Curriculum Vitae
Hadas Kress-Gazit

(Updated October 2021)

Geoffrey S.M. Hedrick Sr. Professor
Sibley School of Mechanical and Aerospace Engineering
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RESEARCH INTERESTS

Robotics, Autonomy, Formal Methods for Robotics, Motion Planning, Task Planning, Synthesis, Verification, Hybrid Systems, Language for Robotics, Human Robot Interaction, Modular Robots, Swarm Robotics.

PROFESSIONAL EXPERIENCE

Geoffrey S.M. Hedrick Sr. Professor (July 2021 - Present)
Sibley School of Mechanical and Aerospace Engineering
Cornell University, Ithaca, NY.

Professor (Nov 2020 - Present)
Sibley School of Mechanical and Aerospace Engineering
Cornell University, Ithaca, NY.

Associate Professor (July 2015 - Oct 2020)
Sibley School of Mechanical and Aerospace Engineering
Cornell University, Ithaca, NY.

Assistant Professor (Jan. 2009 - June 2015)
Sibley School of Mechanical and Aerospace Engineering
Cornell University, Ithaca, NY.

Post-Doctoral Researcher (Aug. 2008 - Dec. 2008)
GRASP Lab, University of Pennsylvania, Philadelphia, PA, USA.

Research Assistant (Sept. 2003 - Aug. 2008)
GRASP Lab, University of Pennsylvania, Philadelphia, PA, USA. Developed methods to create robot controllers that are guaranteed to satisfy high level tasks under the ARO ACCLIMATE and MURI SUBTLE grants.

Engineer (Sep. 2001 - Aug. 2003)
Missile division, RAFAEL, Israel. Designed navigation algorithms using MATLAB based tools and simulations. Wrote specifications for real-time software and integrated the navigation segment into a complete system.

Engineer (Oct. 1999 - Sep. 2001)
Chip Design group of IBM's Haifa Design Center, Israel. Developed models for design validation.

Integrated verification environments, wrote and ran tests using VHDL, Formal Verification, Perl and internal IBM tools.

EDUCATION

University of Pennsylvania (August 2008), Philadelphia, PA, USA
Ph.D. in Electrical Engineering, Department of Electrical and Systems Engineering
Advisor: Prof. George J. Pappas

University of Pennsylvania (May 2005), Philadelphia, PA, USA
Master of Science in Engineering, Department of Electrical and Systems Engineering
Advisor: Prof. George J. Pappas

Technion (Jan 2002), Haifa, Israel
B.Sc Cum Laude, Department of Electrical Engineering

AWARDS & HONORS

Outstanding Reviewer Award, ICRA 2021

Excellence in Research Award, Cornell University, 2020

IEEE Fellow, class of 2020

Named to "30 women in Robotics you need to know about" list, 2020

Kenneth A. Goldman '71 Teaching Award, Cornell University, 2019

NAE US-EU Frontiers of Engineering speaker, 2019

Best Late Breaking Report award, 2019 IEEE Robot and Human Interactive Communication

Senior faculty champion award, Cornell University, 2019

Best Systems Paper, Finalist Best Paper and Best Student Paper - 2016 Robotics: Science and Systems

NAE US Frontiers of Engineering participant, 2014

Fiona Ip Li '78 and Donald Li '75 Excellence in teaching award, Cornell University, 2013

Robotics: Science and Systems Early Career Spotlight Presentation 2013 (selected by the Robotics: Science and System Board)

DARPA Young Faculty Award (2012-2014)

NSF CAREER Award (2010-2015)

Finalist – Best Paper 2007 IEEE/RSJ International Conference on Intelligent Robots and Systems

Finalist – Best Student Paper 2007 International Conference on Robotics and Automation

TEACHING EXPERIENCE AT CORNELL

MAE 4180/5180, CS 3758, ECE 4180/5772: *Autonomous Mobile Robots* (Spring 2010-2021)
Senior and graduate-level elective 4-credit course.
Enrollment: 48 (S '10), 28 (S '11), 26 (S '12), 38 (S '13), 37 (S '14), 35 (S '15), 46 (S '17), 64 (S '19), 49 (S '20), 68 (s '21)

MAE 6770, CS 6752: Formal Methods for Robotics (Fall 2014, Fall 2017, Fall 2019, Fall 2021)
PhD-level elective 3-credit course.
Enrollment: 15 (F '14 offered as a special topics course MAE 6950), 20 (F '17), 24 (F '19), 14 (F '21)

MAE 6740, CS 5761: *Hybrid Systems* (Spring 2009, Fall 2011)
PhD-level elective 4-credit course.
Enrollment: 20 (S '09), 18 (F '11)

MAE 3780: *Mechatronics* (Fall 2010, Fall 2013, Fall 2016, Fall 2017, Fall 2020)
Junior-level 4-credit course, fulfills Mechanical Engineering major requirement for electrical circuits.
Enrollment: 116 (F '10), 161 (F '13), 143 (F '16), 147 (F '17), 134 (F '20)

MAE 6950: *Community-Engagement and Technology* (Spring 2019, Spring 2020)
PhD level, 1-credit seminar on community engaged research. Co-taught with Dr. Amanda Wittman from Engaged Cornell.
Enrollment: 13 (S '19), 5 (S '20)

PUBLICATIONS

Journal Publications and Book Chapters

28. J. Chen, S. Moarref, and **H. Kress-Gazit**, Centralized and Decentralized Control of Robotic Swarms from High-level Specifications, in revision.

27. **H. Kress-Gazit**, K. Eder, G. Hoffman, H. Admoni, B. Argall, R. Ehlers, C. Heckman, N. Jansen, R. Knepper, J. Křetínský, S. Levy Tzedek, J. Li, T. Murphey, L. Riek, D. Sadigh, Formalizing and Guaranteeing* Human-Robot Interaction, Communications of the ACM, Vol. 64 No. 9, Pages 78-84, 2021.

26. D. Gundana, and **H. Kress-Gazit**, Event-Based Signal Temporal Logic Synthesis for Single and Multi-Robot Tasks, Robotics and Automation Letters (RA-L), vol. 6, no.2, pp. 3687–3694, 2021.

25. S. Tellex, N. Gopalan, **H. Kress-Gazit**, and Cynthia Matuszek, Robots That Use Language: A Survey, Annual Review of Control, Robotics, and Autonomous Systems, vol. 3, no. 1, pp. 25–55, 2020.

24. S. Moarref and **H. Kress-Gazit**, Automated Synthesis of Decentralized Controllers for Robot Swarms From High-Level Temporal Logic Specifications, Autonmous Robots, no. 44, pp. 585-–600, 2019.

23. J. Daudelin, G. Jing, T. Tosun, M. Yim, **H. Kress-Gazit**, and M. Campbell, An Integrated System for Perception-Driven Autonomy with Modular Robots, Science Robotics, vol. 3, no.23, 2018.

22. K.W. Wong, R. Ehlers, and **H. Kress-Gazit**, Resilient, Provably-correct, High-level Robot Behaviors, IEEE Transactions on Robotics, vol. 34, no.4, pp. 936–952, 2018.

21. M. Lahijanian, M. Svorenova, A. Morye, B. Yeomans, D. Rao, I. Posner, P. Newman, **H. Kress-Gazit** and M. Kwiatkowska, Resource-Performance Trade-off Analysis for Mobile Robots, Robotics and Automation Letters, vol. 3, no.3, pp. 1840–1847, 2018.

20. G. Jing, T. Tosun, M. Yim and **H. Kress-Gazit**, Accomplishing High-Level Tasks with Modular Robots, Autonomous Robots, vol. 42, no. 7, pp. 1337–1354, 2018.

19. **H. Kress-Gazit**, M. Lahijanian and V. Raman, Synthesis for Robots: Guarantees and Feedback for Robot Behavior, Annual Review of Control, Robotics, and Autonomous Systems, vol. 1, no. 1, pp. 211–236, 2018.

18. J. Alonso-Mora, J. A. DeCastro, V. Raman, D. Rus and **H. Kress-Gazit**, Reactive Mission and Motion Planning with Deadlock Resolution Avoiding Dynamic Obstacles, Autonomous Robots,vol. 42, no.4, pp. 801–824, 2018.

