
Kostas E. Bekris

Associate Professor

Computer Science Department
Rutgers University
Piscataway, NJ 08854kostas.bekris@cs.rutgers.edu
tel: (848)445-8854
fax: (732)445-0537

<https://robotics.cs.rutgers.edu/pracsys/members/kostas-bekris/>

EMPLOYMENT**Rutgers, The State University of New Jersey**

Associate Professor

July '16 onward

Assistant Professor

July '12 - June '16

Computer Science Department, School of Arts and Sciences

Amazon.com, Inc.

Amazon Scholar

Sept. '19 onward

Part-time appointment for academics

University of Nevada, Reno

Assistant Professor

July '08 - June '12

Computer Science and Engineering Department, College of Engineering

EDUCATION**Rice University**, Houston, TX

2004 - 2008

Ph.D. in Computer Science

Thesis title: "Informed Planning and Safe Distributed Replanning under Physical Constraints"

Thesis Advisor: Professor Lydia E. Kavraki

Rice University, Houston, TX

2001 - 2004

M.S. in Computer Science

Thesis: "Reactive Range-Free Landmark Navigation without Scene Reconstruction"

Thesis Advisor: Professor Lydia E. Kavraki

University of Crete, Greece

1997 - 2001

B.S. in Computer Science, *Best in Class*

Diploma Thesis: "Graph-Theory Based Image Segmentation Using Color Content"

Thesis Advisor: Dr. Antonis Argyros

FUNDING FROM FEDERAL AND STATE AGENCIES**National Science Foundation (NSF)**

Robust Intelligence - Medium: "Robust Assembly of Compliant Modular Robots", (PI: Kostas Bekris, Co-PIs: Devin Balkcom - Dartmouth, Rebecca Kramer-Bottiglio - Yale, Weifu Wang - SUNY Albany), IIS-1956027, 2020-2023.

Total award: \$1,200,000 - Rutgers/Bekris' participation: \$385,916.

National Science Foundation (NSF)

NSF Research Traineeship (NRT): "NRT-FW-HTF: Socially Cognizant Robotics for a Technology Enhanced Society (SOCRATES)", (PI: Kristin Dana, Co-PIs: Kostas Bekris, Clinton Andrews, Jacob Feldman, Jingang Yi), IIS-2021628, 2020-2025.

Total award: \$3,000,000 - Bekris' participation: \$300,000.

National Science Foundation (NSF)

National Robotics Initiative (NRI): “NRI: INT: COLLAB: Integrated Modeling and Learning for Robust Grasping and Dexterous Manipulation with Adaptive Hands”, (PI: Kostas Bekris, Co-PIs: Abdeslam Boularias (Rutgers), Aaron Dollar (Yale University)), IIS-1734492, 2017-2023.

Total award: \$1,500,000 - Rutgers participation: \$867,729 - Bekris’ participation: \$438,945.

National Science Foundation (NSF)

Harnessing the Data Revolution: “HDR TRIPODS: Data Science Principles of the Human-Machine Convergence”, (PI: Fred Roberts, Co-PIs: Kostas Bekris, Matthew Stone, Cun-Hui Zhang, Konstantino Mischikow), IIS-1934924, 2019-2022.

Total award: \$1,500,000 - Bekris’ participation: \$150,000.

National Science Foundation (NSF)

Smart and Autonomous Systems (S&AS): “S&AS: FND: Reflective Learning of Stochastic Physical Models for Robust Manipulation”, (PI: Abdeslam Boularias, co-PIs: Kostas Bekris and Mubbasir Kapadia), IIS-1723869, 2017-2020.

Total award for Rutgers: \$682,646 - Bekris’ participation: \$227,548.

National Aeronautics and Space Administration (NASA)

Early CAREER Faculty award: “Robust Planning for Dynamic Tensegrity Structures”, (Single PI: Kostas Bekris), Grant Number: NNX15AU47G, 2015-2018.

Total award for Rutgers/Bekris: \$600,000

National Science Foundation (NSF)

Information and Intelligent Systems (IIS): “RI: Small: Taming Combinatorial Challenges in Multi-Object Manipulation” (PI: Kostas Bekris, co-PI: Dr. Jingjin Yu), IIS:1617744, 2016-2019.

Total award for Rutgers: \$468,500 - Bekris’ participation \$234,250.

National Science Foundation (NSF)

Information and Intelligent Systems (IIS): “EAGER: Provably Efficient Motion Planning After Finite Computation Time” (Single PI: Kostas Bekris), IIS:1451737, 2014-2016.

Total award for Rutgers/Bekris: \$175,000.

North Pacific Research Board (NPRB)

Annual Research Award: “Developing telemetry-based payload control for determining the distribution and movements of marine fish using autonomous underwater vehicles” (PI: Dr. Thomas Grothues), Project 1529, 2015-2016.

Total award for Rutgers: \$125,000 - Bekris’ participation: \$35,000.

The Port Authority of New York & New Jersey (NY/NJ PA)

“Crowd Management and LiDAR to Assist with Crowd Management and PA Bus Terminal Redesign” (PI: Dr. Fred Roberts - DHS COE CCICADA), 2015-2016.

Total award for Rutgers: \$300,000 - Bekris’ participation: \$100,000.

National Aeronautics and Space Administration (NASA)

“Robust Path Planning for Space Exploration Rovers”, 2013 NASA Space Technology Research Fellowship for Zakary Littlefield (Advisor: Kostas Bekris), Grant Number NNX13AL71H, 2013-2017.

Total award for Rutgers: \$272,000.

National Science Foundation (NSF)

United States-Israel Collaboration in Computer Science - Travel Grant: “A Framework for Composite Techniques in Motion Planning” (PI: Kostas Bekris - Israel Collaborator: Dan Halperin, Tel Aviv University), BSF:2012166, 2013-2017.

Total award for Rutgers/Bekris: \$40,000.

National Science Foundation (NSF)

Cyber-Physical Systems - Small: “Real-time, Simulation-based Planning and Asynchronous Coordination for Cyber-Physical Systems” (single PI: Kostas Bekris), Award CNS 0932423, 2009-2013.

Total award for Bekris: \$599,970.

National Aeronautics and Space Administration (NASA)

“Advanced Computer Vision, Robotics, and Visualization Algorithms for Improving Planetary Exploration and Understanding” (PI: George Bebis), 2011-2012.

Total award: \$1,000,000 - Bekris’ participation: \$75,000.

Office of Naval Research (ONR)

“Extending the Mission: Air Support in Intelligent Aggressors” (PI: Sushil Louis, co-PI: Kostas Bekris), 2010-2012.

Total award: \$500,000 - Bekris’ participation: \$120,000.

CORPORATE CONTRACTS and INDUSTRIAL COLLABORATION

Multiple corporate gifts to the research group, e.g., by **Nokia-Bell Labs** and **Facebook**.

Intelligent Automation Inc. (IAI)

BAA STTR 2017.A Phase II: “ORION: Operational Robot with Intelligent Off-road Navigation”, (Intelligent Automation Inc. PI: Dr. Yoichiro Endo (IAI), Single Rutgers PI: Kostas Bekris, 2018-2020.

Total award: \$1,000,000 - Rutgers’/Bekris’ participation: \$335,000.

JD-X Silicon Valley Research Center

Project “Configurable Hand for Intelligent Material Picking (CHIMP)”, (JD-X Collaborator: Dr. Hui Cheng), PI: Kostas Bekris (Co-PIs: Abdeslam Boularias and Jingjin Yu), 2018.

Total contract for Rutgers: \$240,000 (Bekris’ participation: \$80,000).

Intelligent Automation Inc. (IAI)

BAA STTR 2017.A Phase I: “ORION: Operational Robot with Intelligent Off-road Navigation”, (Intelligent Automation Inc. PI: Dr. Yoichiro Endo (IAI), Rutgers PI: Kostas Bekris), 2017.

Total award: \$200,000 - Rutgers’/Bekris’ participation: \$50,000.

ExxonMobil

Pilot corporate project “Programming Painting Operations with a Dual-arm Manipulator for Environmental Studies”, (ExxonMobil collaborator: Jennifer Shin), 2017.

Total contract for Rutgers/Bekris: \$15,000.

Intelligent Automation Inc. (IAI)

BAA STTR 2012.A Phase II: Subcontract “Bio-Inspired Visual Navigation: From Landmarks via Bearing to Controls” (Rutgers PI: Kostas Bekris), 2014-2015.

Total award: \$750,000 - Rutgers’/Bekris’ participation: \$230,000.

PUBLICATION LIST

Journal Articles

1. Morgan, A., Hang, K., Wen, B., Bekris, K. E., Dollar, A., “Complex In-Hand Manipulation via Compliance-Enabled Finger Gaiting and Multi-Modal Planning”, *IEEE Robotics and Automation Letters (RA-L*, also appearing at ICRA), 2022.
2. Shah, D. S., Booth, J. W., Baines, R., Wang, K., Vespignani, M., Bekris, K. E., Kramer-Bottiglio, R., “Tensegrity Robotics”, *Soft Robotics*, 2021.
3. Shome, R., Solovey, K., Yu, J, Bekris, K. E. and Halperin, D., “Fast, High-Quality Two-Arm Rearrangement in Synchronous, Monotone Tabletop Setups”, *IEEE Transactions on Automation Science and Engineering*, 2021.
4. Feng, S.-W., Guo, T., Bekris, K. E. and Yu, J., “Team RuBot’s Experiences and Lessons from the ARIAC”, *Robotics and Computer-Integrated Manufacturing*, 2021.

