

Monday, April 24, 2017
ASTROBIOLOGY AS A HUMAN ENDEAVOR: PLANETARY PROTECTION:
ASTROBIOLOGY AND PLANETARY PROTECTION I
10:15 a.m. Mesa Room

Chairs: **Rakesh Mogul**
Margaret Race

- 10:15 a.m. Vaishampayan P. A. * Weinmaier T. Probst A. J. La Duc M. T. Ivanova N. Rattei T.
[*The Viable Microbiome of Spacecraft Assembly Cleanroom Environments: Metagenome of the Living*](#) [#3187]
 A metagenome analysis, coupled with a molecular viability marker, of spacecraft assembly cleanroom samples showed significantly different microbiome profiles.
- 10:30 a.m. Baki R. * Lee S. Barding G. A. Mogul R.
[*Metabolomics and Oxidative Extremotolerance of Spacecraft-Associated Acinetobacter Grown on Ethanol*](#) [#3479]
 In this presentation, we will provide molecular and biological evidence that Acinetobacter radioresistens 50v1 metabolizes spacecraft cleaning solvents.
- 10:45 a.m. Dworkin J. P. * Lorentson C. C. Reigle C. A. Moore J. Jayne G. O. Matthias L. L. McLain H. L. Elsila J. E.
[*OSIRIS-REx Amino Acid Contamination Results*](#) [#3138]
 OSIRIS-REx controlled organic amino acid contamination during assembly, test, and launch. The methods and lessons can be a pathfinder for planetary protection.
- 11:00 a.m. Schuerger A. C. * Kelley K.
[*Ultrastructure of the Bacterium, Serratia Liquefaciens, Grown Under Simulated Mars Conditions of 0.7 kPa, 0 C, and CO₂-Enriched Anoxic Atmospheres*](#) [#3364]
 Cells of Serratia liquefaciens grown at 0.7 kPa were noticeably larger and more distorted than cells grown under Earth-normal pressures of 101.3 kPa.
- 11:15 a.m. Khodadad C. L. Wong G. M. Smith D. J. *
[*Stratosphere Conditions Inactivate Bacterial Endospores from a Mars Spacecraft Assembly Facility*](#) [#3013]
 Earth's stratosphere can be used to predict how stowaway microbes might respond to the martian surface. We will discuss results from a NASA balloon mission.
- 11:30 a.m. Leuko S. * Koskinen K. D'Angeli I. Sanna L. De Waele J. Marcia P. Moissl-Eichinger C. Rettberg P.
[*The Microbial Diversity of the Su Bentu Cave, Italy and the Influence of Human Exploration*](#) [#3271]
 We will present the impact of human exploration on the microbial diversity of a pristine subterranean environment.
- 11:45 a.m. Urbaniak C. * Venkateswaran K.
[*International Space Station-Microbial Observatory of Pathogenic Viruses, Bacteria and Fungi and the Impact on Astronaut Health*](#) [#3307]
 Using "big data" to understand how space travel effects the microbiome of astronauts and what microbes can persist in space and contaminate other planets.
- 12:00 p.m. *Lightning Talks*
- 12:15 p.m. *Lunch*