17. K.W. Wong and **H. Kress-Gazit**, Robot Operating System (ROS) Introspective Implementation of High-Level Task Controllers, Journal of Software Engineering for Robotics (JOSER) Special Issue on the IRC 2017 Conference, vol. 8, no.1, pp. 65–77, 2017.

16. B. Johnson, F. Havlak, **H. Kress-Gazit** and M. Campbell, Experimental Evaluation and Formal Analysis of High-Level Tasks with Dynamic Obstacle Anticipation on a Full-Sized Autonomous Vehicle, Journal of Field Robotics, vol. 34, no.5, pp. 897–911, 2017.

15. J. A. DeCastro, R. Ehlers, M. Rungger, A. Balkan and **H. Kress-Gazit**, Automated Generation of Dynamics-Based Runtime Certificates for High-Level Control, Discrete Event Dynamic Systems, vol. 27, no.2, pp. 371–405, 2017.

14. A. Romay, S. Maniatopoulos, S. Kohlbrecher, P. Schillinger, A. Stumpf, **H. Kress-Gazit**, O. von Stryk, D. Conner, Collaborative Autonomy Between High-Level Behaviors and Human Supervisors for Remote Manipulation Tasks using Different Humanoid Robots, Journal of Field Robotics Special Issue on the DARPA Robotics Challenge Finals, vol. 34, no.2, pp. 333–358, 2017.

13. M. Lahijanian, M. Maly, D. Fried, L. Kavraki, **H. Kress-Gazit** and M. Vardi, Iterative Temporal Planning in Uncertain Environments with Partial Satisfaction Guarantees, IEEE Transactions on Robotics, vol. 32, no.3, pp. 583 - 599, 2016.

12. B. Johnson and **H. Kress-Gazit**, Analyzing and Revising Synthesized Controllers for Robots with Sensing and Actuation Errors, International Journal of Robotics Research, vol. 34, no.6, pp. 816-832, 2015.

11. V.Raman, N. Piterman, C. Finucane, **H. Kress-Gazit**, Timing Semantics for Abstraction and Execution of Synthesized High-Level Robot Control, IEEE Transactions on Robotics, vol. 31, no.3, pp. 591-604, 2015.

10. C. Lignos, V. Raman, C. Finucane, M. Marcus and **H. Kress-Gazit**, Provably Correct Reactive Control from Natural Language, Autonomous Robots, vol. 38, no. 1, pp. 89-105, 2015.

9. J. A. DeCastro, **H. Kress-Gazit**, Synthesis of Nonlinear Continuous Controllers for Verifiably-Correct High-Level, Reactive Behaviors, International Journal of Robotics Research, vol. 34, no. 3, pp. 378-394, 2015.

8. R. Alur, R. Bodík, E. Dallal, D. Fisman, P. Garg, G. Juniwal, **H. Kress-Gazit**, P. Madhusudan, M. M. K. Martin, M. Raghothaman, S. Saha, S. A. Seshia, R. Singh, A. Solar-Lezama, E. Torlak and A. Udupa, Syntax-Guided Synthesis, Dependable Software Systems Engineering, pp. 1-25, 2015.

7. V. Raman and **H. Kress-Gazit**, Explaining Impossible High-Level Robot Behaviors, IEEE Transactions on Robotics, vol. 29, no. 1, pp. 94-104, 2013.

6. B. Johnson and **H. Kress-Gazit**, Probabilistic Guarantees for High-Level Robot Behavior in the Presence of Sensor Error, Autonomous Robots, vol.33, no.3, pp.309-321, 2012.

5. **H. Kress-Gazit**, T. Wongpiromsarn and U. Topcu, Correct, Reactive Robot Control from Abstraction and Temporal Logic Specifications. Special Issue of the IEEE Robotics and Automation Magazine on Formal Methods for Robotics and Automation, vol.18, no.3, pp.65-74, Sept. 2011.

4. **H. Kress-Gazit**, G. E. Fainekos and G. J. Pappas, Temporal Logic-based Reactive Mission and Motion Planning. IEEE Transactions on Robotics, vol. 25, no. 6, pp. 1370-1381, 2009.

3. G. E. Fainekos, A. Girard, **H. Kress-Gazit** and G. J. Pappas, Temporal Logic Motion Planning for Dynamic Mobile Robots. Automatica, vol. 45, no. 2, pp. 343-352, February 2009, Elsevier

2. **H. Kress-Gazit**, G. E. Fainekos and G. J. Pappas, Translating Structured English to Robot Controllers. Invited paper, Advanced Robotics Special Issue on Selected Papers from IROS 2007, vol. 22, no. 12, pp. 1343-1359, 2008.

1. **H. Kress-Gazit**, D. C. Conner, H. Choset, A. Rizzi and G. J. Pappas, Courteous cars: Decentralized multiagent traffic coordination. Special Issue of the IEEE Robotics and Automation Magazine on Multi-Agent Robotics, vol. 15, no. 1, pp. 30-38, 2008.

Peer-reviewed Conference Publications:

71. A. Fang and **H. Kress-Gazit**, Automated Task Updates of Temporal Logic Specifications for Heterogeneous Robots, International Conference on Robotics and Automation (ICRA) 2022, in review.

70. David Gundana and **H. Kress-Gazit**, Satisfaction of Event-Based Signal Temporal Logic Tasks with Disjunctions in Complex Environments, International Conference on Robotics and Automation (ICRA) 2022, in review.

69. J. Chen, R. Sun, and **H. Kress-Gazit**, Distributed Control of Robotic Swarms from Reactive High-level Specifications, IEEE International Conference on Automation Science and Engineering (CASE), August 2021.

68. J. Chen, Y. Liu, A. Pacheck, **H. Kress-Gazit**, N. Napp, and K. Petersen, Errors in Collective Robotic Construction, DARS-SWARM, June 2021.

67. C. Bradley, A. Pacheck, G. Stein, S. Castro, **H. Kress-Gazit**, and N. Roy, Learning and Planning for Temporally Extended Tasks in Unknown Environments, International Conference on Robotics and Automation (ICRA), May 2021.

66. C. Liang and **H. Kress-Gazit**, Homotopy-Driven Exploration of Human-made Spaces Using Signs, International Conference on Robotics and Automation (ICRA), May 2021.

65. A. Martin, K. Cheng, A. Fang, Z. Zheng, **H. Kress-Gazit**, A. Mehta, D. Selva, and Y. Sun, Decentralized Context-Based On-Board Planning for Earth Observation Missions, AIAA Scitech 2021 Forum, Jan 2021.

64. J. Chen, H. Wang, M. Rubenstein, and **H. Kress-Gazit**, Automatic Control Synthesis for Swarm Robots from Formation and Location-based High-level Specifications, International Conference on Intelligent Robots and Systems (IROS), Oct 2020.

63. G. Scher and **H. Kress-Gazit**, Warehouse Automation in a Day: From Model to Implementation with Provable Guarantees, International Conference on Automation Science and Engineering (CASE), August 2020.

62. T. Campos, S, Marri, and **H. Kress-Gazit**, Automated Synthesis of Modular Manipulators' Structure and Control for Continuous Tasks around Obstacles, Robotics: Science and Systems (RSS), July 2020.

61. A. Pacheck, S. Moarref, and **H. Kress-Gazit**, Finding Missing Skills for High-Level Behaviors, International Conference on Robotics and Automation (ICRA) 2020.

60. A. Kubota, E. Peterson, V. Rajendren, **H. Kress-Gazit**, and L. D. Riek, JESSIE: Synthesizing Social Robot Behaviors for Personalized Neurorehabilitation and Beyond, ACM/IEEE International Conference on Human-Robot Interaction (HRI), March 2020.

59. A. Kshirsagar, **H. Kress-Gazit**, and G. Hoffman, Specifying and Synthesizing Human-Robot Handovers, International Conference on Intelligent Robots and Systems (IROS), Macao SR, November 2019.

58. A. Kshirsagar, **H. Kress-Gazit**, and G. Hoffman, Human-Robot Handovers with Signal Temporal Logic Specifications, Late Breaking Report at the 28th IEEE International Conference on Robot and Human Interactive Communication (Ro-Man), New Delhi, India, October 2019. **Best late breaking report award**

57. A. Pacheck, G. Konidaris, and **H. Kress-Gazit**, Automatic Encoding and Repair of Reactive High-Level Tasks with Learned Abstract Representations, The International Symposium on Robotics Research (ISRR), Hanoi, Vietnam, October 2019.