5. Mitash, C., R. Shome, B. Wen, A. Boularias, and KE Bekris, "Task-Driven Perception And Manipulation For Constrained Placement Of Unknown Objects", IEEE Robotics and Automation Letters (RA-L, also appearing at ICRA), 2020
6. Kimmel, A., Shome, R. and Bekris, K. E., "Anytime Motion Planning For Prehensile Manipulation In Dense Clutter", Advanced Robotics, 2020.
7. Surovik, D., Wang, K., Vespignani, M., Bruce, J. and Bekris, K. E., "Adaptive Tensegrity Locomotion: Controlling A Compliant Icosahedron With Symmetry-Reduced Reinforcement Learning", International Journal of Robotics Research (IJRR), 2019.
8. Mitash, C., Boularias, A. and Bekris, K. E., "Physics-Based Scene-Level Reasoning For Object Pose Estimation In Clutter", International Journal of Robotics Research (IJRR), 2019.
9. Littlefield, Z., Surovik, D., Vespignani, M., Bruce, J. Wang, W. and Bekris, K. E., "Kinodynamic Planning For Spherical Tensegrity Locomotion With Effective Gait Primitives", International Journal of Robotics Research (IJRR), 2019.
10. Shome, R., Solovey, K., Dobson, A., Halperin, D. and Bekris, K. E., "DRTT*: Scalable And Informed Asymptotically-Optimal Multi-Robot Motion Planning, Autonomous Robots, 2019.
11. Sintov, A., Morgan, A., Kimmel, A., Dollar, A., Bekris, K. E. and Boularias, A., "Learning A State Transition Model Of An Underactuated Adaptive Hand", IEEE Robotics and Automation Letters (RA-L), 2019.
12. Kleinbort, M., Solovey, K., Littlefield, Z., Bekris, K. E. and Halperin, D. "Probabilistic Completeness Of RRT For Geometric And Kinodynamic Planning With Forward Propagation, IEEE Robotics and Automation Letters (RA-L), 2019.
13. Feld-Cook, E., Shome, R., Zaleski, R., Mohan, K., Kourtev, C., Bekris, K. E., Weiseil, C. and Shin, J., "Exploring The Utility Of Robots In Exposure Studies", Journal of Exposure Science and Environmental Epidemiology (JESEE), 2019.
14. Ricks, B., Dobson, A., Krontiris, A., Bekris, K. E., Kapadia, M. and Roberts, F., "Generation Of Crowd Arrival And Destination Locations/times In Complex Transit Facilities", The Visual Computer Journal, 2019.
15. Shuai, H., Stiffler, N., Krontiris, A., Bekris, K. E. and Yu, J., "Complexity Results And Fast Methods For Optimal Tabletop Rearrangement With Overhand Grasps", International Journal of Robotics Research (IJRR), (invited as one of the best papers of RSS'17), accepted, 2018.
16. Shuai, H., Stiffler, N., Bekris, K. E. and Yu, J., "Efficient, High-Quality Stack Rearrangement", IEEE Robotics and Automation Letters (RA-L) (also appearing at ICRA 2018), accepted, 2018.
17. Krontiris, A., Bekris, K. E., "Tradeoffs In The Computation Of Minimum Constraint Removal Paths For Manipulation Planning", Advanced Robotics Journal, vol. 31, pp. 1313-1324, 2017.
18. Correll, N., Bekris, K. E., Berenson, D., Brock, O., Causo, A., Hauser, K., Okada, K., Rodriguez, A., Romano, J. and Wurman, P., 2016. "Analysis and Observations From The First Amazon Picking Challenge", IEEE Transactions on Automation Science and Engineering (T-ASE), Issue 99, pp. 1-17, October 2016.
19. Li, Y., Littlefield, Z. and Bekris, K. E., "Asymptotically Optimal Sampling-based Kinodynamic Planning", International Journal of Robotics Research (IJRR), (invited as one of the best papers of WAFR'14), vol. 35, issue 5, pp. 528-564, April 2016.
20. Rennie, C., Shome, R., Bekris, K. E. and De Souza, F. A., 2016. "A Dataset For Improved RGBD-Based Object Detection And Pose Estimation For Warehouse Pick-And-Place", IEEE Robotics and Automation Letters (RA-L), (also appearing at ICRA 2016), vol. 1, issue 2, pp 1179 - 1185, February 2016.
21. Bekris, K. E., Shome, R., Krontiris, A., Dobson, A., "Cloud Automation: Precomputing Road Maps For Flexible Manipulation", IEEE/RAS Robotics and Automation Magazine (RAM), May 2015.
22. Dobson, A., Bekris, K. E., "Sparse Roadmap Spanners for Asymptotically Near-Optimal Motion Planning", International Journal of Robotics Research, 33(1), 2014.

23. Apostolopoulos, I., Folmer, E., Fallah, N., Bekris, K. E., "Integrated Online Localization and Navigation for People with Visual Impairments using Smart Phones", *ACM Transactions on Interactive Intelligent Systems*, 3(4), 2014.
24. Marble, J. D., Bekris, K. E., "Asymptotically Near-Optimal Planning with Probabilistic Roadmap Spanners", *IEEE Transactions on Robotics*, vol. 29, no.2, pp. 432-444, 2013.
25. Fallah, N., Bekris, K. E., Folmer, E., "Human Navigation Systems - A Survey", *Interacting with Computers*, vol. 25, no. 1, pp. 21-33, 2013.
26. Bekris, K. E., Grady, D. K., Moll, M. and Kavraki, L., "Safe Distributed Motion Coordination for Second-Order Systems with Different Planning Cycles", *International Journal of Robotic Research*, vol. 31, no. 2, pp. 129-149, February 2012.
27. Bekris, K. E., Tsianos, K. E. and Kavraki, L., "Safe and Distributed Kinodynamic Replanning for Vehicular Networks", *ACM Journal on Mobile Networks and Applications (MONET)*, 14:292-308, 2009.
28. Plaku, E., Bekris, K. E., Chen, B. Y., Ladd, A. M., and Kavraki, L., "Sampling-Based Roadmap of Trees for Parallel Motion Planning", *IEEE Transactions on Robotics*, vol. 21, n.4, pp. 597-608, August 2005.
29. Argyros, A. A., Bekris, K. E., Orphanoudakis, S. C., and Kavraki, L., "Robot homing by exploiting panoramic vision". *Autonomous Robots*, vol. 19, n. 1, pp. 7- 25, July 2005.
30. Ladd, A. M., Bekris, K. E., Rudys, A., Kavraki, L. and Wallach, D. S., "Robotics-Based Location Sensing Using Wireless Ethernet", *Wireless Networks*, vol. 11, no. 1-2, pp. 189-204, Jan. 2005.
31. Ladd, A. M., Bekris, K. E., Rudys, A., Kavraki, L., and Wallach, D. S., "On the Feasibility of Using Wireless Ethernet for Indoor Localization", *IEEE Transactions on Robotics and Automation*, 20(3), pp. 555-558, June 2004.
32. Bekris, K. E., Hatzopoulos, K., Kazazakis, G., Kontolemakis, G., Masvoula, M., Argyros, A. A., Trahanias, P., "PYTHEAS: An Integrated Robotic System with Autonomous Navigation Capabilities", *Journal of Image Processing and Communications*, vol.8, no.2, pp.81-92, 2002.

Edited Volumes

1. Goldberg, K., Abbeel, P. and Bekris, K. E. and Miller, L. (eds), "Algorithmic Foundations of Robotics XII", Proceedings of the Twelfth Workshop on the Algorithmic Foundations of Robotics, Springer Proceedings in Advanced Robotics book series (SPAR), volume 13, May 2020.
2. Kallman, M. and Bekris, K. E. (eds), "Proceedings of the International Conference on Motion in Games (MIG) 2012", Springer, Rennes, France, November 2012.

Book Chapters

1. Wang, R., Nakhimovich, D., Roberts, F. and Bekris, K. E., "Robotics as an Enabler of Resiliency to Disasters: Promises and Pitfalls", In *Resilience in the Digital Age*, Editors: Roberts, F. and Sheremet, I., Springer Lecture Notes in Computer Science (LNCS), 2021. 2021. <https://link.springer.com/book/10.1007/978-3-030-70370-7>
2. Bekris, K. E., Shome, R., "Asymptotically Optimal Sampling-Based Planners", In *Encyclopedia of Robotics*, 2020. <https://arxiv.org/abs/1911.04044>
3. Bekris, K. E., Argyros, A. A., and Kavraki, L., "Exploiting Panoramic Vision for Angle-Based Robot Navigation", In K. Daniilidis and R. Kleete, editors, *Imaging Beyond the Pinhole Camera*, Lecture Notes in Computer Science, Vol. 33, pp. 229-251, Springer, 2006.

Publications in Refereed Conferences

2022

1. Wen, B., Lian, W., Bekris, K. E., Schaal, S., "You Only Demonstrate Once: Category-Level Manipulation from Single Visual Demonstration", *Robotics: Science and Systems (RSS)*, 2022, *Nomination for Best Paper Award*.

2. Vieira, E., Granados, E., Sivaramakrishnan, A., Gameiro, M., Mischaikow, K., Bekris, K. E., "Morse Graphs: Topological Tools for Analyzing the Global Dynamics of Robot Controllers", Workshop on the Algorithmic Foundations of Robotics (WAFR), 2022.
3. Wang, R., Gao, K., Yu, J., Bekris, K. E., "Lazy Rearrangement Planning in Confined Spaces", International Conference on Automated Planning and Scheduling (ICAPS), 2022.
4. Lu, S., Wang, R., Miao, Y., Mitash, C., Bekris, K. E., "Online Object Model Reconstruction and Reuse for Lifelong Improvement of Robot Manipulation", IEEE International Conference on Robotics and Automation (ICRA), 2022, *Nomination for Best Paper Award in Manipulation*.
5. Wen, B., Lian, W., Bekris, K. E., Schaal, S., "CaTGrasp: Learning Category-Level Task-Relevant Grasping in Clutter from Simulation", IEEE International Conference on Robotics and Automation (ICRA), 2022.
6. Wang, K., Aanjaneya, M., Bekris, K. E., "A Recurrent Differentiable Engine for Modeling Tensegrity Robots Trainable with Low-Frequency Data", IEEE International Conference on Robotics and Automation (ICRA), 2022.
7. Wang, R., Miao, Y., Bekris, K. E., "Efficient and High-Quality Prehensile Rearrangement in Cluttered and Confined Spaces", IEEE International Conference on Robotics and Automation (ICRA), 2022.
8. Vieira, E., Nakhimovich, D., Gao, K., Wang, R., Yu, J., Bekris, K. E., "Persistent Homology for Effective Non-Prehensile Manipulation", IEEE International Conference on Robotics and Automation (ICRA), 2022.
9. Granados, E., Boularias, A., Bekris, K. E., Aanjaneya, M., "Model Identification and Control of a Mobile Robot with Omnidirectional Wheels Using Differentiable Physics", IEEE International Conference on Robotics and Automation (ICRA), 2022.
10. Liang, J., Wen, B., Bekris, K. E., Boularias, A., "Learning Sensorimotor Primitives of Sequential Manipulation Tasks from Visual Demonstrations", IEEE International Conference on Robotics and Automation (ICRA), 2022.
11. Gao, K., Lau, D., Huang, B., Bekris, K. E., Yu, J., "Fast High-Quality Tabletop Rearrangement in Bounded Workspace", IEEE International Conference on Robotics and Automation (ICRA), 2022.

2021

12. Morgan, A., Wen, B., Junchi, L., Boularias, A., Dollar, A., Bekris, K. E., "Vision-driven Compliant Manipulation for Reliable, High-Precision Assembly Tasks Conference", Robotics: Science and Systems, 2021.
13. Wen, B., Bekris, K. E., "BundleTrack: 6D Pose Tracking for Novel Objects without Instance or Category-Level 3D Models Inproceedings" In IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), 2021.
14. Wang, K., Aanjaneya, M., Bekris, K. E., "Sim2Sim Evaluation of a Novel Data-Efficient Differentiable Physics Engine for Tensegrity Robots Inproceedings", In IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), 2021.
15. Sivaramakrishnan, A., Granados, E., Karten, S., McMahon, T., Bekris, K. E., "Improving Kinodynamic Planners for Vehicular Navigation with Learned Goal-Reaching Controllers Inproceedings", IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), 2021.
16. Wang, R., Gao, L., Nakhimovich, D., Yu, J. and Bekris, K. E., "Uniform Object Rearrangement: From Complete Monotone Primitives to Efficient Non-Monotone Informed Search", In IEEE International Conference on Robotics and Automation (ICRA), 2021.
17. Meng, P., Wang, D., Balkcom, D., and Bekris, K. E., "Proof-Of-Concept Designs For The Assembly Of Modular, Dynamic Tensegrities Into Easily Deployable Structures", In ASCE Earth and Space Conference, Seattle, WA, 2021.

