

Daniel E. Koditschek

Alfred Fitler Moore Professor
Electrical and Systems Engineering (ESE)
Computer and Information Science (CIS)
Mechanical Engineering and Applied Mechanics (MEAM)

[Email](#) | [Personal Webpage](#) | [Research Webpage](#)

Honors and Awards: AAAS Fellow - 2009, IEEE Fellow - 2003, Presidential Young Investigator Award - 1986

Research Expertise: [Control Systems](#) | [Robotics](#) | [Mechanical Systems](#)

Research in Dan's group is focused on the application of dynamical systems theory to the design, construction and empirical testing of machines that juggle, run, climb, and in general, interact physically with their environment to perform useful work. Dan and his group seek to probe the foundations of autonomous robotics by reasoning formally about mathematical models that represent the successes and limitations of their physical platforms. They maintain close collaborations with biologists, whose insights about animal mobility and dexterity inspire their thinking and designs.

Member of:

- [General Robotics, Automation, Sensing and Perception \(GRASP\) Lab](#)
- [Institute for Research in Cognitive Science \(IRCS\)](#)

Education:

PhD Electrical Engineering 1983 - Yale University
MS Electrical Engineering 1981 - Yale University
BS Engineering & Applied Science 1981 - Yale University

Recent Publications 

- [Toward a vocabulary of legged leaping](#), Johnson, A.M. | Koditschek, D.E., Proceedings - IEEE International Conference on Robotics and Automation, 2013
- [Toward dynamical sensor management for reactive wall-following](#), De, A. | Koditschek, D.E., Proceedings - IEEE International Conference on Robotics and Automation, 2013
- [Free-standing leaping experiments with a power-autonomous, elastic-spined quadruped](#), Pusey, J.L. | Duperret, J.M. | Haynes, G.C. | Knopf, R. | Koditschek, D.E., Proceedings of SPIE - The International Society for Optical Engineering, 2013
- [Variable Stiffness Legs for Robust, Efficient, and Stable Dynamic Running](#), Galloway, K.C. | Clark, J.E. | Koditschek, D.E., Journal of Mechanisms and Robotics, 2013
- [Tail assisted dynamic self righting](#), Johnson, A.M. | Libby, T. | Chang-Siu, E. | Tomizuka, M. | Full, R.J. | Koditschek, D.E., Adaptive Mobile Robotics - Proceedings of the 15th International Conference on Climbing and Walking Robots and the Support Technologies for Mobile Machines, CLAWAR 2012, 2012

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