56. T. Campos, J. P. Inala, A. Solar-Lezama, and **H. Kress-Gazit**, Task-Based Design of Ad-hoc Modular Manipulators, International Conference on Robotics and Automation (ICRA), Montreal, Canada, May 2019.

55. S. Hamill, J. Whitehead, P. Ferenz, R. Shepherd, and **H. Kress-Gazit**, Resilient Task Planning and Execution for Reactive Soft Robots, International Conference on Robotics and Automation (ICRA), Montreal, Canada, May 2019.

54. T. Campos, A. Pacheck, G. Hoffman and **H. Kress-Gazit**, SMT-Based Control and Feedback for Social Navigation, International Conference on Robotics and Automation (ICRA), Montreal, Canada, May 2019.

53. S. Moarref and **H. Kress-Gazit**, Reactive Synthesis for Robotic Swarms, 16th International Conference on Formal Modeling and Analysis of Timed Systems (FORMATS), Beijing, China, September 2018.

52. J. Chen, S. Moarref and **H. Kress-Gazit**, Verifiable Control of Robotic Swarm from High-level Specifications, International Conference on Autonomous Agents and Multiagent Systems (AAMAS), Stockholm, Sweden, July 2018.

51. T. Tosun, J. Daudelin, G. Jing, **H. Kress-Gazit**, M. Campbell and M. Yim, Perception-Informed Autonomous Environment Augmentation With Modular Robots, IEEE International Conference on Robotics and Automation, Brisbane, Australia, May 2018.

50. **H. Kress-Gazit** and H. Torfah, The Challenges in Specifying and Explaining Synthesized Implementations of Reactive Systems, 3rd Workshop on formal reasoning about Causation, Responsibility, and Explanations in Science and Technology (CREST), Thessaloniki, Greece, April 2018.

49. S. Moarref and **H. Kress-Gazit**, Decentralized Control of Robotic Swarms from High-Level Temporal Logic Specifications, International Symposium on Multi-Robot and Multi-Agent Systems (MRS), Los Angeles, CA, December 2017.

48. A. Boteanu, J. Arkin, S. Patki, T. Howard and **H. Kress-Gazit**, Robot-Initiated Specification Repair through Grounded Language Interaction, 2017 AAAI Fall Symposium on Natural Communication for Human-Robot Collaboration, Arlington, VA, November 2017.

47. J. Arkin, M. Walter, A. Boteanu, M. Napoli, H. Biggie, **H. Kress-Gazit**, and T. Howard, Contextual Awareness: Understanding Monologic Natural Language Instructions for Autonomous Robots, IEEE International Symposium on Robot and Human Interactive Communication, (RO-MAN), Lisbon, Portugal, August 2017.

46. G. Jing, T. Tosun, M. Yim and **H. Kress-Gazit**, An End-to-End System for Accomplishing Tasks with Modular Robots: Perspectives for the AI community, International Joint Conference on Artificial Intelligence (IJCAI) 2017 - invited to "Sister Conference Best Paper Track", Melbourne, Australia, August 2017.

45. K.W. Wong and **H. Kress-Gazit**, From High-Level Task Specification to Robot Operating System (ROS) Implementation, IEEE International Conference on Robotic Computing, Taichung, Taiwan, April 2017.

44. S. Hamill, B. Peele, P. Ferenz, M. Westwater, R. Shepherd and **H. Kress-Gazit**, Gait Synthesis for Modular Soft Robots, International Symposium on Experimental Robotics (ISER) , Tokyo, Japan, October 2016.

43. A. Boteanu, T. Howard, J. Arkin and **H. Kress-Gazit**, A Model for Verifiable Grounding and Execution of Complex Language Instructions , IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), Daejeon, Korea, October 2016.

42. K.W. Wong and **H. Kress-Gazit**, Need-based Coordination for Decentralized High-level Robot Control, IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), Daejeon, Korea, October 2016.

41. G. Jing, T. Tosun, M. Yim and **H. Kress-Gazit**, An End-To-End System for Accomplishing Tasks with Modular Robots, Robotics: Science and Systems (RSS), Ann Arbor, Michigan, USA, June 2016. **Best systems paper award, finalist for best paper and best student paper awards**

40. S. Maniatopoulos, P. Schillinger, V. Pong, D. C. Conner and **H. Kress-Gazit**, Reactive High-level Behavior Synthesis for an ATLAS Humanoid Robot, IEEE International Conference on Robotics and Automation, Stockholm, Sweden, May 2016.

39. J. DeCastro and **H. Kress-Gazit**, Nonlinear Controller Synthesis and Automatic Workspace Partitioning for Reactive High-Level Behaviors, Hybrid Systems: Computation and Control (HSCC), Vienna, Austria, April 2016.

38. J. DeCastro, J. Alonso-Mora, V.i Raman, D. Rus and **H. Kress-Gazit**, Collision-Free Reactive Mission and Motion Planning for Multi-Robot Systems, International Symposium of Robotics Research (ISRR), Sestri Levante, Italy, September 2015.

37. A. Mehta, J. DelPreto, K. W. Wong, S. Hamill, **H. Kress-Gazit** and D. Rus, Robot Creation from Functional Specifications, International Symposium of Robotics Research (ISRR), Sestri Levante, Italy, September 2015.

36. T. Tosun, G. Jing, **H. Kress-Gazit** and Mark Yim, Computer-Aided Compositional Design and Verification for Modular Robots, International Symposium of Robotics Research (ISRR), Sestri Levante, Italy, September 2015.

35. J. A. DeCastro and **H. Kress-Gazit**, Dynamics-Driven Adaptive Abstraction for Reactive High-Level Mission and Motion Planning, IEEE International Conference on Robotics and Automation 2015, Seattle WA, May 2015.

34. K.W. Wong and **H. Kress-Gazit**, Let's Talk: Autonomous Conflict Resolution for Robots Carrying out Individual High-level Tasks in a Shared Workspace, IEEE International Conference on Robotics and Automation 2015, Seattle WA, May 2015.

33. K.W. Wong, R. Ehlers and **H. Kress-Gazit**, Correct High-level Robot Behavior in Environments with Unexpected Events,In the Proceedings of Robotics: Science and Systems 2014, Berkeley, CA, July 2014.

32. S. Maniatopoulos, M. Blair, C. Finucane and **H. Kress-Gazit**, Open-World Mission Specification for Reactive Robots, In the Proceedings of IEEE International Conference on Robotics and Automation 2014, Shanghai, China, May 2014.

31. V. Raman and **H. Kress-Gazit**, Synthesis for Multi-Robot Controllers with Interleaved Motion, In the Proceedings of IEEE International Conference on Robotics and Automation 2014, Shanghai, China, May 2014.

30. R. Ehlers, S. A. Seshia and **H. Kress-Gazit**, Synthesis with Identifiers, In the Proceedings of Verification, Model Checking, and Abstract Interpretation (VMCAI), pp. 415-433, San Diego, USA, January 2014.

29. V. Raman and **H. Kress-Gazit**, Towards minimal explanations of unsynthesizability for high-level robot behaviors, In the Proceedings of the 2013 IEEE/RSJ International Conference on Intelligent Robots and Systems, pp. 757-762, Tokyo, Japan, November 2013.

28. G. Jing, R. Ehlers and **H. Kress-Gazit**, Shortcut Through an Evil Door: Optimality of Correct-by-Construction Controllers in Adversarial Environments, In the Proceedings of the 2013 IEEE/RSJ International Conference on Intelligent Robots and Systems, pp. 4796-4802, Tokyo, Japan, November 2013.

27. J. A. DeCastro and **H. Kress-Gazit**, Guaranteeing Reactive High-Level Behaviors for Robots with Complex Dynamics, In the Proceedings of the 2013 IEEE/RSJ International Conference on Intelligent Robots and Systems, pp. 749-756, Tokyo, Japan, November 2013.

