

Inaugural Campbell Lecture in Environmental Soil and Water Science

Michael Hecht, a physicist at the Jet Propulsion Laboratory, has at various times worked on planetary science, semiconductor surface and interface science, MEMS, and scientific instrument development. He is the lead investigator for the Microscopy, Electrochemistry, and Conductivity Analyzer (MECA), a soil analysis payload scheduled to fly to Mars on the Phoenix mission in 2007.



Michael H. Hecht

Physicist, NASA Jet Propulsion Laboratory

The Phoenix Mission to the Mars Polar Regions: Getting Down and Dirty

CUB Auditorium

Tuesday, November 18, 2003

7:30 p.m.

As images and spectroscopy from the Mars Global Surveyor and Odyssey inform us as to the detailed nature of the martian surface, it is becoming increasingly apparent that Mars is not the desiccated world implied by early Mariner and Viking images. Water-bearing canals and oases of a century ago exist only in fiction, but a contemporary role for water in its various phases seems inarguable. Measurements from Odyssey, in particular, suggest the presence of vast ice sheets just centimeters below the surface at latitudes above 60°. In 2007, the Phoenix Scout mission will land north of the martian arctic circle for an up-close look at this icy region.

Phoenix resurrects bits and pieces of the failed Mars Polar Lander mission and the cancelled 2001 Surveyor Lander mission (including the spacecraft itself) to field a low-cost expedition to the buried Martian ice fields. In the northern Martian spring corresponding to mid-2008 on the Earth calendar, Phoenix will begin excavation of the surface with an articulated robot arm, feeding samples into the MECA and TEGA instrument suites for physical and chemical characterization. Originally developed as the Mars Environmental Compatibility Assessment on the cancelled 2001 Mars Surveyor Lander, the MECA payload will be adapted to the study of icy soils for the Phoenix 2007 Mars Scout mission.



Campbell Lecture: Dr. Gaylon Campbell spent nearly 30 years as a professor of Environmental Biophysics and Soil Physics in the Crop and Soil Science Department at WSU. In 1998, he retired from the university to become the Vice President of Engineering at Decagon Devices, a local manufacturer of biophysical research instrumentation. Dr. Campbell continues to develop instrumentation for science and is currently working together with colleagues at Decagon and JPL to design a new Thermal and Electrical Conductivity Probe (TECP) that will be carried on the Phoenix 2007 mission to Mars. The Campbell Lecture was created to help further our understanding of environmental soil science (on earth and beyond).

The Campbell Lecture in Environmental Soil and Water Science was created through gifts from Campbell Scientific, Inc. and Decagon Devices, Inc.

WASHINGTON STATE
UNIVERSITY

World Class. Face to Face.