Thursday, October 27, 2016
PLENARY IV: EMERGING INSTRUMENT CAPABILITIES AND CHALLENGES FOR PLANETARY EXPLORATION
8:30 a.m. International Ballroom

Chair: Morgan Cable

8:30 a.m. Souders A. K. * Sylvester P. J.
Summary of 2016 GSA Annual Meeting Session T39: 'Go Small or Go Home: Microbeam Techniques Applied to Igneous, Metamorphic, and Sedimentary Petrology of Earth and Planetary Materials' **[#4120]**
Report on 2016 GSA Annual Meeting topical session 'Go Small or Go Home: Microbeam Techniques Applied to Igneous, Metamorphic, and Sedimentary Petrology of Earth and Planetary Materials'.

8:45 a.m. Allen C. C. * Beaty D. W.
Potential Mars Sample Return: The Next Really Big Challenge in Planetary Instrumentation **[#4099]**
We look ahead to the possible return to Earth of samples collected by the Mars 2020 mission, and address the measurements and types of instruments that could provide initial characterization and sample preparation required for planetary protection.

9:00 a.m. Meyer M. A. * Rummel J. D.
Planetary Protection Technology Definition Team: Tasks, Status, and Feedback **[#4090]**
A Planetary Protection and Technology Definition Team will assess challenges to meeting planetary protection requirements to instruments and will suggest technological solutions. Status and initial findings will be reported.

9:15 a.m. Brinckerhoff W. * Grubisic A. Danell R. van Amerom F. Pinnick V. Li X. Arevalo R. Getty S. Trainer M. Mahaffy P. Chu P. Zacny K. Rogacki S.
The Past, Present and Future for the Linear Ion Trap Mass Spectrometer (LITMS) and Related Ion Trap Instrumentation **[#4112]**
Summary of the current status, results and plans for the Linear Ion Trap Mass Spectrometer instrument development project including its contrast to past instrumentation and the outlook for the future.

9:30 a.m. Willis P. *
Overview and Prospects for Microscale Liquid Chemical Analysis on Planetary Missions

9:45 a.m. John K. K. * Botkin D. J. Burton A. S. Castro-Wallace S. L. Chaput J. D. Dworkin J. P. Lupisella M. L. Mason C. E. Rubins K. H. Smith D. J. Stahl S. Switzer C.
Biomolecule Sequencer: Nanopore Sequencing Technology for In-Situ Environmental Monitoring and Astrobiology **[#4103]**
Biomolecule Sequencer will demonstrate, for the first time, that DNA sequencing is feasible as a tool for in-situ environmental monitoring and astrobiology. A space-based sequencer could identify microbes, diseases, and help detect DNA-based life.

10:00 a.m. Castillo-Rogez J. C. Feldman S. * Baker J. D. Vane G.
State of Small Instruments for Nano-Spacecraft Applications **[#4123]**
This presentation reviews the current state of the art in small instruments as well as emerging capabilities.

10:15 a.m. Ravine M. A. * Caplinger M. A. Hansen C. J. Ingersoll A. P. Bolton S. J.
JunoCam: Approach and Orbit 1 Imaging **[#4104]**
Juno went into orbit around Jupiter on 4 July 2016. Junocam took images of Jupiter and its satellites in the weeks before Jupiter Orbit Insertion (JOI) and the weeks after. Much higher resolution data will be acquired in late August 2016.

10:30 a.m. *Coffee Break*