26. B. Johnson and **H. Kress-Gazit**, Analyzing and Revising High-Level Robot Behaviors Under Actuator Error, In the Proceedings of the 2013 IEEE/RSJ International Conference on Intelligent Robots and Systems, pp. 741-748, Tokyo, Japan, November 2013.

25. V. Raman, C. Lignos, C. Finucane, K. Lee, M. Marcus and **H. Kress-Gazit**, Sorry Dave, I'm Afraid I Can't Do That: Explaining Unachievable Robot Tasks Using Natural Language, In the Proceedings of Robotics: Science and Systems 2013, Berlin, Germany, June 2013.

24. G. Jing and **H. Kress-Gazit**, Improving the continuous execution of reactive LTL-based controllers, In the Proceedings of IEEE International Conference on Robotics and Automation, pp. 5439-5445, Karlsruhe, Germany, May 2013.

23. V. Raman, N. Piterman and **H. Kress-Gazit**, Provably Correct Continuous Control for High-Level Robot Behaviors with Actions of Arbitrary Execution Durations, In the Proceedings of IEEE International Conference on Robotics and Automation, pp. 4075-4081, Karlsruhe, Germany, May 2013.

22. M. R. Maly, M. Lahijanian, L. E. Kavraki, **H. Kress-Gazit**, M. Y. Vardi, Iterative Temporal Motion Planning for Hybrid Systems in Partially Unknown Environments, In the Proceedings of Hybrid Systems: Computation and Control (HSCC), pp. 353-362, Philadelphia, PA, USA, April 2013.

21. V. Raman, B. Xu and **H. Kress-Gazit**, Avoiding Forgetfulness: Structured English Specifications for High-Level Robot Control with Implicit Memory, In the Proceedings of the 2012 IEEE/RSJ International Conference on Intelligent Robots and Systems, pp. 1233-1238, Vilamoura, Algarve, Portugal, October 2012.

20. V. Raman, C. Finucane and **H. Kress-Gazit**, Temporal Logic-Based Mission Planning for Robots with Slow and Fast Actions, In the Proceedings of the 2012 IEEE/RSJ International Conference on Intelligent Robots and Systems, pp. 251-256, Vilamoura, Algarve, Portugal, October 2012.

19. C. Lignos, D. J. Brooks, C. Finucane, M. S. Medvedev, I. Perera, V. Raman, **H. Kress-Gazit**, M. P. Marcus, H. A. Yanco, Make it so: Continuous, flexible natural language interaction with an autonomous robot, In the Proceedings of AAAI 2012 Workshop on Grounding Language for Physical Systems, Toronto, Canada, July 2012.

18. S. Sarid, B. Xu and **H. Kress-Gazit**, Guaranteeing High-Level Behaviors while Exploring Partially Known Maps, In the Proceedings of Robotics: Science and Systems, Sydney, Australia, July 2012.

17. B. Johnson, F. Havlak, M. Campbell and **H. Kress-Gazit**, Execution and Analysis of High-Level Tasks with Dynamic Obstacle Anticipation, In the Proceedings of IEEE International Conference on Robotics and Automation, pp. 330-337, Saint Paul, Minnesota, May 2012.

16. V. Raman and **H. Kress-Gazit**, Automated Feedback For Unachievable High-Level Robot Behaviors, In the Proceedings of IEEE International Conference on Robotics and Automation, pp. 5156-5162, Saint Paul, Minnesota, May 2012.

15. C. Finucane, G. Jing and **H. Kress-Gazit**, Designing Reactive Robot Controllers with LTLMoP, Automated Action Planning for Autonomous Mobile Robots, 2011 AAAI Workshop, San Francisco, CA, August 2011.

14. S. Castro, S. Koehler and **H. Kress-Gazit**, High-Level Control of Modular Robots, In the Proceedings of the 2011 IEEE/RSJ International Conference on Intelligent Robots and Systems, pp. 3120-3125, San Francisco, CA, September 2011.

13. V. Raman and **H. Kress-Gazit**, Analyzing Unsynthesizable Specifications for High-Level Robot Behavior, In the Proceedings of Computer Aided Verification 2011, pp. 663-668, Snowbird, Utah, July 2011.

12. B. Johnson and **H. Kress-Gazit**, Probabilistic Analysis of Correctness of High-Level Robot Behavior with Sensor Error, In the Proceedings of Robotics: Science and Systems 2011, Los Angeles, CA, June 2011.

11. C. Finucane, G. Jing and **H. Kress-Gazit**, LTLMoP: Experimenting with Language, Temporal Logic and Robot Control, In the Proceedings of the 2010 IEEE/RSJ International Conference on Intelligent Robots and Systems, pp. 1988-1993, Taipei, Taiwan, October 2010.

10. D. Lee, M. McClelland, J. Schneider, T.-L. Yang, D. Gallagher, D. Shah, N. Ahmed, P. Moran, A. Nathan, **H. Kress-Gazit** and M. Campbell, Distributed, Collaborative Human-Robotic Networks for Outdoor Experiments in Search, Identify and Track, In the Proceedings of SPIE Europe Conference on Unmanned/Unattended Sensors and Sensor Networks, Toulouse, France, October 2010.

9. J. M. Allbeck and **H. Kress-Gazit**, Constraints-Based Complex Behavior in Rich Environments, In the Proceedings of the 10th International Conference on Intelligent Virtual Agents, pp. 1-14, Philadelphia, PA, September 2010.

8. **H. Kress-Gazit** and G. J. Pappas, Automatic Synthesis of Robot Controllers for Tasks with Locative Prepositions, In the Proceedings of IEEE International Conference on Robotics and Automation, pp. 3215-3220, Anchorage, Alaska, May 2010.

7. **H. Kress-Gazit**, N. Ayanian, G. J. Pappas and V. Kumar, Recycling Controllers, In the Proceedings of IEEE Conference on Automation Science and Engineering, pp. 772-777, Washington DC, August 2008.

6. **H. Kress-Gazit** and G. J. Pappas, Automatically Synthesizing a Planning and Control Subsystem for the DARPA Urban Challenge, In the Proceedings of IEEE Conference on Automation Science and Engineering, pp. 766-771, Washington DC, August 2008.

5. D. C. Conner, **H. Kress-Gazit**, H. Choset, A. Rizzi and G. J. Pappas, Valet Parking Without a Valet. In the Proceedings of the 2007 IEEE/RSJ International Conference on Intelligent Robots and Systems, pp. 572-577, San Diego, October 2007. **Finalist, Best Paper Award**

4. **H. Kress-Gazit**, G. E. Fainekos and G. J. Pappas, From Structured English to Robot Motion. In the Proceedings of the 2007 IEEE/RSJ International Conference on Intelligent Robots and Systems, pp. 2717-2722, San Diego, October 2007

3. **H. Kress-Gazit**, G. E. Fainekos and G. J. Pappas, Where's Waldo? Sensor-Based Temporal Logic Motion Planning. In the Proceedings of the 2007 International Conference on Robotics and Automation, pp. 3116-3121, Rome, Italy, April 2007. **Finalist, Best Student Paper Award**

2. G. E. Fainekos, **H. Kress-Gazit** and G. J. Pappas, Hybrid Controllers for Path Planning: A Temporal Logic Approach. In the Proceedings of the 44th IEEE Conference on Decision and Control, pp. 4885-4890, Seville, December 2005

1. G. E. Fainekos, **H. Kress-Gazit** and G. J. Pappas, Temporal Logic Motion Planning for Mobile Robots. In the Proceedings of the International Conference on Robotics and Automation, pp. 2020-2025, Barcelona, April 2005

Technical Reports, Editorials, Edited volumes

9. L. Graesser, A. Faust, **H. Kress-Gazit**, L. Tapia, and R. Ulinski, Gender Diversity of Conference Leadership [Women in Engineering], IEEE Robotics Autom. Mag., Vol. 28, num.2, pg. 126–130, 2021

8. L. E. Clement, V. Peretroukhin, M. Giamou, J. Leonard, **H. Kress-Gazit**, J. P. How, M. Milford, O. Brock, R. Gariepy, N. Roy, H. Siegel, L. Righetti, A. Billard, J. Kelly, Where Do We Go From Here? Debates on the Future of Robotics Research at ICRA 2019 [From the Field]. IEEE Robotics and Automation Magazine, Vol. 26, num.3, pg. 7-10, 2019.

