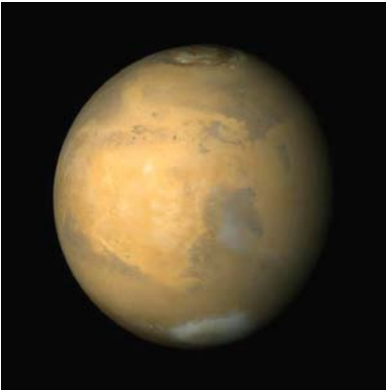




The Southern California Chapter of the AVS Science & Technology Society presents an evening with Dr. Michael Hecht of the Jet Propulsion Lab  
Tuesday September 29, 2009 at  
Il Fornaio, Sorrento Room, 24 West Union Street,  
Pasadena, Ca 91103



## My Summer on Mars (well Tucson actually)



### Abstract

On May 25, 2008, the Phoenix Lander touched down on Mars, triggering exuberant yelps from my fellow scientists and great sighs of relief from Upper Management. We were about to be treated to a deluge of new information about our second-favorite planet. The experience did not disappoint. In the next 151 Martian days we studied the chemistry of Martian soil, finding it to be surprisingly Earth-like in some respects, but laced with perchlorate salts in an entirely alien way. We studied the same soil under an optical microscope, finding that if you look close enough, it's much more interesting than the red dust we've seen so much of with our cameras. To our own astonishment, our atomic force microscope not only worked, but returned important information about the size and shape of Martian dirt particles. We poked and prodded at soil and ice, discovering interesting links between atmospheric humidity and the soil vapor pressure. Our Canadian colleagues studied the weather and discovered snowfall on Mars. We looked up close at so-called polygonal terrain, which forms when a thin veneer of soil covers vast sheets of ice. Eventually, autumn came and our faithful friend painlessly froze to death. The talk will be a mixture of scientific results, a discussion of what it actually takes to run a mission on Mars, and a few mildly amusing anecdotes.

### Our Speaker

The Lead Scientist for the Microscopy, Electrochemistry, and Conductivity Analyzer (MECA) on the recent Phoenix Mars mission, Michael Hecht has been a physicist at the Jet Propulsion Laboratory for the past 25 years. His current research focuses on



## MECA ON MARS

the physics and chemistry of Mars' polar regions. In addition to planetary science, he has worked at various times on semiconductor surfaces and interfaces, the Lead Scientist for the Microscopy, Electrochemistry, and science, MEMS (Micro Electro Mechanical Systems), and scientific instrument development. Prior to MECA, Dr. Hecht was involved in the original conception of the Deep Space 2 probes that flew to Mars in 1999, and led the technology development team for the New Millennium Program that sponsored them. He has designed, built, and operated numerous laboratory instruments for materials analysis, a field in which he has published extensively. He received his PhD from Stanford in 1982, a M.S. from M.I.T. in 1976, and an A.B from Princeton in 1974.

- Date:** Tuesday September 29, 2009
- Time:** 6:00PM Meet and Greet Networking Opportunity  
7:00 PM Dinner  
8:00 PM Presentation by Dr. Hecht
- Cost:** \$20 per person, \$18 members, \$10 Students
- Menu:** Buffet family style serving of:  
Mixed green salad with shaved parmesan  
Assorted mini-panini  
Bowtie pasta with turkey, red onion and fresh mozzarella tossed with basil pesto sauce.  
Homemade organic fingerling potato salad  
Cookies
- Parking:** Free if you park at One Colorado at 30 East Union St., within a block of Il Fornaio Restuarant. Your Il Fornaio server will validate your ticket.
- Directions:** at [www.sccavs.org](http://www.sccavs.org)

### Registration Form

**Deadline: September 23, 2009**

**(No Credit Cards or POs accepted) Payment by check only to: SCCAVS, P.O. Box 3067, San Clemente, CA 92674-3067**

**For additional information, contact: [info@sccavs.org](mailto:info@sccavs.org)**

**[ ] Check enclosed payable to SCCAVS**

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