Tuesday, March 18, 2014 **[T647]**
POSTER SESSION: PLANETARY MISSION CONCEPTS
6:00 p.m. Town Center Exhibit Area

Heather D. J. Barthelemy M. Manaud N. Martinez S. Szumlas M. et al. ***POSTER LOCATION #609***
ESA'S Planetary Science Archive: Status and Plans **[#1843]**
ESA's Planetary Science Archive is the repository for all data returned by ESA's planetary explorers. All data holdings, activities, and plans are described.

Ishimaru R. Sakamoto Y. Kobayashi M. Fujita S. Gonai T. et al. ***POSTER LOCATION #610***
CubeSat Mission for UV-Visible Observations of Meteors from Space: S-CUBE (S3: Shootingstar Sensing Satellite) **[#1846]**
We talk about a 3U CubeSat "S-CUBE" to observe UV-visible observations of meteors from space.

Klaus K. Elsperman M. S. Donahue B. B. Post K. E. Raftery M. L. et al. ***POSTER LOCATION #611***
The Space Launch System for Exploration and Science **[#2234]**
The Space Launch System (SLS) is the most powerful rocket ever built and provides a critical heavy-lift launch capability enabling diverse deep space missions.

Klaus K. Raftery M. L. Post K. E. ***POSTER LOCATION #612***
An Affordable Mars Mission Design **[#2258]**
We will describe a stepping stone approach that charts a path starting at ISS operations today and ultimately leading to a crewed mission to the surface of Mars.

Varga T. P. Szilágyi I. Varga R. K. Bérczi Sz. ***POSTER LOCATION #613***
Building with Tetrahedral Structure for Planetary Surfaces and for Analog Modeling on the Earth by the Hunveyor Concept **[#2483]**
The building has a tetrahedral outer frame supported by a tripod base, placeable on the lunar or martian surface, and suitable for Earth-based analog experiments.

Clark P. E. Farrell W. Cox R. ***POSTER LOCATION #614***
Compact Cryogenic Environment Instrumentation and Experiment for the Lunar Surface as Analogue for Planet and Exoplanet Surface Processes **[#1052]**
We discuss instrumentation and technologies crucial for exploration of lunar polar regions as an analog for planet and exoplanet surfaces.

Clark P. E. MacDowall R. Reuter D. Mauk R. Patel D. et al. ***POSTER LOCATION #615***
LunarCubes: Application of the CubeSat Paradigm to Lunar Missions **[#1049]**
We have evaluated application of the CubeSat paradigm for deep space missions and developed the LWaDi Lunarcube mission.

Lee H.-J. Lee J.-K. Baek S.-M. Kim K.-H. Jin H. et al. ***POSTER LOCATION #616***
A CubeSat Mission for Korean Lunar Exploration **[#1783]**
We describe a CubeSat as one of the payloads for Korean Lunar Exploration to measure magnetic fields on the Moon.

Gullikson A. L. Curran N. M. Potts N. J. Dhaliwal J. K. Leader M. et al. ***POSTER LOCATION #617***
Traverse and Station Options for a Robotic Sample Return to Schrödinger Basin **[#2082]**
Traverse options for a robotic and/or human assisted return sample mission to Schrödinger basin have been created to address important lunar scientific goals.

Curran N. M. Gullikson A. L. Potts N. J. Dhaliwal J. K. Leader M. et al. ***POSTER LOCATION #618***
A Robotic Sample Return Mission to the Northern Portion of the Schrödinger Basin Peak Ring **[#1475]**
Traverse options for a robotic sample return mission to the northern portion of Schrödinger basin, addressing many NRC (2007) science goals and priorities.

Potts N. J. Gullikson A. Curran N. M. Dhaliwal J. K. Chang G. et al. ***POSTER LOCATION #619***
Mapping Solar Irradiance Within Schrodinger Basin for Future Robotic Sample Return Missions **[#1835]**
Analysis of solar irradiance data from LMMP for the period January 2018 through December 2021 for a potential robotic mission to Schrödinger Basin.

Leader M. K. Rege R. N. Potts N. J. Gullickson A. L. Curran N. M. et al. ***POSTER LOCATION #620***
Velocity of a Rover as a Function of Slope of Lunar Terrain **[#2683]**
Abstract outlines a derived model for the velocity of a rover as a function of the slope of lunar terrain. It can be used for more accurate mission planning.

Ghail R. C. EnVision team ***POSTER LOCATION #621***
EnVision: Taking the Pulse of our Twin Planet **[#2547]**
EnVision is an ambitious ESA M-class InSAR mission to measure rates of change in its interior, surface, and atmosphere, and the causative processes involved.

Russell C. T. Villarreal M. Hart R. Ma Y. J. Luhmann J. G. et al. ***POSTER LOCATION #622***
Sounding the Interior of Mars and Venus Using Existing Spacecraft and Future Landers **[#2064]**
Magnetic observations from orbiting and landed missions can be used to constrain the size of the metallic cores of Venus and Mars.

Lee P. Bicay M. Colaprete A. Elphic R. Genova A. et al. ***POSTER LOCATION #623***
Phobos and Deimos and Mars Environment (PADME): A LADEE-Derived Mission to Explore Mars's Moons and the Martian Orbital Environment **[#2288]**
PADME is a proposed rapid low-cost NASA Mars orbiter mission that will address longstanding unknowns about Mars' two moons and the circum-martian environment.

Warner N. H. Golombek M. P. Bloom C. Wigton N. Schwartz C. ***POSTER LOCATION #624***
Regolith Thickness in Western Elysium Planitia: Constraints for the InSight Mission **[#2217]**
The HP^3 mole onboard InSight requires a regolith for successful penetration. We constrain regolith thickness at the landing site using rocky ejecta craters.