2020

18. Wen, B., C. Mitash, B. Ren, and KE Bekris, "se(3)-Tracknet: Data-Driven 6D Pose Tracking By Calibrating Image Residuals In Synthetic Domains", In IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), Las Vegas, NV, 2020.

19. Wang, R., C. Mitash, Shiyang Lu, and KE Bekris, "Safe And Effective Picking Paths In Clutter Given Discrete Distributions Of Object Poses", In IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), Las Vegas, NV, 2020.
20. Wang, K., M. Aanjaneya, and KE Bekris, "A First Principles Approach For Data-Efficient System Identification Of Spring-Rod Systems Via Differentiable Physics Engines", In Learning for Dynamics and Control (L4DC), Berkeley, CA, 2020.
21. Sintov, A., A Kimmel, B. Wen, A. Boularias, and KE Bekris, "Tools For Data-Driven Modeling Of Within-Hand Manipulation With Underactuated Adaptive Hands", In Learning for Dynamics and Control (L4DC), Berkeley, CA, 2020.
22. Shome, R., D. Nakhimovich, and KE Bekris, "Pushing The Boundaries Of Asymptotic Optimality In Integrated Task And Motion Planning", In Workshop on the Algorithmic Foundations of Robotics (WAFR), Oulu, Finland, 2020.
23. Shome, R., and KE Bekris, "Synchronized Multi-Arm Rearrangement Guided By Mode Graphs With Capacity Constraints", In Workshop on the Algorithmic Foundations of Robotics (WAFR), Oulu, Finland, 2020.
24. Wen, B., Mitash, C., Soorian, S., Kimmel, A., Sintov, A. and Bekris, K. E. "Robust, Occlusion-aware Pose Estimation for Objects Grasped by Adaptive Hands", In IEEE International Conference on Robotics and Automation (ICRA), Paris, France, 2020.
25. Sintov, A., Kimmel, A., Bekris, K. E., Boularias, A. "Motion Planning with Competency-Aware Transition Models for Underactuated Adaptive Hands", In IEEE International Conference on Robotics and Automation (ICRA), Paris, France, 2020.
26. Kleinbort, M., Solovey, K., Bonlli, R., Bekris, K. E., and Halperin, D. "RRT2.0 for Fast and Optimal Kinodynamic Sampling-Based Motion Planning", In IEEE International Conference on Robotics and Automation (ICRA), Paris, France, 2020.
27. Alikhani, M., Khalid, B., Shome, R., Mitash, C., Bekris, K. E. and Stone, M., "That And There: Judging The Intent Of Pointing Actions With Robotic Arms", Thirty-Fourth AAAI Conference on Artificial Intelligence (AAAI-20).

2019

28. Shome, R., Tang, W. N., Song, C., Mitash, C., Kourtev, C., Yu, J., Boularias, A. and Bekris, K. E., "Towards Robust Product Packing With A Minimalistic End-Effector", In IEEE International Conference on Robotics and Automation (ICRA), Montreal, Canada, 2019. *Nomination for Best Paper Award in Automation.* - <http://robotpacking.org/>
29. Mitash, C., Wen, B., Bekris, K. E. and Boularias, A., "Scene-Level Pose Estimation For Multiple Instances Of Densely Packed Objects" In Conference on Robot Learning (CoRL), Osaka, Japan.
30. Kimmel, A., Sintov, A., Tan, J., Wen, B., Boularias, A. and Bekris, K. E., "Belief-Space Planning Using Learned Models With Application To Underactuated Hands. In International Symposium on Robotics Research (ISRR), Hanoi, Vietnam.
31. Shome, R. and Bekris, K. E. "Anytime Multi-Arm Task And Motion Planning For Pick-And-Place Of Individual Objects Via Handoffs", In IEEE International Conference on Multi-Robot and Multi-Agent Systems (MRS), New Brunswick, NJ.

2018

32. Shome, R., Solovey, K., Yu, J., Bekris, K. E. and Halperin, D., "Fast And High-Quality Dual-Arm Rearrangement In Synchronous, Monotone Tabletop Setups", In Workshop on the Algorithmic Foundations of Robotics (WAFR), Mrida, Mxico.
33. Calli, B., Kimmel, A., Hang, K., Bekris, K. E. and Dollar, A., "Path Planning For Within-Hand Manipulation Over Learned Representations Of Safe States", In International Symposium on Experimental Robotics (ISER), Buenos Aires, Argentina.

34. Surovik, D., Bruce, J., Wang, K., Vespignani, M. and Bekris, K. E., "Any-Axis Tensegrity Rolling Via Bootstrapped Learning And Symmetry Reduction", In International Symposium on Experimental Robotics (ISER), Buenos Aires, Argentina.
35. Kimmel, A., Shome, R., Littlefield, Z. and Bekris, K. E., "Fast, Anytime Motion Planning For Prehensile Manipulation In Clutter", In 2018 IEEE-RAS 18th International Conference on Humanoid Robots (Humanoids 2018), Beijing, China.
36. Mitash, C., Boularias, A. and Bekris, K. E., "Robust 6D Pose Estimation With Stochastic Congruent Sets", In British Machine Vision (BMVC) conference, Newcastle, UK.
37. Zhu, S., Surovik, D., Boularias, A. and Bekris, K. E., "Efficient Model Identification For Tensegrity Locomotion", In IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), Madrid, Spain.
38. Littlefield, Z., and Bekris, K. E., "Efficient And Asymptotically Optimal Kinodynamic Motion Planning Via Dominance-Informed Regions", In IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), Madrid, Spain.
39. Zhu, S., Kimmel, A., Bekris, K. E. and Boularias, A., "Fast Model Identification Via Physics Engines For Data-Efficient Policy Search", In International Joint Conference on Artificial Intelligence (IJCAI), Stockholm, Sweden.
40. Rennie, C., and Bekris, K. E., "Discovering A Library Of Rhythmic Gaits For Spherical Tensegrity Locomotion", In IEEE International Conference on Robotics and Automation (ICRA), Brisbane, Australia.
41. Mitash, C., Boularias, A. and Bekris, K. E., "Improving 6D Pose Estimation Of Objects In Clutter Via Physics-Aware Monte Carlo Tree Search", In IEEE International Conference on Robotics and Automation (ICRA), Brisbane, Australia.
42. Surovik, D., and Bekris, K. E., "Symmetric Reduction Of Tensegrity Rover Dynamics For Efficient Data-Driven Control", In ASCE Earth and Space Conference, Symposium on "Tensegrity - Structural Concept and Applications", Cleveland, Ohio.

2017

43. Dobson, A. K. Solovey, R. Shome, D. Halperin, and Bekris, K. E., "Scalable, Asymptotically-Optimal Multi-Robot Motion Planning", In 1st IEEE International Symposium on Multi-Robot and Multi-Agent Systems (MRS), Los Angeles, CA, USA. *Best Paper Award*.
44. Shuai, J., Stiffler, N., Krontiris, A., Bekris, K. E. and Yu, J., "High-Quality Tabletop Rearrangement With Overhand Grasps: Hardness Results And Fast Methods", In Robotics: Science and Systems (RSS), Cambridge, MA, *Nominee for Best Student Paper Award*.
45. Surovik, D., and Bekris, K. E., "Deep Coverage: Motion Synthesis In The Data-Driven Era", In International Symposium on Robotics Research (ISRR), Puerto Varas, Chile.
46. Littlefield, Z., Surovik, D., Wang, W. and Bekris, K. E., "From Quasi-Static To Kinodynamic Planning For Tensegrity Locomotion", In International Symposium on Robotics Research (ISRR), Puerto Varas, Chile.
47. Chaitanya, M., Bekris, K. E. and Boularias, A., "A Self-Supervised Learning System For Object Detection Using Physics Simulation And Multi-View Pose Estimation", In IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), Vancouver, Canada.
48. Shome, R., and Bekris, K. E., "Improving The Scalability Of Asymptotically Optimal Motion Planning For Humanoid Dual-Arm Manipulators" In IEEE International Conference on Humanoid Robots, Birmingham, UK.
49. Littlefield, Z., and Bekris, K. E., "Informed Asymptotically Near-Optimal Planning For Field Robots With Dynamics", In 11th Conference on Field and Service Robotics (FSR), Zurich, Switzerland.
50. Azizi, V., Kimmel, A., Bekris, K. E. and Kapadia, M., "Geometric Reachability Analysis For Grasp Planning In Cluttered Scenes For Varying End-Effectors", In 13th IEEE International Conference on Automation Science and Engineering (CASE), Xi'an, China.

51. Liu, R., Kwak, D., Devarakonda, S., Bekris, K. E., Iftode, L., "Investigating Remote Driving Over The Lte Network", In AutomotiveUI, Oldenburg, Germany.

2016

52. Krontiris, A. and Bekris, K. E., "Efficiently Solving General Rearrangement Tasks: A Fast Extension Primitive For An Incremental Sampling-Based Planner", In International Conference on Robotics and Automation (ICRA), Stockholm, Sweden.
53. Littlefield, Z., Zhu, S., Kourtev, C., Psarakis, Z., Shome, R., Kimmel, A., Dobson, A., De Souza, F. A., and Bekris, K. E., "Evaluating End-Effector Modalities For Warehouse Picking: A Vacuum Gripper Vs A 3-Finger Underactuated Hand", In 12th annual IEEE International Conference on Automation Science and Engineering (IEEE CASE), Fort Worth, TX.
54. Littlefield, Z., Caluwaerts, K., Bruce, J. and SunSpiral, V. and Bekris, K. E., "Integrating Simulated Tensegrity Models With Efficient Motion Planning For Planetary Navigation", In International Symposium on Artificial Intelligence, Robotics and Automation in Space (i-SAIRAS 2016), Beijing, China.
55. Krontiris, A., Bekris, K. E. and Kapadia, M., "Acumen: Activity-Centric Crowd Authoring Using Influence Maps", In 29th International Conference on Computer Animation and Social Agents (CASA), Geneva, Switzerland.

2015

56. Krontiris, A., and Bekris, K. E., "Dealing With Difficult Instances of Object Rearrangement", In Robotics: Science and Systems (RSS), Rome, Italy, *Nominee for Best Paper and Best Student Paper Award*.
57. Littlefield, Z., Kurniawati, H., Bekris, K. E. and Klimenko, D., "The Importance Of A Suitable Distance Function In Belief-Space Planning", In International Symposium on Robotic Research (ISRR), Sestri Levante, Italy.
58. Dobson, A., Moustakides, G. V. and Bekris, K. E., "Geometric Probability Results For Bounding Path Quality In Sampling-Based Roadmaps After Finite Computation", In IEEE International Conference on Robotics and Automation (ICRA), Seattle, WA.
59. Dobson, A., and Bekris, K. E., "Planning Representations And Algorithms For Prehensile Multi-Arm Manipulation", In IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), Hamburg, Germany.
60. Krontiris, A. and Bekris, K. E. "Computational Tradeoffs Of Search Methods For Minimum Constraint Removal Paths", In Symposium on Combinatorial Search (SoCS), Dead Sea, Israel.
61. Kolchmeyer, R., Dobson, A., and Bekris, K. E., "Expected Path Degradation When Searching Over A Sparse Grid Hierarchy", In Symposium on Combinatorial Search (SoCS), Ein Gedi, Dead Sea, Israel.

