

SEMINAR TITLE



**“Nanostructured Surfaces
and Interfaces for Smart
Adhesion and Energy
Harvesting”**

SEMINAR SPEAKER

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Princeton, NJ
Post Doctoral Fellow**

PROGRAM

11:00 a.m. - 11:45 a.m. Lecture
11:45 a.m. - 12:00 p.m. Q&A and
Discussion

ABSTRACT

Nanoengineered surfaces and interfaces exhibit unique or enhanced properties that address important challenges in a variety of systems, including microrobotics, nanomanufacturing, and wireless sensors. I will share highlights of my recent work on nanostructured materials that exploit mechanics, geometry, and surface forces in order to achieve shear-activated adhesion and dry self-cleaning. I will also present a novel theory for a new class of piezoelectric nanostructures that I plan to use in a microscopic device that harvests energy from mechanical vibrations and friction.

BIOGRAPHIC PROFILE

Carmel Majidi is a postdoctoral fellow in the Princeton Institute for the Science and Technology of Materials. He recently earned his Ph.D. from the Department of Electrical Engineering and Computer Sciences at UC Berkeley. There, he worked with Prof. Ron Fearing and researchers in engineering and the life sciences to design, fabricate, and test a novel, gecko-inspired adhesive.