**Biologically Inspired "Milli-Robots"**

**Date:** Friday, March 27th, 2015  
**Time:** 7pm U.S. Eastern Time  
**Place:** EdisonTechCenter.org, 136 North Broadway, Schenectady, New York 12305, (518) 372-8425  
**Cost:** "Lecture-Only": No Charge to ASME.org members & non-members  
**RSVP:** Lawrence Kelley, Senior-Section Chair, KelleyLB@ASME.org  
RSVPs via email "Kindly Requested" for your Local ASME.org Section’s Activity Funding Credit!

The goal of Dr. Fearing’s Biomimetic Milli-systems Lab at Berkeley (California) is to harness features of animal manipulation, locomotion, sensing, actuation, mechanics, dynamics, and control strategies, in order to radically improve "milli-robot" capabilities. Research in the lab ranges from a search for fundamental understanding of mechanical principles, to novel fabrication techniques, to system integration of autonomous milli-robots. The lab works closely with biologists to develop models of function which can be tested on engineered and natural systems. The lab's current research is centered on all-terrain crawling using nano-structured adhesives and bio-inspired flight.

**ABSTRACT:**  
Hand-sized robots will create the opportunity to explore a wide range of environments which are too difficult for current robots or people. The study of small animals such as insects, birds, and lizards has led to design insights into better robots. New manufacturing techniques allow these small robots to be quickly and easily built. Small animals are still faster and more robust than robots, but engineering is closing the gap.

**BIOGRAPHY:**  
Ronald Fearing is a professor in the Dept. of Electrical Engineering and Computer Sciences at Univ. of California, Berkeley, which he joined in Jan. 1988. He was Vice-Chair for Undergraduate Matters from 2000-2006. His current research interests are in milli-robotics, including flying and crawling milli-robots, parallel nano-grasping (gecko adhesion), micro-assembly, and rapid prototyping. He has worked in tactile sensing, teletaction, and dextrous manipulation. He has a PhD from Stanford in EE (1988) and SB and SM in EECS from MIT (1983). He received the Presidential Young Investigator Award in 1991, and is the co-inventor on 18 US and international patents.

**TEXT & IMAGES 3/20/2015:** Re-produced & Distributed with Dr. Fearing’s permission from http://robotics.eecs.berkeley.edu/~ronf/ronf.html & emails.

**Link to ASME-Hudson Mohawk full calendar of events:** https://community.asme.org/hudson_mohawk_section/w/wiki/6958.calendar.aspx

In Service and Very Respectfully Yours,

Lawrence Kelley  
Fiscal Years 2012–2015 Chairman - Hudson-Mohawk Section  
The American Society of Mechanical Engineers  
Phone (518) 812-1268, KelleyLB@ASME.org