Thursday, March 26, 2009
POSTER SESSION II: NOT JUST SKIN DEEP: ELECTRON MICROSCOPY, HEAT FLOW, RADAR, AND SEISMOLOGY INSTRUMENTS
6:30 p.m. Town Center Exhibit Area

Thaisen K. G. Taylor L. A. Gaskin J. A. Jerman G. Ramsey B. D.
An ESEM/SEM Study of Lunar Soil and the Potential for a Miniaturized Version on the Moon **[#1697]**
A PIDDP funded program involving the miniaturization of an Environmental Scanning Electron Microscope with Energy Dispersive Spectroscopy capability for potential use on rovers.

Gaskin J. G. Jerman G. A. Ramsey B. D. Ferguson C. K. Abbott T. O. O'Brien S. Joy D. C. Thaisen K. G. Taylor L. A. Sampson A. R. Rhodes E. A. Darlington E. H. Bussey B. J. Harvey R. P. Spudis P. D.
Miniature Scanning Electron Microscope for In-Situ Planetary Studies: Electron Gun Development **[#2318]**
We are developing a miniaturized scanning electron microscope that will permit *in situ* morphological and chemical characterization of lunar soil. Work presented here concerns the development and testing of the electron gun component of this system.

Stojic A. Brenker F. E.
Argon Ion Slicing (ArIS) of Mineral and Rock Samples: A Novel Tool to Prepare Large Electron Transparent Thin Films for TEM Use **[#1807]**
A new approach to TEM sample preparation is presented using Argon Ion Slicing a novel technique which provides larger electron transparent thin films than had been possible so far.

Smrekar S. E. Mungas G. Peters G. Hudson T. L. Morgan P.
Lunar Heat Flow Simulation and Testing Chamber **[#2055]**
Heat flow is a key indicator of planetary thermal and chemical evolution. We have constructed a vacuum chamber to provide a testbed for evaluating heat flow instrumentation and measurement issues and calibration techniques prior to flight.

Grott M. Spohn T. Richter L. Wieczorek M. A. Knollenberg J. Smrekar S. E. Kargl G. Ambrosi R. M. HP^3 Instrument Team
HP^3 — A Heat Flow Probe Proposed for the International Lunar Network **[#1107]**
HP^3, the heat flow and physical properties package, is proposed to be flown on the International Lunar Network mission. It will measure the thermal conductivity and thermal gradient to a depth of at least 3 m, allowing for a direct determination of the planetary heat flow.

Wawrzaszek R. Seweryn K. Grygorczuk J. Banaszkiewicz M. Gurgurewicz J. Neal C. R. Huang S. Kömle N.
The Heat-Flow Probe Hardware Component (HPHC) of the LGIP Package **[#1511]**
This work is focused on the integration of the Heat Flow Probe Hardware Component – instrument in the L-GIP Package, designed for direct measurements of the thermal energy flux from the interior of the Moon using mole device developed in SRC PAS.

Nagihara S. Zacny K. Taylor P. T. Milam M. B. Mumm E. Maksymuk M. Fink P. Hernandez W.
Heat Flow Probe Deployment Options for the International Lunar Network Missions **[#1165]**
The present work describes instrument design options for a lunar heat flow probe that can meet the logistical constraints and the science objectives of the International Lunar Network lander missions planned in the next decade.

Ciarletti V. Corbel C. Cais F. Plettemeier D. Hamran S. E. Øyan M. WISDOM Team
Performances of the WISDOM GPR Designed for the Shallow Sounding of Mars **[#2367]**
WISDOM is the UHF GPR selected to be onboard the rover of the ExoMars mission. It is designed to characterize the shallow subsurface structure of Mars prior to drilling operation. The first measurements performed on Earth show very promising results.

Zacny K. Mumm E. Fink P. Hernandez W. Paulsen G. Maksymuk M.
Telescopic/Pneumatic Heat Flow Deployment for the International Lunar Network Missions **[#1070]**
We describe a method of deploying heat flow probe for the International Lunar Network that consists of a telescopic probe with deployable isolated thermal anchors. The pneumatic hammer and gas flushing uses left over helium from a propulsion system.

Asphaug E. Safaeinili A. Belton M. J. S. Scheeres D. J. Chesley S. Yeomans D.
Deep Interior: High-Resolution Volumetric Radar Imaging of a Comet Nucleus **[#2109]**
Deep Interior uses a SHARAD-type radar to acquire 10 Tb of global echoes from a comet nucleus, a data set that will resolve the whole-body geology to better than 10 m in 3D.

Neal C. R. Weinberg J. D. Lognonné P. Hood L. Mimoun D. Wawrzaszek R.
Banaszkiewicz M. LGIP Team
Lunar Geophysical Instrument Package as a Payload for the International Lunar Network **[#1447]**
This submission describes the characteristics of the Lunar Geophysical Instrument Package (LGIP), its suitability as a payload for the ILN and the distinct advantages of using a common integrated suite of instruments.

Heggy E. Fong T. Kring D. Deans M. Anglade A. Mahiouz K. Bualat M. Lee P.
Horz F. Bluethmann W.
Potential of Probing the Lunar Regolith Using Rover-mounted Ground Penetrating Radar: Moses Lake Dune Field Analog Study **[#2183]**
We present Ground Penetrating Radar results of the Moses-Lake survey performed in June 2008 using two rover mounted probing instruments. Our results explore the utility of GPR to explore subsurface volatiles and structural elements in lunar analog terrains.

Grimm R. E. Delory G. T.
Magnetotelluric Sounding of Terrestrial Planet and Satellite Interiors **[#2382]**
Simultaneous measurement of ambient electric and magnetic fields enables subsurface soundings from a single platform.

Schibler P. Lognonne P. Mimoun D. Zweifel P. Roll R. Kreuse I. Pike W. T. Calcutt S. Debus A.
Planetary Protection Policy Applied to HPL-ExoMars Seismometer **[#1312]**
The scope of this presentation is to describe how the instrument project will be conducted so as to meet the planetary protection requirements specified for ExoMars mission.

Batenburg P. A. W. Foing B. H. Drijkonigen G. G. Gill E. K. A. Poulakis P. Visentin G. Page J.
Pletser V. Peters S. Borst A. Mahapatra P. ExoGeoLab Team EuroGeoMars Team
Reflection Seismology Systems for Planetary Geology: First Tests at ESTEC ExoGeoLab and MDRS, Utah **[#2536]**
The authors investigated the use of reflective seismology for Planetary geology within ESA's ExoGeoLab pilot project. During the EuroGeoMars expedition tests were performed to test the influence of surface coupling and composition on data quality.