2014

62. Li, Y., Littlefield, Z., Bekris, K. E., "Sparse Methods For Efficient Asymptotically Optimal Kinodynamic Planning", Workshop on the Algorithmic Foundations of Robotics (WAFR), Istanbul, Turkey, August 2014.
63. Krontiris, A., Shome, R., Dobson, A., Kimmel, A., Bekris, K. E., "Rearranging Similar Objects With A Manipulator Using Pebble Graphs" In IEEE-RAS International Conference on Humanoid Robots (HUMANOIDS), Madrid, Spain, November 2014.
64. Zhao, M., Shome, R., Yochelson, I., Bekris, K. E., Kowler, E. "An Experimental Study For Identifying Features Of Legible Manipulator Paths", International Symposium on Experimental Robotics (ISER), Marrakech/Essaouira, Morocco, June, 2014.
65. Kimmel, A., Bekris, K. E., "Decentralized Multi-Agent Path Selection Using Minimal Information", International Symposium on Distributed Autonomous Robotic Systems (DARS), Daejeon, Korea, November 2014.
66. Littlefield, Z., Krontiris, A., Kimmel, A., Dobson, A., Shome, R., Bekris, K. E., "An Extensible Software Architecture For Composing Motion And Task Planners", International Conference on Simulation, Modeling, and Programming for Autonomous Robots (SIMPAN), Bergamo, Italy, October 2014.

67. Dobson, A., Bekris, K. E., "Improved Heuristic Search For Computing Sparse Data Structures For Motion Planning" In Symposium on Combinatorial Search (SoCS), Prague, Czech Republic, August, 2014.

2013

68. Dobson, A., Bekris, K. E., "Finite-Time Near-Optimality Properties of Sampling-Based Motion Planners", IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), Tokyo Big Sight, Japan, November 3-7, 2013.
69. Littlefield, Z., Li, Y., Bekris, K. E., "Sampling-based Motion Planning with Asymptotic Near-Optimality Guarantees for Systems with Dynamics", IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), Tokyo Big Sight, Japan, November 3-7, 2013.
70. Krontiris, A., Luna, R., Bekris, K. E., "From Feasibility Tests to Path Planners for Multi-Agent Pathfinding", Symposium on Combinatorial Search (SoCS), Leavenworth, WA, USA, July 11-13, 2013.
71. Dobson, A., Bekris, K. E., "Improving Sparse Roadmap Spanners", IEEE International Conference on Robotics and Automation (ICRA), Karlsruhe, Germany, May 6-10, 2013.

2012

72. Kimmel, A., Dobson, A., Littlefield, Z., Krontiris, A., Marble, J., Bekris, K. E., "PRACSYS: An Extensible Architecture for Composing Motion Controllers and Planners", Simulation, Modeling and Programming for Autonomous Robots (SIMPAN), Tsukuba, Japan, 5-8 November, 2012.
73. Dobson, A., Krontiris, A., Bekris, K. E., "Sparse Spanner Roadmaps", Workshop on the Algorithmic Foundations of Robotics (WAFR), Boston, MA, 13-15 June 2012.
74. Fallah, N., Apostolopoulos, I., Bekris, K. E., Folmer, E., "The User as a Sensor: Navigating Users with Visual Impairments in Indoor Spaces using Tactile Landmarks", ACM SIGCHI Conference on Human Factors in Computing Systems (CHI-12), Austin, TX, May 5-10, 2012.
75. Kimmel, A., Dobson, A., Bekris, K. E., "Maintaining Team Coherence under the Velocity Obstacle Framework", Eleventh International Conference on Autonomous Agents and Multiagent Systems (AAMAS-12), Valencia, Spain, 2012.
76. Sajid, Q., Luna, R., Bekris, K. E., "Multi-Agent Pathfinding with Simultaneous Execution of Single-Agent Primitives", Fifth Symposium on Combinatorial Search (SoCS), Niagara Falls, CA, July 19-21, 2012.
77. Marble, J., Bekris, K. E., "Small Asymptotically Near-Optimal Roadmaps", IEEE International Conference on Robotics and Automation (ICRA-12), Minneapolis, MN, 2012.
78. Krontiris, T., Louis, S., Bekris, K. E., "Multi-Modal Path Planning for Dynamic Formations of Non-holonomic Systems", IEEE International Conference on Robotics and Automation (ICRA-12), Minneapolis, MN, 2012.
79. Apostolopoulos, I., Fallah, N., Folmer, E., Bekris, K. E., "Integrated Online Localization and Navigation for People with Visual Impairments using Smart Phones", IEEE International Conference on Robotics and Automation (ICRA-12), Minneapolis, MN, 2012.
80. Navkar, N. V., Deng, Z., Shah, D. J., Bekris, K. E., Tsekos, N., "Visual and Force-Feedback Guidance for Robot-Assisted Interventions in the Beating Heart with Real-Time MRI", IEEE International Conference on Robotics and Automation (ICRA-12), Minneapolis, MN, 2012.

2011

81. Marble, J. and Bekris, K. E., "Computing Spanners of Asymptotically Optimal Probabilistic Roadmaps", IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), San Francisco, CA, 25-30 Sept., 2011.
82. Luna, R. and Bekris, K. E., "Efficient and Complete Centralized Multi-Robot Path Planning", IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), San Francisco, CA, 25-30 Sept., 2011.

83. Krontiris, A. and Bekris, K. E.. "Using Minimal Communication to Improve Decentralized Conflict Resolution for Non-holonomic Vehicles", IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), San Francisco, CA, 25-30 Sept., 2011.
84. Marble, J. and Bekris, K. E.. "Asymptotically Near-Optimal is Good Enough for Motion Planning", 15th International Symposium on Robotics Research (ISRR), Flagstaff, AZ, Aug. 28 - Sept. 1, 2011.
85. Luna, R. and Bekris, K. E.. "Solving Fully-Coupled Multi-Robot Path Planning with Sequential Plans", Intern. Joint Conf. on Artificial Intelligence (IJCAI), Barcelona, Spain, July 11-22, 2011.
86. Krontiris, A., Louis, S. and Bekris, K. E.. "General Dynamic Formations for Non-holonomic Systems Along Planar Curvilinear Coordinates", IEEE Intern. Conf. on Robotics and Automation (ICRA), Shanghai, China, May 9-13, 2011.
87. Li, Y. and Bekris, K. E.. "Learning Approximate Cost-to-Go Metrics To Improve Sampling-based Motion Planning", IEEE Intern. Conf. on Robotics and Automation (ICRA), Shanghai, China, May 9-13, 2011.

2010

88. Grady, D. K., Bekris, K. E. and Kavraki, L.. "Asynchronous Distributed Motion Planning with Safety Guarantees under Second-Order Dynamics", Workshop on Algorithmic Foundations of Robotics (WAFR), Singapore, 13-15 Dec. 2010.
89. Krontiris, T., Louis, S. and Bekris, K. E., "Simulating Planar Aircraft Formations Along Curvilinear Coordinates", Third Int. Conf. on Motion in Games (MIG), Zeist, Netherlands, 14-16 Nov., 2010.
90. Luna, R. and Bekris, K. E., "Network-Guided Multi-Robot Path Planning in Discrete Representations", IEEE/RSJ Inter. Conf. on Intelligent Robots and Systems (IROS), Taipei, Taiwan, Oct. 2010.
91. Yuksel, M., Bekris, K. E., Evrenosogly, C. Y., Gunes, M. H., Fadali, S., Etezadi-Amoli, M., Harris, F., "Open Cyber-Architecture for Electrical Energy Markets", 1st IEEE LCN Workshop on Smart Grid Networking Infrastructure, Denver, Colorado, USA, 11-14 Oct. 2010.
92. Apostolopoulos, E., Fallah, N., Folmer, E. and Bekris K. E., "Feasibility of Interactive Localization and Navigation of People with Visual Impairments", IEEE Intelligent Autonomous Systems (IAS), 2010.
93. Luna, R., Oyama, A. and Bekris, K. E., "Network-Guided Multi-Robot Path Planning for Resource-Constrained Planetary Rovers", 10th Int. Symp. on Artificial Intelligence, Robotics and Automation in Space (i-SAIRAS), Sapporo, Japan, Aug. 2010.
94. Li, Y., and Bekris, K. E.. "Balanced State-Space Coverage in Planning with Dynamics", IEEE Intern. Conf. on Robotics and Automation (ICRA), Anchorage, AK, May 2010.

before 2010

95. Motwani, R., Harris, J.-F. and Bekris, K. E., "A Proposed Digital Rights Management System for 3D Graphics Using Biometric Watermarks", IEEE Inter. Workshop on Digital Rights Management (CCNC), 2009.
96. Bekris, K. E. and Kavraki, L., "Informed and Probabilistically Complete Search for Motion Planning under Differential Constraints", First International Symposium on Search Techniques in Artificial Intelligence and Robotics (STAIR), July 13 -14, Chicago, IL, 2008.
97. Bekris, K. E., Tsianos, K. and Kavraki, L., "A Distributed Protocol for Safe Real-Time Planning of Communicating Vehicles with Second-Order Dynamics", First Intl. Conference on Robot Communication and Coordination (ROBOCOMM), Athens, Greece, Oct. 15-17, 2007 - *Best Student Paper award*.
98. Bekris, K. E., Tsianos, K. and Kavraki, L., "A Decentralized Planner that Guarantees the Safety of Communicating Vehicles with Complex Dynamics that Replan Online", IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), San Diego, CA, 29 Oct.-2 Nov. 2007.
99. Bekris, K. E. and Kavraki, L., "Greedy but Safe Replanning under Kinodynamic Constraints", IEEE Intern. Conf. on Robotics and Automation (ICRA), pp. 704-710, Rome, Italy, April 2007.