7. A. Bicchi, **H. Kress-Gazit**, S. Hutchinson, Robotics: Science and Systems XV, ISBN 978-0-9923747-5-4, University of Freiburg, Freiburg im Breisgau, Germany, June 22-26, 2019.

6. R. Alami, K. I. Eder, G. Hoffman, **H. Kress-Gazit**, Verification and Synthesis of Human-Robot Interaction (Dagstuhl Seminar 19081). Dagstuhl Reports, Vol. 9, num. 2, pg. 91-110, Germany, 2019.

5. **H. Kress-Gazit**, S. Srinivasa, T. Howard, N. Atanasov, Robotics: Science and Systems XIV, ISBN 978-0-9923747-4-7, Carnegie Mellon University, Pittsburgh, Pennsylvania, USA, June 26-30, 2018.

4. E. Abraham, **H. Kress-Gazit**, L. Natale and A. Tacchella, Computer-Assisted Engineering for Robotics and Autonomous Systems (Dagstuhl Seminar 17071), Dagstuhl Reports, Vol. 7, num. 2, pg. 48-63, Dagstuhl, Germany, 2017.

3. P. Allen, A. Ames, C. Belta, M. Campbell, G. Hager, L. Kavraki, **H. Kress-Gazit**, V. Kumar, M. Mataric, and M. Schwager. National Science Foundation Workshop on Future Directions in Cyber-Physical Systems, Robotics, and Autonomy. Technical Report. National Science Foundation, USA, 2015.

2. **H. Kress-Gazit**, Robot challenges: Toward development of verification and synthesis techniques [from the Guest Editors], Robotics and Automation Magazine, IEEE , vol.18, no.3, pp.22-23, Sept. 2011.
Note: Due to a publishing error, the byline in the printed and online versions of this article contains the wrong author names.

1. G. E. Fainekos, A. Girard, **H. Kress-Gazit** and G. J. Pappas, Temporal Logic Motion Planning for Dynamic Mobile Robots. Technical Report MS-CIS-07-02, Department of CIS, University of Pennsylvania, January 2007.

Peer-reviewed Conference Video Publications

4. G. Jing, T. Tosun, M. Yim and **H. Kress-Gazit**, An End-to-End System for Accomplishing Tasks with Modular Robots: Perspectives for the AI community, Video submission for the International Joint Conference on Artificial Intelligence (IJCAI), August 2017. **IJCAI 2017 Best Robotics Video Award winner.**

3. K.W. Wong, C. Finucane and **H. Kress-Gazit**, Provably-Correct Robot Control with LTLMoP, OMPL and ROS, In the Proceedings of IEEE/RSJ International Conference on Intelligent Robots and Systems, pp. 2073, Tokyo, Japan, November 2013.

2. G. Jing, C. Finucane, V. Raman and **H. Kress-Gazit**, Correct High-level Robot Control from Structured English, In the Proceedings of IEEE International Conference on Robotics and Automation, pp. 3543-3544, Saint Paul, Minnesota, May 2012.

1. D. J. Brooks, C. Lignos, M. S. Medvedev, I. Perera, C. Finucane, V. Raman, A. Shultz, S. McSheehy, A. Norton, **H. Kress-Gazit**, M. Marcus, H. A. Yanco, Situation Understanding Bot Through Language and Environment, In the Proceedings of ACM/IEEE International Conference on Human-Robot Interaction, pp. 419-420, Boston, MA, March 2012.

Open-source software packages

2. Linear Temporal Logic MissiOn Planner (LTLMoP). Available at: http://ltlmop.github.io/

1. Matlab simulator for the iRobot Create. Available at: http://sourceforge.net/projects/createsim/

INVITED TALKS

71. Robotics seminar, University of Washington, Virtual, May 2021.

70. Workshop on Safe Autonomy: Learning, Verification, and Trusted Operation of Autonomous systems, C3.ai DTI workshop series, Virtual, December 2020.

69. Utah Robotics Center Seminar, University of Utah, Virtual, November 2020.

68. Distinguished Lecture, The Max Planck Institute for Software Systems (MPI-SWS), Virtual, May 2020.

67. Dream Seminar, UC Berkeley, CA, March 2020

66. Talk, Navy Research Lab, Washington DC, February 2020

65. Robotics Institute (RI) seminar, Carnegie Mellon University, January 2020

64. Robotics seminar, KTH Royal Institute of Technology, Stockholm, Sweden, November 2019

63. Invited speaker, NAE US-EU Frontiers of Engineering, Stockholm, Sweden, November 2019

62. Robotics, Controls and Dynamic Systems (RCDS) seminar, CU Boulder, CO, October 2019

61. Cornell Initiative for Digital Agriculture (CIDA) Seminar, October 2019

60. Invited speaker - GRASP lab 40th celebration - University of Pennsylvania, PA, September 2019

59. Invited keynote - International Joint Conferences on Artificial Intelligence (IJCAI), Macao SR, August 2019

58. ECE department seminar, UCLA, CA, April 2019

57. Invited talk, Cornell Program in Infrastructure Policy (CPIP) board meeting, Cornell, NY, October 2018

56. Seminar, University of Rochester, NY, October 2018

55. Seminar, Princeton University, NJ, March 2018

54. SouthWest Robotics Symposium, Tempe AZ, January 2018

53. NSF CPS PI meeting - mini workshop on Formal Methods in Cyber-Physical Systems: Impact and Future Directions, November 2017

52. CS Distinguished Lecture Series, George Mason University, November 2017

51. Robotics@MIT Seminar, MIT, October 2017

50. ISAT workshop on Diverse Ways of Inferring Missions, Washington DC, October 2017

49. Maryland Robotics Seminar, University of Maryland, September 2017

48. Workshop on Heterogeneity and Diversity for Resilience in Multi-Robot Systems, in conjunction with Robotics: Science and Systems, July 2017

47. Workshop on The What without the How: Specifying Planning Problems in Robotics, in conjunction with Robotics: Science and Systems, July 2017

46. Keynote speaker - Expanding Your Horizons, Ithaca, NY, April 2016

45. Faculty spotlight - presentation to Cornell's Board of Trustees, Ithaca, NY, March 2016

44. Cornell Silicon Valley event (CSV '16), Mountain View, CA, March 2016

43. X (formerly Google X), Mountain View, CA, March 2016

42. Oxford Robotics seminar, Oxford, UK, February 2016

41. Webinar for Cornell Alumni, December 2015

40. Joint Technion Mechanical Engineering and The Technion Autonomous Systems Program seminar, Technion, July 2015

39. ABC Robotics seminar, Ben Gurion University, July 2015

38. Workshop on Abstraction and Synthesis of Correct-by-Construction Robotics Software: Reuniting Formal Methods with Model-Driven Software Engineering, in conjunction with Robotics: Science and Systems, July 2015

37. Workshop on Women in Robotics, in conjunction with Robotics: Science and Systems, July 2015

36. Workshop on Guaranteed Safety for Uncertain Robotic Systems, in conjunction with Robotics: Science and Systems, July 2014

35. Workshop on Humans and Sensing in Cyber-Physical Systems, in conjunction with Robotics: Science and Systems, July 2014

34. Invited Keynote, AAAI symposium on the intersection of robust intelligence and trust in autonomous systems, March 2014

33. Robotics Institute (RI) seminar, Carnegie Mellon University, February 2014

32. HCRI seminar, Brown University, February 2014

31. Seminar, University of Southern California, January 2014

30. MCE seminar, California Institute of Technology, January 2014

29. Keynote speaker, GRASP Industry Day, University of Pennsylvania, January 2014

28. Control seminar, University of Michigan, January 2014

27. Invited talk, Navy Research Lab, August 2013

26. DCL seminar, Georgia Institute of Technology, March 2012

25. Mechanical Engineering Seminar, University of Delaware, November 2011

24. Invited talk, Verification Day, Hebrew University, Israel, June 2011

23. Aerospace Engineering Seminar, UIUC, April 2011

22. VaCAS Graduate Seminar, Virginia Tech, March 2011

21. Anthony J. Healey Robotics Lecture Series, Naval Postgraduate School, February 2011

20. Center for Information and Systems Engineering (CISE) seminar, Boston University, January 2011

19. Invited seminar, Rice University, USA, November 2009

18. Robotics and Embedded Systems Seminar, UC Berkeley, USA, November 2009

17. Invited seminar, Willow Garage, USA, November 2009

16. AI seminar, Computer Science department, Cornell University, USA, October 2009

15. Machines and organisms seminar, Cornell University, USA, October 2009

14. Workshop on Situated Understanding of Intention, Philadelphia PA, July 2009

13. RSS workshop on Bridging the gap between high-level discrete representations and low-level continuous behaviors, Seattle WA, June 2009

