-conducted-in-the-ids-lab/>
- NBC-10 News, “UDel Students Use “Mini World” to Tackle Real World Problems,” Dec. 10, 2018, interview by Tim Furlong.
- WHYY TV, “Delaware preps for driverless cars,” April 16, 2018, interview by M. Eichmann.
<https://whyy.org/segments/delaware-preparing-for-driverless-cars/>
- WBIR TV news, “Plans to test self-driving cars underway,” Oct. 26, 2016, interview by M. Wade.
<https://www.wbir.com/article/news/local/plans-for-knoxville-to-test-self-driving-cars-underway/51-341350591>

Media Outlets

- Cornell Chronicle “Mini smart city drives design of safer automated transportation,” by David Nutt, Nov 20, 2024.
- UDaily, “The future of testing self-learning cars,” by Erica K. Brockmeier, Jan. 26, 2023.
- SIAM News Online, “Coordination of connected and automated vehicles at adjacent intersections can improve safety and travel time,” October 29, 2021.
- UDaily, “When cars talk,” by Jordan Howell, Apr. 9, 2021.
- UDaily, “Exploring the Intersection of Communities and Technology,” by Julie Stewart, Apr. 7, 2020.
- UDaily, “Jump Starting Energy Research: Delaware Energy Institute announces grant for multidisciplinary research projects at the University of Delaware,” by JKevin Liedel, April 24, 2019.
- UDaily, “Smarter, safer, more efficient vehicles,” by Julie Stewart, Oct. 23, 2018.
- UDaily, “Transport in UD’s Scaled Smart City,” by Karen B. Roberts, Aug., 2018.
- Delaware Public Media, “UD Researchers Look at Creating Smart Cities for Driverless Cars,” by L. Nagengast, May 11, 2018.
- Frontiers of Engineering, National Academy of Engineering, “Testbed for Connected and Automated Vehicles,” May 2, 2018.
- Delaware Business Times, “Driverless Cars: UD’s Scaled Smart City project could help pave the way,” Mar. 20, 2018.
- TechBit, “Check out the University of Delaware’s little intelligent city,” Dec. 6, 2017.
- Statescoop, “Mini smart city drives research on fuel efficiency for connected autonomous vehicles,” by J. Shueh, Dec. 6, 2017.
- Technically Delaware, “Check out the University of Delaware’s tiny smart city,” by H. Quinn, Dec. 5, 2017.
- Green Car Congress, “ORNL study finds even low penetration of CAVs delivers significant fuel economy benefits, but increases travel time slightly,” by M. Millikin, Dec. 1, 2016.

- Green Car Congress, “ORNL team presents solution for coordinating connected and automated vehicles at merging roadways; reduced fuel consumption and travel time,” by M. Millikin, Aug. 29, 2016.
- Green Car Congress, “ORNL researcher proposes solution for online optimization of power management in HEVs/PHEVs and for different drivers,” Oct. 12, 2014.
- Network World, “How connected cars will optimize traffic flow,” by P. Nelson, Apr. 21, 2015.
- Green Car Congress, “ORNL study finds even low penetration of CAVs delivers significant fuel economy benefits, but increases travel time slightly,” by M. Millikin, Dec. 1, 2016.
- Road Traffic Technology, “US scientists to develop computational framework to optimize road traffic,” Apr. 7, 2015.
- Design Products & Applications, “Connected vehicle technology aims to improve travel time,” Apr. 4, 2015.
- PhyOrg, “Computational framework for optimizing traffic flow could be the beginning of a road revolution,” by M. McCorkle, Apr. 3, 2015.
- Informed Infrastructure, “Developing a Framework for Connected Vehicle Technologies,” Apr. 3, 2015.
- Science Daily, “Road revolution by connecting vehicles: Computational framework for optimizing traffic flow,” by K.E. Jones, Apr. 2, 2015.
- R&D Magazine, “Connecting Vehicles,” by M. McCorkle, Apr. 2, 2015.
- Green Car Congress, “ORNL, UT Austin team proposes optimization framework for hybrids; balancing fuel consumption, motor efficiency, battery capacity and life,” by M. Millikin, Dec. 22, 2014.
- Scientific American, “Self-driving cars could cut greenhouse gas pollution,” by J. Pyper, Sep. 15, 2014.
- EurekAlert, “Vehicles Connected to savings,” by R. Walli, Sep. 3, 2014.
- Green Car Congress, “Survey of power management control technologies for HEVs and PHEVs suggests future need to consider vehicle as part of larger system,” by M. Millikin, Apr. 11, 2014.
- Green Car Congress, “ORNL researcher proposes more efficient control strategy for series hybrids,” by M. Millikin, Jul. 9, 2013.
- Green Car Congress, “ORNL researcher explores impact of motor/generator and battery pack sizing on medium-duty PHEV; optimization framework,” by M. Millikin, Jan. 4, 2013.
- Green Car Congress, “ORNL researchers propose optimization framework for use in real-time feedback systems to improve driving styles with reduced fuel consumption,” by M. Millikin, Oct. 3, 2012.
- Green Car Congress, “Oak Ridge researcher developing autonomous intelligent engines capable of real-time calibration based on driver behavior,” by M. Millikin, May 24, 2012.