100. Plaku, E., Bekris, K. E. and Kavraki, L., "OOPS for Motion Planning: An Online, Open-source, Programming System", IEEE International Conference on Robotics and Automation (ICRA), pp. 3711-3716, Rome, Italy, April 2007.
101. Bekris, K. E., Glick, M. and Kavraki, L., "Evaluation of Algorithms for Bearing-Only SLAM", IEEE Intern. Conf. on Robotics and Automation (ICRA), pp. 1937-1943, Orlando, FL, May 15-19, 2006.
102. Bekris, K. E., Argyros, A. A., and Kavraki, L., "New Methods for Reaching the Entire Plane with Angle-Based Navigation.", IEEE International Conference on Robotics and Automation (ICRA), pp. 2373-2378, New Orleans, LA, April 2004.
103. Akinc, M., Bekris, K. E., Chen, B. Y., Ladd, A. M., Plaku, E., and Kavraki, L., "Probabilistic Roadmaps of Trees for Parallel Computation of Multiple Query Roadmaps" Intern. Symposium on Robotics Research (ISRR), pp. 80-96, Sienna, Italy, October 2003. Proceedings published as: Springer Tracts in Advanced Robotics, vol. 15, editors: Dario, P. and Chatila, R.
104. Bekris, K. E., Chen, B. Y., Ladd, A. M., Plaku, E., and Kavraki, L., "Multiple Query Probabilistic Roadmap Planning Using Single Query Planning Primitives", IEEE/RJS Intern. Conf. on Intelligent Robots and Systems (IROS), pp. 656-661, Las Vegas, NV, October 2003.
105. Ladd, A. M., Bekris, K. E., Rudys, A., Marceau, G., Kavraki, L., and Wallach, D. S., "Robotics-Based Location Sensing using Wireless Ethernet", Eight ACM Intern. Conf. on Mobile Computing and Networking (MOBICOM), pp. 227-238, ACM Press, Atlanta, GE, September 2002.
106. Ladd, A. M., Bekris, K. E., Marceau, G., Rudys, A., Kavraki, L., and Wallach, D. S., "Using Wireless Ethernet for Localization", IEEE/RJS Intern. Conf. on Intelligent Robots and Systems (IROS), pp. 402-408, IEEE Press, Lausanne, Switzerland, 30 Sept. - 5 Oct. 2002.
107. Argyros, A. A., Bekris, K. E. and Orphanoudakis, S., "Robot Homing based on Corner Tracking in a Sequence of Panoramic Images", Computer Vision and Pattern Recognition Conference (CVPR), 11-13 December 2001, Hawaii, USA.
108. Bekris, K. E., K. Hatzopoulos, G. Kazazakis, G. Kontolemakis, M. Masvoula, N. Tsvourakis, A.A. Argyros and P. Trahanias., "PYTHEAS: An Integrated Robotic System with Autonomous Navigation Capabilities", Pan Hellenic Conference in Robotics and Automation (KTISIVIOS), 28-29 July 2001, Santorini, Greece.

Workshop Reports (Refereed)

1. Hofer, S., Bekris, K. E., Handa, A., Gamboa, J. C., Golemo, F., Mozifian, M., Atkeson, C., Fox, D., Goldberg, K., Leonard, J., Karen Liu, C., Peters, J., Song, S., Welinder, P., White, M., "Perspectives on Sim2Real Transfer for Robotics: A Summary of the R:SS 2020 Workshop", 2020.
2. Zhu, S., Surovik, D., Bekris, K. E. and Boularias, A., AAAI Spring Symposium Series, "Information-Efficient Model Identification For Tensegrity Robot Locomotion", Stanford University, CA, USA, 2018.
3. Hodan, T., R. Kouskouridas, T.-K. Kim, F. Tombari, K. E. Bekris, B. Drost, T. Groueix, K. Walas, V. Lepetit, A. Leonardis, C. Steger, F. Michel, C. Sahin, C. Rother, and J. Matas. 2018. ECCV Workshop Report "A Summary Of The 4Th International Workshop On Recovering 6D Object Pose", Munich, Germany, 2018.
4. Kimmel, A. and Bekris, K. E., "Scheduling Pick-And-Place Tasks For Dual-Arm Manipulators Using Incremental Search On Coordination Diagrams", Planning and Robotics (PlanRob), London, UK, 2016.
5. Kalokyri, V., Shome, R., Yochelson, I., Bekris, K. E., "A Single-Switch Scanning Interface for Robot Control by Quadriplegics", IEEE/RSJ IROS workshop on "Assistive Robots for Individuals with Disabilities: HRI Issues and Beyond", Chicago, IL, USA, September 2014.
6. Kimmel, A., Bekris, K. E., "Decentralized Adaptive Path Selection for Multi-Agent Conflict Minimization", ICAPS 2014 workshop on "Planning and Robotics", Portsmouth, NH, USA, June 2014.
7. Kimmel, A., Bekris, K. E., "Minimizing Conflicts Between Moving Agents over a Set of Non-Homotopic Paths Through Regret Minimization", AAAI 2013 Workshop on Intelligent Robotic Systems, held in conjunction with the Twenty-Seventh AAAI conference (AAAI-13), Bellevue, Washington, USA, July 2013.
8. Bekris, K. E., "Avoiding Inevitable Collision States: Safety and Computational Efficiency in Replanning with Sampling-based Algorithms", in the Workshop on Guaranteeing Safe Navigation in Dynamic Environments, held in conjunction with the Intl. Conf. on Robotics and Automation (ICRA), Anchorage, AK, May 2010.

9. Bekris, K. E., Tsianos, K. T. and Kavraki, L., "Real-Time Kinodynamic Planning: Physically-Realistic, Faster, Safer and Distributed", in the Workshop for Algorithmic Motion Planning for Autonomous Robots in Challenging Environments, held in conjunction with the Intl. Conf. on Intelligent Robots and Systems (IROS), San Diego, USA, Oct. - Nov. 2007.
10. Bekris, K. E., Ladd, A. and Kavraki, L., "Efficient Motion Planners for Systems with Dynamics", in the Workshop for Collision-free Motion Planning for Dynamic Systems, held in conjunction with the Intl. Conf. on Robotics and Automation (ICRA), Rome, Italy, April 2007.

Theses

1. Bekris, K. E., "Informed Planning and Safe Distributed Replanning under Physical Constraints", Computer Science, Houston, TX, Rice University (PhD Thesis), June 2008.
2. Bekris K E., "Reactive Range-Free Landmark Navigation without Scene Reconstruction", Computer Science, Houston, TX, Rice University (MS Thesis), February 2004.

HONORS

Awards, Nominations and Fellowships

- *Nomination for Best Paper Award* at the Robotics: Science and Systems (R:SS) conference taking place in New York City, NY, June, 2022.
- *Nomination for Best Paper Award in Manipulation* at the IEEE International Conference on Robotics and Automation (ICRA) taking place in Philadelphia, PA, May, 2022.
- *Nomination for Best Paper Award in Automation* at the IEEE International Conference on Robotics and Automation (ICRA) taking place in Montreal, Canada, May, 2019.
- *Best Paper* award at the 1st IEEE-RAS International Symposium on Multi-Robot and Multi-Agent Systems (MRS) conference taking place in Los Angeles, CA, December 2017.
- *Nomination for Best Student Paper* award at the "Robotics: Science and Systems" (RSS) conference taking place in Cambridge, MA, July 2017.
- *Early CAREER Faculty* award by the National Aeronautics and Space Administration, 2015-2018.
- *Nomination for Best Paper and Best Student Paper* award at the "Robotics: Science and Systems" (RSS) conference taking place in Rome, Italy, July 2015.
- Best Teacher Award from the Computer Science Graduate Student Society of Rutgers University, May 2015.
- Best Reviewer Award, "Robotics: Science and Systems" (RSS) conference, July 2014.
- *Nomination for Best Medical Robotics Paper* award at the IEEE International Conference on Robotics and Automation (ICRA) that took place in Minneapolis, MN, 2012.
- Leadership in *Ethical Science award* by PETA (People for the Ethical Treatment of Animals) for the development of a navigation system for blind people based on smartphone technology, 2012.
- *Best Student Paper* award at the First International Conference on Robot Communication and Coordination (ROBOCOMM), 2007.
- First place at the Poster Competition of the Corporate Affiliates Meeting, Rice University, 2007.
- Nettie S. Autrey Graduate Fellowship, Rice University, 2006.
- First place at the Poster Competition of the Corporate Affiliates Meeting, Rice University, 2006.
- George R. Brown Fellowship, Rice University, for excellent academic performance, 2004.
- Hellenic Professional Society of Texas Scholarship, 2002.
- University of Crete - Computer Science Dept., Best Student Award for the class of 2001.
- Greek Government Fellowship (IKY) for excellence in undergraduate studies: '98, '99, '00, 2001.

Invited Papers

- Paper invited to the International Journal of Robotics Research (IJRR), 2018.
As one of the best papers of ISRR 2017.

- Paper invited to Autonomous Robots, 2018.
As one of the best papers of MRS 2017.
- Paper invited to the International Journal of Robotics Research (IJRR), 2017.
As one of the best papers of RSS 2017.
- Paper invited to the International Journal of Robotics Research (IJRR), 2015.
As one of the best papers of WAFR 2014.
- Paper invited to the IEEE/RAS Robotics & Automation Magazine (RAM), 2015.
For the Special Issue on Cloud Robotics.
- Paper invited to the International Journal of Robotics Research (IJRR), 2014.
As one of the best papers of WAFR 2012.
- Paper invited to the International Journal of Robotics Research (IJRR), 2012.
- Paper invited to the ACM Journal on Mobile Networks and Applications (MONET), 2009.
As one of the best papers of ROBOCOMM 2008.
- Paper invited to the collection Imaging Beyond the Pinhole Camera, 2006.
- Paper invited to ACM Journal on Mobile Networks and Applications (MONET), 2005.
As one of the best papers of MOBICOM 2003.
- Paper invited to the journal “Image Processing and Communications”, 2001.

TEACHING

Rutgers University

Spring 2022	CS440	“Introduction to Artificial Intelligence” 55 students	Instructor
Fall 2021	CS460/560	“Introduction to Computational Robotics” 75 students	Instructor
Spring 2019	CS672	“Seminar on Algorithms for Robot Manipulation” 12 students	Instructor
Fall 2018	CS460/560	“Introduction to Computational Robotics” 105 students	New Course Material
Spring 2018	CS672	“Seminar on Algorithms for Robot Manipulation” 12 students	Instructor
Fall 2017	CS440	“Introduction to Artificial Intelligence” 100 students	Instructor
Spring 2017	CS440	“Introduction to Artificial Intelligence” 150 students	Instructor
Fall 2016	CS520	“Introduction to Artificial Intelligence” 88 students	Instructor
Fall 2015	CS598	“Topics in AI: Introduction to Manipulation” 25 students	New Course Development
Spring 2015	CS673	“CS Seminar: Manipulation Planning” 7 students	Instructor
Fall 2014	CS440/520	“Introduction to Artificial Intelligence” 79 students	Instructor
Spring 2014	CS344	“Design and Analysis of Computer Algorithms” 112 students	Instructor
Fall 2013	CS673	“CS Seminar: Computing Motion” 17 students	New Course Development
Spring 2013	CS344	“Design and Analysis of Computer Algorithms” 105 students	Updating Course Material

University of Nevada, Reno

Spring 2012	CS773	"Optimal Control and Reinforc. Learning"	New Course Development
Spring 2012	CS382	"Introduction to AI"	Instructor
Fall 2011	CS282	"Simulation Physics"	Instructor
Spring 2011	CS790E	"Planning Algorithms"	Instructor
Fall 2010	CS282	"Simulation Physics"	New Course Development
Fall 2010	CS793E	"Motion Planning Seminar"	Seminar Coordinator
Spring 2010	CS790E	"Planning Algorithms"	Instructor
Spring 2010	CS483/683	"Multi-Agent Systems"	Instructor
Fall 2009	CS482/682	"Artificial Intelligence"	Instructor
Spring 2009	CS790E	"Planning Algorithms"	New Course Development
Spring 2009	CS483/683	"Multi-Agent Systems"	New Course Development
Fall 2008	CS482/682	"Artificial Intelligence"	Updating Course Material

