Friday, November 7, 2014
TECHNOLOGY FOR IN-SITU ANALYSIS AND SAMPLE RETURN (II)
1:40 p.m. / Building 34 -Conference Room W150

Chairs: **M. Trainer *(GSFC)***
L.Carter *(GSFC)*

1:40 p.m. Noell A. C. * Lee M. C. Takano N. Elleman D. Hasenoehrl J. et al.
Astrobionibbler: Microfluidic Subcritical Water Extraction of Organics from Planetary Samples **[#1100]**
Astrobionibbler is a microfluidic instrument meant for sample extraction and concentration of organic molecules from solid powder samples. By miniaturizing the extraction and concentration process it will enable a wide range of wet chemical analysis.

1:55 p.m. Getty S. A. * Li X. Cornish T. Grubisic A. Uckert K. et al.
A Two-step Tandem Laser Time-of-Flight Mass Spectrometer for the In Situ Study of the Surfaces of Primitive and Icy Solar System Bodies **[#1101]**
Laser desorption/ionization time-of-flight mass spectrometry offers compositional analysis of solid samples using an instrument that can be made compact, low power, and lightweight for future in situ misions to primitive bodies and icy moons.

2:10 p.m. Alerstam E. * Blacksberg J. Maruyama Y. Cochrane C. Rossman G. R.
A miniature time-resolved Raman spectrometer for in situ planetary surface exploration **[#1077]**
We present a time-resolved Raman spectrometer (TRRS) for planetary science as a means for identification and mapping of minerals even in the presence of high background fluorescence.

2:25 p.m. Parsons A. M. * Evans L. G. Karunatillake S. McClanahan T. P. Moersch J. E. et al.
High Sensitivity Subsurface Elemental Composition Measurements with PING **[#1108]**
The Probing In situ with Neutrons and Gamma rays (PING) instrument will measure the bulk elemental composition of the subsurface of any solid solar system body and is a versatile, effective tool for a host of in situ scientific investigations.

2:40 p.m. Tulej M. * Riedo A. Neuland M. Wurz P.
LMS Instrument: Present State and Perspectives for Element and Isotope Analysis of Planetary Materials **[#1137]**
The performance figures of a miniature laser abaltion/ionisation instrument (LMS) are presented and its coupling with a miniature microscope-camera (CAMAM suite) for additional complementary characterisation of the planetary materials.

2:55 p.m. Rymer A. M. * Westlake J. H. Smith H. T. Strohbehn K. Bowen K.
ANIONS: Atmospheric Negative ION Sensor. **[#1099]**
The importance and measurement of planetary atmospheric negative ion chemistry.

3:10 p.m. Núñez J. I. * Adams E. Y. Koerner L. J. Murchie S. L.
Impact of Geometry on Element Abundances from X-ray Fluorescence in Vacuum: Considerations for APXS Measurements on Small Airless Bodies **[#1145]**
We present test results of a prototype APXS instrument under vacuum to assess the impact of position geometry on element abundance measurements using x-ray spectroscopy. Results have implications for in-situ APXS measurements on asteroids or comets.

3:25 p.m. Roman M. J. * Malin M. C. Ravine M. A. Robinson M. S.
Strategies for unmanned lunar rovers: Integration of teleoperation and autonomy based on field testing **[#1153]**
We have carried out a series of rover field tests, demonstrating multiple km of range with human-in-the-loop operation (with lunar-appropriate latency) and (in separate tests) with autonomous operation.

3:40 p.m. Anderson F. S. * Whitaker T. J. Levine J. L.
The Case For In-situ Dating with Geologic Context for the Moon and Mars using the Chemistry, Organics, And Dating EXperiment (codex) **[#1161]**
The Chemistry, Organics, and Dating Experiment can identify evidence of non-terrestrial organics, and understand the history and duration of events in the solar system, placing them both in context.

3:55 p.m. **END OF ORAL SESSION**