

Friday, June 20, 2014
CROSS CUTTING TECHNOLOGIES
9:00 a.m. Beckman Institute Auditorium

Chairs: Michelle Munk
Karl Edquist

- 9:00 a.m. Bouilly J.-M. * Scheer H. Pisseloup A.
[Sample Return Challenges and Technologies](#) [#8037]
During the last ten years, Airbus Defence and Space contributed to several Earth Return Capsules projects. The scope of this paper is to present an overview of main results and achievements obtained through mission studies and technology maturation.
- 9:15 a.m. Venkatapathy E. * Ellerby D.
[Heat Shield for Extreme Entry Environment Technology for Near-Term Robotic Science Missions and Longer Term Human Missions](#) [#8101]
Heat shield for Extreme Entry Environment is currently funded for technology development for mission infusion into Discovery-13 and New Frontier-4 completed missions. We will describe the technology and the approach to TRL 6 to meet infusion challenges.
- 9:30 a.m. Greenlaw R J. * Arthur D. T. Anderson R. C. Andrade J. E.
[Direct Write Sensors for Space and Probe Applications](#) [#8107]
This presentation will summarize the latest advances in Direct Write Thermal Spray technology related to probe applications including temperature sensors, heat flux sensors, recession sensors, integrated wiring, antennas, and heaters.
- 9:45 a.m. Hemmati H. Sengupta A. * Castillo J. McElrath T. Roberts T. Willis P.
[Two-Dimensional Planetary Surface Lander](#) [#8119]
A systems engineering study was conducted to leverage a new two-dimensional (2D) lander concept with a low per unit cost to enable scientific study at multiple locations with a single entry system as the delivery vehicle.
- 10:00 a.m. Samareh J. * Armand S.
[Pressure Vessel Design Concepts for Planetary Probe Missions](#) [#8121]
Materials and systems for extreme environments have been identified by the Outer Planets Assessment Group (OPAG) as technology needs for future planetary probe missions.
- 10:15 a.m. Sakraker I. * Umit E. van der Haegen V. Chazot O.
[Atmospheric Entry Aerothermodynamics Flight Test on CubeSat Platform](#) [#8041]
The challenging aerothermochemistry of atmospheric entry is aimed to be experimented on a triple CubeSat platform having ablative TPS in the front unit and ceramic TPS on the side panels. Five aerothermodynamics payloads are presented in this paper.
- 10:30 a.m. Pigneur B. * Ariyur K. B.
[Multiple Sensors for Absolute Measurement of Aerobraking Spacecraft State Estimation](#) [#8105]
Prior methods to determine the spacecraft state estimation for aerobraking have been radiometric tracking data and IMU measurement. We propose a novel method for real-time absolute measurement of full state estimation based on multiple sensors.
- 10:45 a.m. COFFEE BREAK
- 11:00 a.m. PANEL DISCUSSION