Rice University

Fall 2006	COMP450	"Algorithmic Robotics"	Instructor for 4 Lectures
Fall 2005	COMP450	"Algorithmic Robotics"	Instructor for 4 Lectures
Fall 2003	COMP482	"Design and Analysis of Algorithms"	Teaching Assistant
Spring 2003	COMP280	"The Mathematics of Computation"	Teaching Assistant
Fall 2002	COMP482	"Design and Analysis of Algorithms"	Teaching Assistant
Spring 2002	COMP280	"The Mathematics of Computation"	Teaching Assistant
Fall 2001	COMP482	"Design and Analysis of Algorithms"	Teaching Assistant

ACADEMIC ADVISING

Alumni of Research Group

◦ Doctoral students

- **Bowen Wen** (Fall 2018 - Spring 2022).
PhD Thesis: "Beyond Instance-level Reasoning in Object Pose Estimation and Tracking for Robotic Manipulation"
Joined NVidia Research in Seattle, WA.
- **Chaitanya Mitash** (Fall 2015 - Summer 2020) (co-advised with Abdeslam Boularias).
PhD Thesis: "Scalable, Physics-aware 6D Pose Estimation for Robot Manipulation"
Joined Amazon Robotics in Boston, MA.
- **Rahul Shome** (Fall 2013 - Spring 2020).
PhD thesis: "The Problem of Many: Efficient Multi-arm, Multi-object Task and Motion Planning with Optimality Guarantees"
Upon graduation joined Rice University as a postdoc. Now *faculty at Australian National University (ANU)*.
- **Zakary Littlefield** (Fall 2012 - Fall 2019) - A NASA STR fellow
PhD Thesis: "Efficient and Asymptotically Optimal Kinodynamic Motion Planning"
Upon graduation joined Uber Robotics in Pittsburgh, PA. Now with Aurora.
- **Andrew Kimmel** (Fall 2012 - Summer 2019)
All But Dissertation - Joined Amazon Robotics in Boston, MA.
- **Thanasis Krontiris** (Fall 2012 - Summer 2017).
PhD Thesis: "Hierarchical Frameworks for Efficient Prehensile Rearrangement with a Robotic Manipulator"
Upon graduation joined the autonomous driving start-up "Auto X" in Palo Alto, CA. Now with Google.
- **Andrew Dobson** (Fall 2012 - Summer 2017) - A DHS fellow
PhD Thesis: "Compact Representations for Efficient Robot Motion Planning with Formal Guarantees"
Upon graduation joined the University of Michigan, Ann Arbor as a postdoc. Now with the State of CA.

◦ Master of Science with Thesis

- @ Rutgers - Thesis option

- **Shaojun Zhu** (Fall 2015 - Spring 2018).
- **Zacharias Psarakis** (Fall 2015 - Spring 2018).
- **Chris Kourtev** (Fall 2015 - Fall 2017).
- **Colin Rennie** (Fall 2014 - Summer 2017).
- **Aditya Chukka** (Fall 2015 - Spring 2017).
- **Min Zhao** (Psychology/CS - Co-advised with Prof. Eileen Kowler) (Fall 2013 - Summer 2014).

@ University of Nevada, Reno

- **James Marble** (Fall 2010 - Spring 2012).
McKenzie Engineering Foundation Scholarship
- **Ryan Luna** (Fall 2009 - Spring 2011).
Best MS Thesis award, Computer Science and Engin. department, UNR, 2011
- **Yanbo Li** (Spring 2009 - Spring 2011).
- **Ilias Apostolopoulos** (Fall 2009 - Spring 2011).

On-going PhD Thesis Supervision

o Doctoral students

- **Kun Wang** (Fall 2017 - today). Expected graduation: Fall 2022.
- **Rui Wang** (Fall 2017 - today). Expected graduation: Fall 2022.
- **Aravind Sivaramakrishnan** (Fall 2018 - today). Expected graduation: Summer 2023.
- **Shiyang Lu** (Fall 2019 - today).
- **Edgar Granados** (Fall 2019 - today).
- **Daniel Nakhimovich** (Fall 2019 - today). [On leave from Fall 2021 to Spring 2023]
- **Yinglong Miao** (Fall 2020 - today).
- **Isidoros Maroungkas** (Fall 2021 - today).
- **Noah Carver** (Fall 2022 - today).
- **Nelson Chen** (Fall 2022 - today).
- **Rachel Lai** (Fall 2022 - today).

Undergraduate Research Supervision

@ Rutgers University

- Jack Lowry (Spring 2021 - Summer 2022)
- Jasmine Flanders (Summer 2021) [Project SUPER for Women in STEM]
- Daniel Boehm (Fall 2019 - Spring 2020) [Aresty fellow]
Collaboration resulted in 1 conference publication with Daniel as a co-author.
- Sruthi Soorian (Summer 2019 - Spring 2020) [Project SUPER for Women in STEM]
Collaboration resulted in 1 conference publication with Sruthi as a co-author.
- Seth Karten (Summer 2018 - Spring 2021)
Collaboration resulted in 1 conference publication with Seth as a co-author.
- Patrick Meng (Summer 2017 - Spring 2021)
Collaboration resulted in 1 conference publication with Seth as a first author.
- Nicholas Griego (Fall 2017)
- Han Meng (Summer 2015 - Summer 2016) [Aresty Fellow and CCICADA researcher]
- Robert Gross (Summer 2014 - Summer 2016)
- Robert Kolchmeyer (Fall 2014 - Summer 2015) [Aresty Fellow]

Collaboration resulted in 1 conference publication with Robert as a first author.

- Andrew Wells (Summer 2015) [DIMACS REU Fellow - CUA student]
- Poorva Sampat (Summer 2014 - Summer 2015) [REU Fellow, CCICADA RA]
- Meera Murti (Summer 2014 - Summer 2015) [CCICADA RA]
- Ainesh Bakshi (Fall 2014 - Spring 2015) [Aresty Fellow]
- Gautam Venkatesan (Summer 2014) [Aresty Fellow]
- Priyesh Shah (Summer 2014)
- Grisam Shah (Summer 2014)
- Isaac Yochelson (Summer 2013 - May 2014) - Joined Lockheed Martin
Collaboration results in 1 conference publication.
- Ellyn Thwaite (Summer 2013 - May 2014)
- Joseph Jaeger (Summer 2013) - Joined the graduate program of UCSD.

@ University of Nevada, Reno

- Qandeel Sajid (Summer 2011 - Summer 2012) - 1 conference paper - Joined USC as graduate student.
- Jared Rhizor (Fall 2011 - Spring 2012) - Joined LiveRamp.
- Justin Cardoza (Fall 2011 - Spring 2012).
- Zakary Littlefield (Fall 2010 - Summer 2011). Joined lab on Fall of 2011 as a graduate student.
- Ethan Pang (Fall 2010 - Summer 2011). Joined Micon Technology, Inc. - Fall 2011.
- Andrew Dobson (Spring 2009-Spring 2010). Joined lab on Fall of 2010 as a graduate student.
- Alexis Oyama (Summer 2009-Spring 2010) - Collaboration resulted in 1 conference publication.
Joined the MS program of the Entertainment Technology Center at Carnegie Mellon University

@ Rice University

- Max Glick (Summer 2005) - Collaboration resulted in 1 conference publication.
- Mert Akinc (Spring - Summer 2003) - Collaboration resulted in 1 conference publication.

Mentoring High-School Students

@ Rutgers University

- o Kunaal Chaudhari from the High Technology High School in Lincroft, NJ: "Robotics Internships for K-12 students in Computer Science" (Summer and Fall 2017).
- o Nikos Mouchtaris from Governor Livingston High School, NJ: "Remote Control of a Manipulator via a Virtual Reality Interface" (Summer 2015 & Summer 2016).
- o Alistair Kapadia (Summer 2016).
- o Alexander Yao (Summer 2016).
- o Jackson Meng from Peddie School in Hightstown, NJ: "3D Printing of a Robotic Hand" (Summer 2014).

PROFESSIONAL SERVICE

Conference Program Chair & Co-Chair

- o Robotics: Science and Systems (R:SS), Korea, July 2023.
Program Chair
- o Workshop on the Algorithmic Foundations on Robotics (WAFR), Berkeley, California, December 2016.
(co-chair with Prof. Ken Goldberg - UC Berkeley and Prof. Pieter Abbeel - UC Berkeley)
- o Motion in Games Conference (MIG), Rennes, France, November 2012.

(co-chair with Prof. Marcello Kallmann - UC Merced)

<http://www.motioningames.org/>

Editorial Work for Academic Journals

- Associate Editor of the IEEE flagship publication in robotics: IEEE Transactions on Robotics (RO) [Summer 2015 - Summer 2016]
- Associate Editor for the IEEE Robotics and Automation Letters (RA-L) (Summer 2015 - Summer 2016, Fall 2018 - Spring 2019).
- Invited Editor for the International Journal of Robotics Research issue on WAFR 2016 (2017, with Prof. Lydia Kavraki of Rice University) - 12 articles.
- Invited Editor for the IEEE Transactions on Automation Science issue on WAFR 2016 (2017, with Prof. Ron Alterovitz of Univ. of North Carolina, Chapel Hill) - 9 articles.

Senior Program Committee, Editor, Area Chair and Associate Editor for Refereed Conferences

- Senior Program Committee Member: IEEE International Conference on Intelligent Robots and Systems (IROS)
 - Las Vegas, Nevada, October 2020.
- Editor: IEEE International Conference on Robotics and Automation (ICRA)
 - Philadelphia, PA, USA, June 2022.
 - Online, June 2021.
 - Paris, France, June 2020.
- Area Chair for "Robotics: Science and Systems" (RSS) - <http://www.roboticsconference.org>:
 - New York, NY, USA, June 2022.
 - Boston, MA, USA, June 2017.
 - Ann Arbor, MI, USA, June 2016.
 - Rome, Italy, July 2015.
- Associate Editor: International Symposium of Robotics Research (ISRR)
 - Geneva, Switzerland, September 25-30, ISRR 2022
- Associate Editor: IEEE International Conference on Robotics and Automation (ICRA)
 - Seattle, WA, USA, May 26-30, ICRA 2015
 - Karlsruhe, Germany, May 6-10, ICRA 2013
 - Minneapolis, Minnesota, May 14-18, ICRA 2012
 - Shanghai, China, May 9-13, ICRA 2011
 - Anchorage, AK, USA, May 3-8, ICRA 2010
 - Kobe, Japan, May 12-17, ICRA 2009
- Associate Editor: IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)
 - Hamburg, Germany, September 28 - October 3, IROS 2015
 - Chicago, IL, USA, September 14-18, IROS 2014
 - Tokyo Big Sight, Japan, November 3-7, IROS 2013
 - Vilamoura, Algarve, Portugal, October 7-12, IROS 2012
 - San Francisco, CA, USA, September 25-30, IROS 2011
- Workshops Co-chair for RSS, Berkeley, CA, USA, July 2014 (with Prof. Sertac Karaman - MIT).

Local Program Chair - Event Organization @ Rutgers

- Rutgers Robotics Workshop, September, 2022.
- Rutgers Robotics Workshop, September, 2021.
- 2nd IEEE Multi-Robot and Multi-Agent Systems (MRS) conference, August, 2019.

