



Department of Engineering  
Seminar Program  
Wednesday, February 5, 2014  
Shanahan Teaching and Learning Center  
Lecture Hall 1430, 4:15pm

**“A Mudd Engineer’s Path Through a National Lab, Academic Research and Industry”  
Gregory Pomrehn ’04**

**Summary:**

Design and testing work at JPL on the Robotic Arm BioBarrier on the Phoenix Mars Lander, which successfully performed its intended function. It protected the robotic arm from biological contamination during the assembly, launch, cruise, descent and landing. It deployed successfully after the Martian dust settled, but not without an unanticipated glitch.

Research at Caltech on thermoelectrics—a fascinating class of materials with coupled properties that can convert heat into electricity and vice-versa. My work includes atomistic calculations that have helped progress the search for efficient, low-cost thermoelectric materials in the Zn-Sb binary phase system.

**Bio:**

Gregory Pomrehn ’04 recently transitioned from the precise study of atomistic material behavior to advising the repair of damaged aircraft parts. He currently works at Boeing in Seattle, WA.

After graduating from Harvey Mudd in 2004, Greg worked at the Jet Propulsion Lab doing design, analysis and testing on structures for several space exploration missions, including the Phoenix Mars Lander and the Mars Science Laboratory, "Curiosity". In 2008, he returned to school to pursue research in energy materials. He recently completed his Ph.D. in Materials Science at Caltech.