12. ICRA workshop on Formal Methods in Robotics and Automation, Kobe, Japan, May 2009

11. Robotics, Controls and Mechatronics colloquium, University of Washington, USA, January 2009

10. Mechanical and Aerospace Engineering Colloquium, Cornell University, USA, April 2008

9. Computer Science Colloquium, Rensselaer Polytechnic Institute, USA, April 2008

8. Electrical, Computer, and Systems Engineering seminar, Rensselaer Polytechnic Institute, USA, April 2008

7. Autonomous Vehicles/Robots Seminar, University of Michigan, USA, March 2008

6. Aero-Astro seminar, Massachusetts Institute of Technology, USA, March 2008

5. Center for the Foundations of Robotics Talk, Robotics Institute, Carnegie Mellon University, USA, September 2007

4. Computer Science Colloquium, Technion, Israel, November 2007

3. Computer Science Colloquium, Hebrew University, Israel, November 2007

2. Computer Science Colloquium, Ben Gurion University, Israel, November 2007

1. Computer Science Colloquium, Bar Ilan University, Israel, November 2007

WORKSHOP PRESENTATIONS (no proceedings)

5. Dagstuhl Seminar on Verification and Synthesis of Human-Robot Interaction, Germany ,February 2019

4. Dagstuhl Seminar on Software Synthesis, Germany ,April 2012

3. Dagstuhl Seminar on Runtime Verification, Diagnosis, Planning and Control for Autonomous Systems, Germany ,November 2010

2. AAAI 2010 Workshop on Bridging The Gap Between Task And Motion Planning (BTAMP), Atlanta, GA, July 2010

1. RSS 2009 Workshop on Bridging the Gap between high-level discrete representation and and low-level continuous behaviors, Seattle, WA, June, 2009

PANELS

7. Design Automation Conference (DAC) panel on autonomous robot design, October 2021 (panelist)

6. IROS 2021 workshop: Transforming Specifications into Robot Programs: A Survey of Formal Methods Tools for Non-Experts, September 2021 (panelist)

5. Simons Institute, Synthesis of Models and Systems workshop: Challenges and Opportunities in Synthesis, May 2021 (panelist)

4. CoRL 2020: Grand Challenges in Robotics, Nov 2020 (panelist)

3. ICRA 2020 workshop: Debates on the Future of Robotics Research, June 2020 (moderator)

2. ICRA 2019 workshop: Debates on the Future of Robotics Research, May 2019 (panelist)

1. RSS 2011 Workshop on Grounding Human-Robot Dialogue for Spatial Tasks, Los Angeles, CA, July 2011 (panelist)

OUTREACH AND BROADENING PARTICIPATION IN STEM

- IEEE Robotics and Automation Society (RAS) Women in Engineering (WIE) committee member - leading the best practices effort (2019-present)

- Established a new seminar series at Cornell's College of Engineering: Distinguished Lecture Series on Engineering and Scientific Culture (2018 - present)

- Initiated the Inclusion@RSS and RSS Pioneers programs at the 2018 Robotics: Science and Systems conference. Raised funds to support the Inclusion@RSS program 2018-2020.

- Organized (with Prof. Kirstin Petersen) coffee hours for women undergraduates at Cornell in MAE, ECE and AEP (2017-2018)

- Workshop organizer - Women in Robotics III, in conjunction with Robotics: Science and Systems, July 2017

- Lab tours as part of Cornell's SoNIC workshop (2017 - 2019)

- Cornell Adult University course on Autonomous Robots, Summer 2016

- Keynote speaker at Cornell's Expanding Your Horizons day, April 2016

- Project component of 2012 CURIE academy: Design and supervision of a week long robotics project for high school girls, July 2012.

- Lecture as part of CURIE academy, July 2011.

- Project component of 2010 CURIE academy: Design and supervision of a week long robotics project for high school girls, July 2010.

- Recruiting weekends for women and URM - lab tours, breakfasts (2009-present)
- Participating in panels and lunches with Society of Women Engineers (SWE)
- Dinners for the Engineering Pre-freshman Summer Program

SERVICE - Professional Community

Organizational positions and leadership:
- Robotics: Science and Systems (RSS) foundation board president ('19-'25)
- IEEE Robotics and Automation Society (RAS) Women in Engineering (WIE) committee member ('19 - present)
- Workshop organizer -Verification of Autonomous and Robotic Systems, in conjunction with CPS-IoT week, May 2021.
- Workshop organizer - Robust autonomy: Safe robot learning and control in uncertain real-world environments, in conjunction with Robotics: Science and Systems, July 2019
- Dagstuhl workshop organizer - Verification and Synthesis of Human-Robot Interaction (Seminar 19081, 2019)
- General chair, Robotics: Science and Systems 2019
- Program chair, Robotics: Science and Systems 2018
- Robotics: Science and Systems (RSS) foundation board secretary and member ('17-'19)
- Workshop organizer - Minimality and Trade-offs in Automated Robot Design, in conjunction with Robotics: Science and Systems, July 2017
- Workshop organizer - Women in Robotics III, in conjunction with Robotics: Science and Systems, July 2017
- Dagstuhl workshop organizer - Computer-Assisted Engineering for Robotics and Autonomous Systems (Dagstuhl seminar 17071), Feb 2017
- Co-organizer - Northeast Robotics Colloquium (NERC), Cornell, October 2016
- Workshops chair - Robotics: Science and Systems (RSS) 2015
- Career fair chair - IEEE International Conference on Robotics and Automation (ICRA) 2015
- Workshop organizer - Workshop on Formal Methods in Robotics and Automation (in conjunction with ICRA 2009, ICRA 2010, CAV 2011, RSS 2013, RSS 2014)
- Invited session organizer: "Approaches for guaranteeing high-level robot behaviors" - IEEE International Conference on Robotics and Automation (ICRA) 2012, "Symbolic Approaches to Motion Planning and Control" - IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS) 2011
- Workshops and Tutorials co-chair - IEEE International Conference on Robotics and Automation (ICRA) 2010

Study groups and federal workshops:
- Member of the Information Science and Technology (ISAT) study group advising to DARPA (2014-2017)
- Co-author of the updated National Robotics Roadmap, 2016
- Participant - DoD Workshop on Foundations of Intelligent Sensing, Action and Learning, October 2015, Philadelphia, PA.
- Participant and report writer - NSF workshop on Future directions in cyber physical systems, robotics, and autonomy, September 2015, Washington DC.

Editorial positions:
- Editorial board, Annual Reviews of Control, Robotics, and Autonomous Systems (2/2018 - present)
- Associate Editor IEEE Robotics and Automation Letters (6/15-6/18)
- Associate Editor IEEE Transactions on Robotics (7/14-12/17)
- Associate Editor - IEEE International Conference on Robotics and Automation (ICRA): 2012, 2014, 2015, 2017 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS): 2011, 2012
- Area Chair - Robotics: Science and Systems (RSS): 2012, 2013
- Guest Editor - IEEE Robotics and Automation Magazine (IEEE RAM) special issue on Formal Methods for Robotics, Sept 2011.