- Northeast Robotics Colloquium (NERC) 2018, October, 2018.

Workshop/Symposia Co-chair

- 3rd Workshop on “Closing the Reality Gap in Sim2Real Transfer for Robotics”
Collocated with Robotics: Science and Systems (RSS), July 2022, New York City, NY
(together with Ankura Handa, Florian Golemo, Melissa Mozifian)
- 2nd Workshop on “Closing the Reality Gap in Sim2Real Transfer for Robotics”
Collocated with Robotics: Science and Systems (RSS), July 2020, Online
(together with Sebastian Hofer, Ankura Handa, Juan Camilo Gamboa, Florian Golemo, Melissa Mozifian)
- Workshop on “Automation for Warehouse Logistics”
Collocated with the IEEE Inter. Conference on Automation Science and Engineering (CASE), 21 August 2016, Fort Worth, TX
(together with Dr. Alberto Rodriguez, MIT)
- Workshop on “Optimal Robot Motion Planning”
Collocated with the IEEE Intern. Conference on Robotics and Automation (ICRA), 26 May 2015, Seattle, WA
(together with Dr. Sidd Srinivasa, Carnegie Mellon University)
- Symposium related to the RSS 2015 Area Chair Meeting “Frontiers of Robotics”
Organized at the Rutgers University Inn, 27 March 2015, New Brunswick, NJ
(co-chaired with Prof. David Hsu, National University of Singapore)
- 1st International Multiagent Pathfinding Workshop
Collocated with the AAAI Conference on Artificial Intelligence (AAAI), 22 July 2012, Toronto, Ontario, Canada
(together with Dr. Nathan Sturtevant, U. of Denver and Dr. Ariel Felner, Ben Gurion University, Israel)
- Workshop on “Open Problems and Challenges of Motion Planning”
IEEE International Conference on Intelligent Robots and Systems (IROS), 30 Sept. 2011, San Francisco, CA
(together with Dr. Tim Bretl, UIUC and Prof. Dan Halperin, Tel-Aviv University, Israel)
- Symposium on the “Foundations and Prospects of Sampling-based Motion Planning”
Special Symposium celebrating the 50 years of Robotics Research
IEEE International Conference on Intelligent Robots and Systems (IROS), 27 Sept. 2011, San Francisco, CA
(Invited to organize - together with Prof. Steve LaValle, UIUC)
- Workshop on “Guaranteeing Motion Safety for Robots”
Robotics: Science and Systems (RSS), 27 June 2011, Los Angeles, California.
(together with Dr. Thierry Fraichard - INRIA, France and Dr. Jur van den Berg -UNC Chapel Hill)
- Workshop on “Motion Planning: From Theory to Practice”
Robotics: Science and Systems (RSS), 27 June 2010, Zaragoza, Spain
(together with Ron Alterovitz - UNC Chapel Hill, Juan Cortes - INRIA, France and Kris Hauser, U. of Indiana)
- Workshop on “Algorithmic Motion Planning for Autonomous Robots in Challenging Environments”
International Conference on Intelligent Robots and Systems (IROS), 29 Oct. 2007, San Diego
(together with Lydia Kavraki - Rice University and Manuela Veloso - CMU)

IEEE Robotics and Automation Society (RAS) Activities

- Member of the IEEE RAS Conference Activities Board - 2016-2018.
- <http://www.ieee-ras.org/about-ras/governance/conference-activities-board>
- Co-chair of the IEEE Robotics and Automation Society Technical Committee on “Algorithms for Planning and Control of Robot Motion” (Fall '09 - Summer '15)
- <http://www.robotmotion.org/>

Conference Steering Committee

- Motion in Games Conference, 2013 - 2017
<http://www.motioningames.org/>

Program Committee Member / Reviewer

- Robotics-Science and Systems (RSS)

- Corvallis, OR, USA, July 12-16, 16th RSS, 2020
- Pittsburgh, PA, USA, June 26-30, 14th RSS, 2018
- Berkeley, CA, USA, July 12-16, 10th RSS, 2014
- Berlin, Germany, June 24-28, 9th RSS, 2013
- Sydney, Australia, June 25-29, 8th RSS, 2012
- Los Angeles, CA, USA, June 27-30, 7th RSS, 2011
- o Workshop on the Algorithmic Foundations of Robotics (WAFR)
 - College Park, Maryland, June 22-24, 15th WAFR, 2022
 - Online, 14th WAFR, 2020
 - Mérida, México, December 9-11, 13th WAFR, 2018
 - Istanbul, Turkey, August 3-5, 11th WAFR, 2014
 - Boston, MA, USA, 13-15 June, 10th WAFR, 2012
- o Conference on Robot Learning (CoRL)
 - Auckland, NZ, Dec. 14-18, 6th CoRL, 2022
 - London, UK, Nov. 8-10, 5th CoRL, 2021
- o International Symposium of Robotics Research (ISRR)
 - Hanoi, Vietnam, October 6-10, ISRR, 2019
- o The AAAI Conference on Artificial Intelligence (AAAI)
 - Austin, TX, USA, 29th AAAI, January 25-29 2015
 - Quebec City, Quebec, Canada, 28th AAAI, July 27-31 2014
 - Bellevue, Washington, USA, 27th AAAI, July 14-18 2013
 - Toronto, Ontario, Canada, 26th AAAI, July 22-26 2012
 - San Francisco, CA, USA, 25th AAAI (Physically-Grounded AI Track), August 7-11 2011
- o Distributed Autonomous Robotic Systems (DARS)
 - London, UK, November 7-9 2016
- o Symposium on Combinatorial Search (SoCS)
 - Ein Gedi, Dead Sea, Israel, 8th SoCS, June 11-13, 2015
 - Prague, Czech Republic, 7th SoCS, August 15-17, 2014
 - Seattle area, Washington, USA, 6th SoCS, July 11-13, 2013
- o International Conference on Simulation, Modeling, and Programming for Autonomous Robots (SIMPAN)
 - Bergamo, Italy, 4th SIMPAR, October 20-23, 2014
- o International Workshop on Software Cybernetics (IWSC)
 - Seoul, Korea, July 19-20, 2010.
- o International Symposium on Visual Computing (ISVC)
 - Las Vegas, NV, Nov. 29 - Dec. 1, ISVC 2009
- o 6th Inter. Conference on Information Technology - New Generations (ITNG)
 - Las Vegas, NV, USA, April 27-29, 2009.

Proposal Review Panel

- o NSF National Robotics Initiative (3 panels - multiple proposals).
- o NSF CISE IIS Division - Robust Intelligence Program - Small & medium proposals (3 panels - multiple proposals).
- o NSF CAREER in Robust Intelligence - CISE IIS Division (2 panels - multiple proposals)
- o NSF AI Institutes (1 panel - multiple proposals)
- o NSF CRII proposals in Robust Intelligence - CISE IIS Division (1 panel - multiple proposals)

- NSF Smart and Autonomous Systems proposals (1 panel - multiple proposals)
- NASA Early Stage Innovation (1 panel - multiple proposals)
- Natural Sciences and Engineering Research Council of Canada - Strategic Project Grants Program (one proposal).
- Natural Sciences and Engineering Research Council of Canada - Discovery Grants Program (one proposal).

Journal Article Review

- International Journal of Robotic Research (IJRR).
- IEEE Transactions on Robotics (IEEE TR) / former Transactions on Robotics and Automation (IEEE TRA).
- IEEE Robotics and Automation Society Magazine (IEEE RAS).
- Autonomous Robots.
- IEEE Transactions on Automation Science and Engineering (IEEE TASE).
- Journal of Autonomous Agents and Multi-Agent Systems (J-AAMAS).
- IEEE Transactions on Computational Intelligence and AI in Games (IEEE TCIAIG).
- SIAM Journal on Control and Optimization (SICON).
- IEEE Transactions on Mobile Computing (TMC).
- IFToMM Mechanism and Machine Theory.

UNIVERSITY SERVICE

Rutgers University Committees

- RU Strategic Planning Committee (Fall '13).

Rutgers School of Arts and Sciences Committees

- Appointments and Promotions Committee (2018-19).
- SAS Communications Advisory Board (2019)

Computer Science Committees @ Rutgers University

- CS Hiring Committee (2013-15, 2017-18, 2021-22).
- CS Website Committee (2014-19).
- CS Graduate Committee (2013-14, 2018-19).
- CS PhD Admissions Committee (2013-14, 2018-19).
- CS MS Program Committee (2016-17).
- CS MS Admissions Committee (2015-16).
- CS Colloquium Committee (2012-15).

Committees @ University of Nevada, Reno

- CSE Graduate Recruitment, Evaluation and Curriculum Committee (Fall '08-Spring '09, Fall '10-Spring '12).
- CSE Undergraduate Curriculum Committee (Fall '08-Spring '12).
- CSE Faculty Evaluation Committee (For 2011 - Jan. 2012).
- CSE Colloquia Committee (Fall '09-Spring '12), which organized 49 colloquia during Sept. '09 - Nov. '11.
- CSE Facilities Committee (Fall '08 - Spring '10).

ABET Accreditation @ University of Nevada, Reno (2011)

- Prepared self-evaluation and ABET accreditation material for the following courses:

- CS282 - “Simulation Physics”
 - CS482 - “Artificial Intelligence”
 - CS483 - “Multi-Agent Systems: Coordination Protocols and Game Theory”
 - Prepared one chapter of the CSE department’s report for the 2011 ABET review.
-

TALKS & MEDIA

Invited Talks or Academic Visits

- May 2022: Robot Versatility Workshop, Lehigh University, Lehigh, PA.
- January 2022: Contextual Robotics Institute, Univ. of California, San Diego, CA (remote).
- October 2021: GaTech TRIPODS Seminar, Georgia Tech, GA (remote).
- September 2021: Utah Robotics Seminar, University of Utah, UT (remote).
- June 2020: Rice University, Houston, TX (remote).
- February 2020: KTH Royal Institute of Technology, Stockholm, Sweden.
- November 2019: 30 year celebration of DIMACS, New Brunswick, NJ, USA.
- July 2019: Nokia/Bell Labs, New Jersey, USA.
- July 2019: Apple, CA, USA.
- June 2019: Amazon Robotics AI, Seattle, USA.
- December 2018: Columbia University, New York City, New York, USA.
- October 2018: Brain Corporation, San Diego, CA, USA.
- October 2018: University of California, San Diego - San Diego, CA, USA.
- October 2018: Samsung Robotics Research, New York City, New York, USA.
- July 2018: Google Brain, New York City, New York, USA.
- November 2017: Computational Geometry Seminar, Tel Aviv University, Israel.
- November 2016: Robotics seminar, Computer Science Department, Columbia University, NY, USA.
- July 2016: NASA Tensegrity and Soft Robotics Technical Exchange 2016, Moffett Field, CA, USA.
- June 2016: IEEE RAS Summer School on Multi-Robot Systems, Nat. University of Singapore, Singapore.
- April 2016: Computer Science and Artificial Intelligence Laboratory (CSAIL), MIT, Boston, MA.
- April 2016: Computer Science, Northeastern University, Boston, MA.
- April 2016: Computer Science and Engineering, Texas A&M University, College Station, TX.
- March 2016: Johnson Space Center, Houston, TX.
- March 2016: Computer Science department, Rice University, Houston, TX.
- February 2016: UC Berkeley Laboratory for Automation Science and Engineering, Berkeley, CA.
- October 2015: Dagstuhl seminar on “Multi-Modal Manipulation under Uncertainty”, Dagstuhl, Germany.
- September 2015: Robotics and Biology Laboratory, Technical University of Berlin, Germany.
- September 2015: DroneBots Workshop, New Jersey Tech Council, Holmdel, NJ.
- June 2015: Computational Geometry Lab, Tel Aviv University, Israel.
- October 2014: GRASP lab, University of Pennsylvania, PA.
- January 2014: NASA Ames, Ames, CA.
- October 2013: NSF workshop “Robot Planning in the Real World”, Washington, DC.
- April 2013: Department of Computer Science and Engineering, Lehigh University.
- November 2012: Mechanical Engineering & Mechanics department, Drexel University.