Golombek M. Wigton N. Bloom C. Schwartz C. Kannan S. et al. ***POSTER LOCATION #625***
Final Four Landing Sites for the InSight Geophysical Lander **[#1499]**
InSight, the Discovery Program lander designed to determine the interior structure of Mars has downselected to four landing sites in Elysium Planitia.

Stooke P. J. ***POSTER LOCATION #626***
Mars Sample Return via Robotic Collection, Phobos Cache and Human Retrieval **[#1043]**
Samples from Mars (+ Deimos, Mars trojans, etc.) cached on Phobos and retrieved in a first human Mars mission give the rehearsal flight a major science goal.

Khan M. S. ***POSTER LOCATION #627***
Concept of Sample Return Rover for Mars Exploration **[#2265]**
The concept of Sample Return Rover to Mars focuses on the idea of transporting the martian samples for their physical analysis on Earth.

Bouchard M. C. ***POSTER LOCATION #628***
Crewed Martian Traverses; Building on Lessons Learned from Apollo, Robotic Missions, and Planetary Analogs **[#1580]**
This abstract introduces a high level command and control architecture for the first human exploration mission to Mars based on lessons learned from the past.

Nakamura-Messenger K. Connolly H. C. Jr.
Lauretta D. S. OSIRIS-REx Science Team ***POSTER LOCATION #629***
Strategy for Ranking the Science Value of the Surface of Asteroid 101955 Bennu for Sample Site Selection for OSIRIS-REx **[#2023]**
We summarize our strategy for selecting and characterizing sample sites on Bennu based on their primary science value.

Zimmer M. Williams K. Johnson J. Church C. Fevig R. et al. ***POSTER LOCATION #630***
Precision Control of Autonomous Spacecraft During Close-Proximity NEO Operations Using Classical Control Methodologies **[#2226]**
The purpose of this work is to develop an autonomous, robust mission design and controller to enhance spacecraft performance in close-proximity NEO operations.

Jackson T. L. Zimmerman M. I. Farrell W. M. ***POSTER LOCATION #631***
Concerning the Charging of an Exploration Craft On and Near a Small Asteroid **[#2154]**
With this work we demonstrate how stationary and moving astronauts will charge when immersed in an airless plasma environment about a small asteroid.

Anderson R. C. Scheeres D. Chesley S. BASiX Team ***POSTER LOCATION #632***
Binary Asteroid In-Situ Explorer Mission (BASiX): A Mission Concept to Explore a Binary Near Earth Asteroid System **[#1571]**
The Binary Asteroid in-situ Explorer (BASiX) mission will actively probe a NEA and make the first quantitative measurements of a binary asteroid system.

Elkins-Tanton L. T. Asphaug E. Bell J. Bercovici D. Bills B. G. et al. ***POSTER LOCATION #633***
Journey to a Metal World: Concept for a Discovery Mission to Psyche **[#1253]**
We propose to visit an iron core by sending a mission to (16) Psyche, by far the largest exposed iron metal body in the solar system.

Asphaug E. Thangavelautham J. ***POSTER LOCATION #634***
Asteroid Regolith Mechanics and Primary Accretion Experiments in a Cubesat **[#2306]**
We are developing a satellite centrifuge platform AOSAT for low-cost asteroid regolith and primary accretion studies.

Mège D. Gurgurewicz J. Grygorczuk J. Wiśniewski Ł. Rickman H. et al. ***POSTER LOCATION #635***
The Highland Terrain Hopper: Scientific Exploration of Rugged Terrain on Low-Gravity Planetary Bodies **[#1262]**
This light and inexpensive mobile platform is designed to be dropped and do science on any terrain, regardless of its roughness. Examples are given.

Moores J. E. Carroll K. A. DeSouza I. Sathiyanathan K. Stoute B. et al. ***POSTER LOCATION #636***
The Javelin Concept: A Swarm of Scientific Microprobes to the Clouds of Jupiter in 2030 **[#1418]**
A modular mission concept is presented for shallow micro-atmospheric penetrators at Jupiter that takes advantage of the in-system JUICE spacecraft in 2030.

Pappalardo R. Prockter L. Senske D. Paczkowski B. Vance S. et al. ***POSTER LOCATION #637***
Science and Reconnaissance from the Europa Clipper Mission Concept **[#1655]**
Europa Clipper / Science and reconnaissance / Ice, water, and… life?

Tsou P. Anbar A. Atwegg K. Baross J. Brownlee D. et al. ***POSTER LOCATION #638***
LIFE — Enceladus Plume Sample Return via Discovery **[#2192]**
Whenever there is water on Earth, there is life. Enceladus is the second body that has water. Returning samples may well satisfy our yearning if we are alone.

Amato M. J. Jones A. L. Jabola A. ***POSTER LOCATION #639***
Planetary Atmosphere Probe Descent Modules and Payloads for Gas and Ice Giants Science **[#2076]**
Planetary probes capable of in situ measurements of gas and ice giants allow critical science measurements. Updated descent modules and payloads are discussed.

Saikia S. J. Daubar I. J. Syal M. B. Bunte M. Cook C. et al. ***POSTER LOCATION #640***
A New Frontiers Mission Concept for the Exploration of Uranus **[#2406]**
An Uranus Orbiter and a Probe mission concept.

Liu Y. Beaty D. W. Bass D. S. Mattingly R. L. ***POSTER LOCATION #641***
What Attributes Related to Sample Quality Would be Required to Achieve the Scientific Objectives of Mars Sample Return (MSR)? **[#1460]**
Considerations of factors that may affect the science value of martian returned samples.