Reviewing:
- Program committee:
    - Workshop on the Algorithmic Foundation of Robotics (WAFR) 2018, 2020
    - Hybrid Systems Computation and Control (HSCC) 2017
    - AAAI 2018
    - AAAI Integrated Systems track 2017
    - Robotics: Science and Systems (RSS) 2009, 2011, 2014, 2015, 2020
    - 5th IFAC Conference on Analysis and Design of Hybrid Systems (ADHS) 2015
    - NASA Formal Methods Symposium (NFM) 2013,2014,2019
    - International Conference on Automated Planning and Scheduling (ICAPS) 2012
    - ICAPS Workshop on Verification and Validation for Planning and Scheduling Systems (VVPS) 2011
    - AAAI Workshop on Bridging The Gap Between Task And Motion Planning (BTAMP) 2010
- Workshops evaluation committee - 2014 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2014)
- Journals and conferences: IEEE Transactions on Robotics; IEEE Transactions on Automation Science and Engineering; IEEE Transactions on Embedded Computing Systems; International Journal of Robotics Research; Autonomous Robots; IEEE Transactions on Human-Machine Systems; IEEE International Conference on Robotics and Automation; IEEE Conference on Decision and Control; ACM/IEEE International Conference on Human-Robot Interaction; IEEE Conference on Automation Science and Engineering; IEEE/RSJ International Conference on Intelligent Robots and Systems;
- NSF panelist and external reviewer (multiple programs - CISE directorate)
- External thesis reviewer/Phd committee:
    - Ankit Shah - Massachusetts Institute of Technology
    - Tarik Tosun - University of Pennsylvania - 2018
    - Corina Gurau - Oxford University - 2018
    - Chanyeol Yoo - Australian Centre for Field Robotics (ACFR) - 2015

SERVICE - Cornell

- Faculty Advisory Board - Cornell Early-Career Grants Mentoring Program (2020-present)
- Strategic Oversight Committee - College level committee to that provides oversight regarding diversity for all faculty searches (2020-present)
- DSC group lead (2016- Present)
- Strategic planning for Robotics at Cornell: Charged by Cornell Engineering and Computing Deans to lead Cornell to develop a new robotics PhD program; minors for the PhD and undergraduate programs; and informal and formal connections between Cornell and the robotics industry (2018-present)
- Faculty advisor to the Cornell Mars Rover project team (2018 - present)
- Established a new seminar series at the college: Distinguished Lecture Series on Engineering and Scientific Culture (2018 - present)
- CS faculty search committee (2020,2021)
- Family Life Working Group (university level committee)(2020)
- Search committee member - Sibley Director search (2019)
- Search committee co-chair - Strategic faculty search MAE (2019) (3 hires)
- CS committee to revisit CS PhD course requirements (2018)
- ad hoc committees for tenure and promotion - member in department (2017, 2018), member in the college (2018), and chair in department (2019)
- Research Advisory Committee for the university (2016- 2020)
- Women in Science and Engineering (WiSE) co-chair (2016- 2020)
- ECE faculty search committee member (2016, 2017, 2019)
- Graduate School's Academic Integrity Hearing Board (2016-2020)
- College teaching award committee (2016,2017)
- Search Committee chair - Design and Manufacturing (2014-2015) (1 hire)
- Awards committee chair (2014 - 2015)
- Undergraduate Program Committee (2011-2014)
- Search Committee member - Digital Manufacturing (2011-2012) (1 hire)
- SiGMA faculty advisor (2010-2015)
- Academic committee (2010-2011)
- Colloquium committee (2009)

FUNDING - Research
Total research awards: $28,489,373, total Kress-Gazit: $6,667,693

DARPA STO (2019-2020) - "Decentralized Optimized Context-Aware Teaming"
PI: Ankur Mehta (UCLA). Cornell PI: Hadas Kress-Gazit. Phase 1 awarded. Award amount: Phase 1: $350,000, (Phase 2: $650,000), Kress-Gazit: Phase 1: $62,376, (Phase 2: $137,693, Total $200,069)

NSF EFRI EFMA-1935252 (2019-2023) - "EFRI C3 SoRo: Micron-scale Morphing Soft-Robots for Interfacing With Biological Systems,"
PI: Itai Cohen. Co-PIs: Hadas Kress-Gazit, Alyssa Apsel, Nicholas Abbott. Award amount: $2,000,000, Kress-Gazit: $389,230

Toyota Material Handling North America (2019-2020) - "Warehouse automation in a day"
PI: Hadas Kress-Gazit. Award amount: $114,458

NSF Cyber Physical Systems CNS-1837506 (2018-2021) - "Syntax-Guided Synthesis for Cyber-Physical Systems"
PI: Hadas Kress-Gazit. Award amount: $372,998

NSF National Robotics Initiative IIS-1830471 (2018-2022) - "Ad-Hoc Collaborative Human-Robot Swarms"
PI: Hadas Kress-Gazit, Co-PIs: Guy Hoffman, Kirstin Petersen. Award amount: $1,490,568, Kress-Gazit: $663,748

NSF EFRI EFMA-1830924 (2018-2022) - "EFRI C3 SoRo: An End-To-End Framework For Soft Robot Design And Control Based On High-Performance Electrohydraulic Transducers,"
PI: Robert Shepherd. Cornell Co-PIs: Hadas Kress-Gazit, Amit Lal. Subcontractors: University of Colorado, Boulder. Award amount: $1,999,999, Kress-Gazit: $384,021

DARPA TTO HR0011-19-2-0004 (2018-2019) - "Demonstration of High-Level, Provably Correct, Swarm Autonomy"
PI: Hadas Kress-Gazit. Award amount: $141,577

ONR MURI N00014-17-1-2699 (2017-2022) - "PERISCOPE: Perceptual Representations for Actions, Composition, and Verification"
PI: Hadas Kress-Gazit. Cornell Co-PIs: Mark Campbell, Kavita Bala. Subcontractors: Brown University and MIT. Award amount: $7,500,000, Kress-Gazit: $1,173,500

NSF DCSD EAGER CMMI-1745139 (2017-2018) - "Reliable Control For Soft Robots Through Sensor Placement"
PI: Hadas Kress-Gazit, Co-PI: Robert Shepherd. Award amount: $147,746, Kress-Gazit: $73,873

DARPA DSO N66001-17-2-4058 (2017-2018) - " High-Level Provably-Correct Control of Robotic Swarms"
PI: Hadas Kress-Gazit. Award amount: $250,000

DARPA Robotics Challenge AFR 03-101/CU-01 (2014-2015) - working with team ViGIR
Cornell PI: Hadas Kress-Gazit. Award amount (Cornell): $118,954

NSF National Robotics Initiative IIS-1427030 (2014-2019) - "Modeling and Verification of Language-based Interaction"
PI: Mark Campbell, Co-PIs: Hadas Kress-Gazit, Nicholas Roy (MIT). Award amount (Cornell): $700,000, Kress-Gazit: $341,294

NSF Cyber Physical Systems CNS-1329692 (2013-2017) - "High-Level Perception and Control for Autonomous Reconfigurable Modular Robots"

PI: Hadas Kress-Gazit, Co-PIs: Mark Campbell, Mark Yim (UPenn). Award amount: $600,000, Kress-Gazit: $293,641

DARPA Young Faculty Award (2012-2014) - "Autonomous robots: Explaining failures and boosting success of high-level tasks"
PI: Hadas Kress-Gazit. Award amount: $274,118

NSF Expeditions in Computing CCF-1139025 (2012-2017) - "Expeditions in Computer Augmented Program Engineering (EXCAPE): Harnessing Synthesis for Software Design"
PI: Rajeev Alur (UPenn), Cornell PI: Hadas Kress-Gazit. Award amount: $10,000,000 , Kress-Gazit: $500,000

NSF CAREER Award CNS-0953365 (2010-2016) - "Formal Methods for Robotics and Automation"
PI: Hadas Kress-Gazit. Award amount:$523,834

ARO MURI (2010-2013) - "Situation Understanding Bot Through Language and Environment"
Cornell PI: Hadas Kress-Gazit. Award amount: $427,000

NSF Cyber Physical Systems CNS-0931686 (2009-2013) - "Tightly Integrated Perception and Planning in Intelligent Robotics"
PI: Mark Campbell, Co-PIs: Hadas Kress-Gazit, Dan Huttenlocher. Award amount: $1,473,121 , Kress-Gazit: $558,071

Cornell Affinito-Stewart research grant (2010) - "High-level Tasks for Humanoid Robots"
PI: Hadas Kress-Gazit, Award amount: $5,000

FUNDING - Education and Broadening Participation in STEM

NSF IIS-1940677 (2020) - "Inclusion at Robotics: Science and Systems 2020"
PI: Hadas Kress-Gazit. Award amount: $49,920