- November 2012: Perceptual Science Talk, Rutgers University.
- November 2012: Computational Geometry Lab, School of Computer Science, Tel Aviv University.
- June 2012: Willow Garage, CA.
- April 2012: Mobility and Robotic Systems Section, Jet Propulsion Laboratory (JPL).
- March 2012: Computer Science Department, Rutgers University.
- February 2012: Computer Science Department, University of Southern California.
- November 2011: NASA Ames, Ames, CA.
- April 2011: Electrical and Computer Engineering, University of Illinois, Chicago.
- April 2011: Department of Computer Science and Engineering, Washington University in St. Louis.
- April 2011: Electrical Engineering and Computer Science, University of California, Merced.
- March 2011: Computer Science Department, George Washington University.
- January 2011: Computer Science Department, Rice University.
- July 2010: Berkeley Automation Science Lab, University of California, Berkeley.
- April 2008: Department of Computer and Information Sciences, Fordham University, NY.
- March/April 2008: Computer Science and Engineering Department, University of Nevada, Reno.
- January 2008: Computer Science Department, Texas A&M University.
- April 2007: Computational Vision and Robotics Laboratory at ICS, FORTH, Crete, Greece.
- February 2007: A lecture of CS294 DARPA Grand Challenge, Computer Science, Stanford University.
- March 2005: Computer Science Department, Texas A&M University.
- January 2004: Computational Vision and Robotics Laboratory at ICS, FORTH, Crete, Greece.

In Conferences and Workshops

- May 2022: IEEE ICRA workshop on “Compliant Robot Manipulation”, Philadelphia, PA, USA.
- April 2022: R:SS Area Chair Seminar meeting, remote.
- April 2022: RoboSoft workshop on “How to Make Better Soft Robots through Design Optimization”, remote.
- July 2019: PlanRob workshop at ICAPS 2019, Berkeley, CA, USA.
- October 2018: IEEE/RSJ IROS workshop on “Robotics for Logistics in Warehouses and Environments Shared with Humans”, Madrid, Spain.
- September 2018: 4th International Workshop on Recovering 6D Object Pose during ECCV, Munich, Germany.
- July 2018: The 27th International Joint Conference on Artificial Intelligence (IJCAI), Stockholm, Sweden.
- June 2018: “Exhibition and Benchmarking of Task-Motion Planners” workshop of RSS 2018, CMU campus, Pittsburgh, PA, USA.
- May 2018: New England Manipulation Symposium (NEMS), Yale University, New Haven, CT, USA.
- December 2017: Workshop of ISRR 2017, Santiago, Chile.
- November 2017: National Robotics Initiative meeting of the National Science Foundation, Washington, DC, USA.
- September 2017: IROS Workshop on “Development of Benchmarking Protocols for Robot Manipulation”, Vancouver, Canada.
- July 2017: NASA/ESA AHS Workshop on “Structurally Adaptive Tensegrity Robots”, CalTech campus, Pasadena, CA, USA.
- August 2016: IEEE Conference on Automation Science and Engineering (CASE, Fort Worth, TX, USA).
- August 2016: IEEE CASE Workshop on “Automation for Warehouse Logistics”, Fort Worth, TX, USA.
- July 2016: IJCAI Workshop on “Multi-Agent Path Finding”, New York City, NY, USA.
- June 2016: RSS Workshop on “Task and Motion Planning”, Ann Arbor, MI, USA.
- February 2016: Thirtieth AAAI Conference on Artificial Intelligence (AAAI-16), Phoenix, Arizona.

- September 2015: International Symposium on Robotics Research (ISRR), Sestri Levante, Italy.
- July 2015: RSS Workshop on “Principles of Multi-Robot Systems”, Rome, Italy.
- May 2015: New England Manipulation Symposium (NEMS), Northeastern University, Boston, MA.
- March 2015: Symposium on “Frontiers of Robotics” associated with the RSS 2015 Area Chair Meeting, New Brunswick, NJ.
- October 2014: International Conference on Simulation, Modeling, and Programming for Autonomous Robots (SIMPAN 2014), Bergamo, Italy.
- August 2014: Symposium on Combinatorial Search (poster highlight and poster), Prague, Czech Republic.
- June 2014: International Symposium on Experimental Robotics (poster highlight and poster), Marrakesh, Morocco.
- May 2014: IEEE ICRA workshop on “Motion Planning for Industrial Robots”, Hong-Kong, China.
- May 2014: IEEE ICRA workshop on “On the centrality of decentralization in multi-robot systems: holy grail or false idol?”, Hong-Kong, China.
- May 2014: New England Manipulation Symposium (NEMS) - Columbia University, NYC, USA.
- August 2013: IEEE/NSF Workshop in Cloud Automation and Manufacturing - CASE, Madison, WI, USA.
- May 2013: Tutorial on Motion Planning for Mobile Manipulation - ICRA, Karlsruhe, Germany.
- May 2013: Workshop on Combining Task and Motion Planning - ICRA, Karlsruhe, Germany.
- November 2012: Simulation, Modeling and Programming for Autonomous Robots (SIMPAN), Tsukuba, Japan.
- July 2012: Workshop On Multi-Agent Pathfinding - AAIL, Toronto, CA.
- May 2012: IEEE International Conference on Robotics and Automation (ICRA) - Minneapolis, MN.
- Sept. 2011: Workshop on “Open Problems & Challenges of Motion Planning” - IROS 2011, San Francisco, CA.
- June 2011: Workshop on “Guaranteeing Motion Safety for Robots” - RSS, Los Angeles, CA.
- May 2011: IEEE International Conference on Robotics and Automation (ICRA) - Shanghai, China.
- March 2011: Southwest Workshop on Theory and Applications of Cyber-Physical Systems - Tucson, AZ.
- December 2010: Workshop on the Algorithmic Foundations of Robotics - WAFR, Singapore.
- June 2010: Workshop “Motion Planning: From Theory to Practice” - RSS, Zaragoza, Spain.
- May 2010: Guaranteeing Safe Navigation in Dynamic Environment (ICRA) - Anchorage, AK.
- July 2008: First Intl Symp. on Search Techniques in AI and Robotics (STAIR) - Chicago, IL.
- November 2007: Intern. Conference on Intelligent Robots and Systems (IROS) - San Diego, CA.
- Oct. 2007: Workshop on “Motion Planning in Challenging Environments” - IROS, San Diego, CS.
- Oct. 2007: First Intern. Conf. on Robot Communication and Coordination (ROBOCOMM) - Athens, Greece.
- April 2007: Workshop on “Collision-free Motion Planning for Dynamic Systems” - ICRA, Rome, Italy.
- April 2007: IEEE International Conference on Robotics and Automation (ICRA) - Rome, Italy.
- May 2006: IEEE International Conference on Robotics and Automation (ICRA) - Orlando, FL.
- April 2004: IEEE International Conference on Robotics and Automation (ICRA) - New Orleans, LA.
- September 2002: ACM Conference on Mobile Computing and Networking (MOBICOM) - Atlanta, GA.
- July 2001: Pan Hellenic Conference in Robotics and Automation (KTISIVIOS) - Santorini, Greece.

Research Highlighted in Media

- NSF Research News, Rutgers News and multiple media reports highlighted work on “Robot Packing”, July 2019 https://www.nsf.gov/discoveries/disc_summ.jsp?cntn_id=298828&WT.mc_id=USNSF_1.
- Robohub coverage of work on “Tensegrity Control”, August 2017 <http://robohub.org/tensegrity-control/>.
- Bloomberg highlighting Rutgers participation at Amazon Picking Challenge '15: <http://bloom.bg/1dlUrLV>.
- Article: “Robot Sensing and Smartphones to Help Blind Navigate” by Helen Knight, New Scientist, May 2012.
- Article: “Smartphone app could help blind navigate indoors” by Devin Coldewey, MSNBC, May 2012.

OUTREACH

Demonstrations to the public visiting the campus

- *High-School Teachers Visit*: 1 August 2018
- *Rutgers Day*: 28 April 2017, 30 April 2016, 25 April 2015, 26 April 2014
- *UNR STEM Open House*: 18 November 2010

Visits by K-12 Students to the Lab

- Local K-12 outreach: 11 April 2017, 25 February 2016.
- Take your Child at Work (at CBIM - Coorganized with CCICADA/DIMACS) event: 24 April 2014, 25 April 2013.
- *Nevada Bound*: 3 December 2010, 29 January 2010, 20 February 2009
- 25 March 2011, Davidson Academy of Nevada

Visits to High-Schools

- 10 January 2014, New Milford High School, NJ & 3 November 2010, Davidson Academy of Nevada

Lectures for the Public

- DroneBots Workshop, New Jersey Tech Council, Holmdel, NJ, September 2015.
- Robotics Lecture Series (organizing and speaking) - Osher Lifelong Learning Institute - UNR: 16 October 2011 and 31 October 2011.

Judge at the Intel International Science & Engineering Fair (Intel ISEF)

- Reno, Nevada, May 10-16 2009.
-

MENTORING TEAMS IN ROBOTIC COMPETITIONS

Amazon Picking Challenge

- Participation in the First APC, Seattle, WA, 2015 (<https://www.youtube.com/watch?v=kWrI4zCU5f4>)
 - 17 points and 7th place out of 28 participating teams and 40 registered

NIST - Agile Robotics for Industrial Automation Competition

- Participation in the 2nd iteration, Spring 2019 as co-mentor with Dr. Jingjin Yu of student Siwei Feng,
 - Siwei got the 2nd spot in the competition
-

ACADEMIC HOSTING

Host for Visiting Faculty

- Prof. Alberto Ferreira De Souza, Computer Science Department, Federal University of Espirito Santo, Brazil: September 2014 to August 2015
- Prof. Hao (Howard) Tang, Computer Science Department, Borough of Manhattan Community College, City University of New York: June to August 2015
- Prof. Victor M. Gonzalez, Department of Systems and Automation, University of Oviedo, Spain: Summer 2014

Host for Visiting Students

- Shan Yunxiao, Ph.D. candidate, Wuhan University - Scholar of the China Scholarship Council: September 2015 to August 2016.

- Edgar Granados, MS student, Department of Digital Systems, Instituto Tecnológico Autónomo de México, Summer 2018. Joined research group as a PhD student.
-