IEEE (2019) - Funding to collect historical data regarding gender in IEEE RAS supported conferences
PI: Hadas Kress-Gazit. Award amount: $6,000

NSF IIS-1834932 (2018-2019) - "Inclusion@Robotics: Science and System (RSS) 2018"
PI: Hadas Kress-Gazit. Award amount: $24,900

Course development support for MAE 4180/5180 Autonomous Mobile Robots (2010):
- The MathWorks (joint project with Daisy Fan from Computer Science): $40,000
- Lockheed Martin Foundation: $29,659
- Intel: $13,250

STUDENTS AND POSTDOCS

Cornell Graduate Field Memberships:
- Mechanical Engineering
- Aerospace Engineering
- Computer Science
- Electrical and Computer Engineering

Post doctoral researchers:
5. Arvind Adimoolam (6/2018 - 1/2020)
4. Salar Moarref (9/2016 - 2/2019)
3. Adrian Boteanu (9/2015 - 4/2017)
2. Rüdiger Ehlers (1/2013 - 8/2013)
1. Shahar Sarid (6/2011 - 6/2012)

PhD students:
15. Wil Thomason - Computer Science (2015, working with me from 2020) - passed B exam
14. Claire Liang - Computer Science (2017, working with me from 2020) - passed A exam
13. Himani Sinhmar - Mechanical Engineering (2019-present) - passed Q exam
12. Amy Fang - Mechanical Engineering (2019-present) - passed Q exam
11. Guy Scher - Mechanical Engineering (2018-present) - passed Q exam
10. David Gundana - Mechanical Engineering (2018-present)- passed A exam
9. Ji Chen - Mechanical Engineering (2017-present) - passed B exam
8. Adam Pacheck - Mechanical Engineering (2016-present) - passed A exam
7. Scott Hamill - Mechanical Engineering (2014-present) - passed A exam
6. Thais Campos - Mechanical Engineering "Task-based design synthesis of modular manipulators" (2021)
5. Kai-Weng (Catherine) Wong - Mechanical Engineering "Robot Controllers: Online and Offline Adaption, and Automatic Code Transfer" (2018)
4. Gangyuan (Jim) Jing - Mechanical Engineering "High-Level Control for Modular Robot Systems" (2018)
3. Jonathan A. DeCastro - Aerospace Engineering "Guaranteeing Reactive Missions For Complex Robotic Systems" (2017)
2. Benjamin Johnson - Mechanical Engineering "Synthesis, Analysis, and Revision of Correct-By-Construction Controllers for Robots with Sensing and Actuation Errors"(2014)
1. Vasumathi Raman - Computer Science "Explaining Unsynthesizability of High-Level Robot Behaviors" (2013)

Masters student:
5. Rahul Ravi Kumar - Mechanical Engineering (2020- present)
4. Jijie Zhou - Mechanical Engineering (2018-2020)
3. Chuanwei Wu - Mechanical Engineering (2017-2019)

2. Bingxin Xu - Mechanical Engineering (2011-2012)

1. Sebastian Castro - Mechanical Engineering (2010-2011)

Member of PhD special committee (not chair):

32. Vivek Thangavelu - Electrical and Computer Engineering

31. Ji Hyun Jeong - Information Science

30. Yucheng Chen - Mechanical Engineering

29. Carlos Diaz-Ruiz - Mechanical Engineering

28. Yuhan Hu - Mechanical Engineering

27. Alap Kshirsagar - Mechanical Engineering

26. Steven Ceron - Mechanical Engineering

25. Nialah Wilson - Aerospace Engineering

24. Matthew Sheen - Mechanical Engineering

23. Yutao Han - Mechanical Engineering (2021)

22. Vighnesh Vatsal - Mechanical Engineering (2020)

21. Kevin O'Brien - Mechanical Engineering (2019)

20. Frances Zhu - Mechanical Engineering (2019)

19. Dipendra Misra - Computer Science (2019)

18. Ilse Van Meerbeek - Mechanical Engineering (2018)

17. Jonathan Daudelin - Mechanical Engineering (2018)

16. Jordan Chipka - Mechanical Engineering (2018)

15. Joyce Fang - Mechanical Engineering (2018)

14. Ying-Ying Tran - Math (2018)

13. Jennifer Padgett - Electrical and Computer Engineering (2017)

12. Matthew Kelly - Mechanical Engineering (2016)

11. Daniel Lee - Mechanical Engineering (2016)

10. Rina Tse - Mechanical Engineering (2016)

9. Kevin Wyffels - Mechanical Engineering (2015)

8. Benjamin Reinhardt - Mechanical Engineering (2015)

7. Frank Havlak - Mechanical Engineering (2014)

6. Jonas Neubert - Mechanical Engineering (2014)

5. Daniel Ly - Mechanical Engineering (2013)

4. Jean-Baptiste Jeannin - Computer Science (2013)

3. Jonathan Schoenberg - Aerospace Engineering (2012)

2. Danelle Shah - Mechanical Engineering (2011)

1. Joseph Shoer - Aerospace Engineering (2011)

M.Eng and undergraduate students (Updated only up to 2017):

Mechanical Engineering M.Eng:

62. Corinne Kentwood (2017)
61. Alex Wadell (2017)
60. Peter Ferenz (2017)
59. Narit Tangsirivanich (2017)
58. Siva Bharadvaj (2016 - 2017)
57. Elle Carroll (2015)
56. Adam Trofa (2013)
55. Jamie Sternlicht (2013 - 2014)
54. Deng Deng (2013 - 2014)
53. Nile Koebler (2011)
52. Cameron Salzberger (2012)
51. Sebastian Castro (2010)
50. Ting-Yu (Steven) Yeh (2009-2010)
49. Chun-Wei Nien (2009)
48. Nimita Wadhwa (2009)

Mechanical Engineering undergraduates:

47. Alena Hutchinson (2017-present)
46. Jonah Okike-Hephzibah (2017-present)
45. Alex Hirst (2017)
44. Anshuman Das (2017)
43. Laura Lee (2017)
42. Martin Herrera (2017)
41. Wyatt Eberspacher (2017)
40. Edem Kokou (2017)
39. Seetha Kolli (2017)
38. Emmanuel Paulino (2017)
37. Haoyun Xu (2017)
36. Peter Ferenz (2016-2017)
35. Chelsea Sidrane (2015)
34. Corinne Lippe (2015)
33. Lauren Ransohoff (2014 - 2015)
32. Jesse Miller (2014)
31. Lisa Li (2014)
30. Abhishek Sriraman (2013 - 2015)
29. Ryan Allen (2014)
28. Sean Chen (2014)

27. Nolan Poulin - Senior design (2013)
26. Jimmy Zhu (2013)
25. Charles Wang - Senior design (2011)
24. John Mannix (2011)
23. Kai Weng (Catherine) Wong (2011-2013)
22. Gangyuan (Jim) Jing (2009-2011)
21. Matt Monaghan - Senior design (2011)
20. Cameron Salzberger -Senior design and independent research (2010-2011)
19. Sarah Koehler - Senior design and independent research (2010-2011)
18. Ethan Suttner - Senior design (2010)
17. Nabeel Bhaiwala (2010)
16. Armand Awad (2010)

Computer Science M.Eng:

15. Taru Saraswat (2017)
14. Roberto Villalba (2015)

Computer Science undergraduates:

13. Joyce Xu (2017)
12. Roberto Villalba (2011-2014)
11. Anton Gilgur (2014-2016)
10. Kent Huang (2013)
 9. Zizhou Wang (2013)
 8. Daniel Gallagher (2011)

Electrical and Computer Engineering M.Eng:

 7. Wei (Annie) Dai (2011-2013)

Electrical and Computer Engineering undergraduates:

 6. Jiahao Zhang (2017)
 5. Victor Dorobantu (2015 - 2016)
 4. Vitchyr Pong (2015)
 3. Kevin Wang (2013 - 2014)

Applied and Engineering Physics undergraduates:

 2. Kevin Chaudhari (2017)
 1. Nathan Bogdanowicz (2010)

High school students:

5. Emma Hagen (Summer 2019)

4. Vivek Myers (Summer 2016)

3. Max Westwater (2015-2016)

2. Simone Braunstein (Summer 2014)

1. Sunita Christiansen (Summer 2012)