

NASA Exploration Science Forum
 July 23-25, 2019
 NASA Ames Research Center, Building 152



Tuesday, July 23, 2019

7:30	Pendleton	Student Breakfast with SSERVI Chief Scientist
7:30		Set up Posters
7:30		Registration Open
8:30	Schmidt	ESF Welcome
		Plenary Session: Past, Current and Future Exploration (Hendrix, Petro)
9:00	Burns	Cosmology from the Moon
9:15	Pieters	The Importance of Diversity and Ground Truth in Lunar Exploration
9:30	Kring	Preparing for Lunar Surface Science Operations/Lunar South Pole Geology: Preparing for a Seventh Landing
9:45	Orlando	Adsorption, Formation and Transport of Molecular Water on Lunar Regolith
10:00	O'Brien	50th Anniversary Celebration of Both Apollo 11 Active Experiments: Passive Seismometer & Dust Detector Temperatures over 21 Days
10:15	Andrews	The U.S. National Near-Earth Object Preparedness Strategy and Action Plan: Summary of Progress to Date
10:30		Networking Break
10:45		LEAG Town Hall
11:30		Student Lightning Round Talks
12:00		Lunch & Focus Groups
		Plenary Session: Exploration Payloads and Concepts (Cohen, Farrell)
13:30	Dell'Agnello	Laser Retroreflectors for: Didymos, Comets, Phobos, Deimos, CLPS and Lunar Lagrangian L1 for Exploration, Planetary and Gravity
13:45	Lee	Globetrotter: An Airbag Hopper for Lunar Surface and Pit/Cave Exploration
14:00	Noe Dobrea	SSERVI TREX Autonomous Rover-Based Science in the Field
14:15	Zuniga	NASA Frontier Development Lab: An Artificial Intelligence Research Accelerator for Lunar Science and Exploration
14:30	Cohen	A CLPS-Delivered Ion-Trap Mass Spectrometer for Lunar Surface Volatiles
14:45	Zacny	Planetary Volatiles Extractor (PVEX) for In Situ Resource Utilization (ISRU) and Delivering Volatiles Directly to GCMS
15:00		Networking Break
15:15	Bleacher	Forward to the Moon: The ARTEMIS Program
15:30	Clarke	NASA's Lunar Exploration Campaign: Scientific and Exploration Activities
16:00	Morse	CLPS: Orbit Beyond
16:15	Thornton	CLPS: Astrobotic Technology
16:30		Poster Session (no host bar)
18:00-20:00	Clarke	Workshop: What You Need to Know for Instrument Delivery by CLPS

Wednesday, July 24, 2019

7:30		Registration Open
		Plenary Session: Lunar Geology and Exploration (Glotch, Zellner)
8:00	Schmitt	Armstrong's Sample Suite Provided Insights into a Broad Range of Lunar Science Questions
8:15	Austin	Robotic Lunar Surface Operations 2
8:30	Mehta	A Sequence for Future Lunar Landings to Enhance Scientific Returns
8:45	Danilova	Human and Robotic Missions Combination in Lunar Exploration Roadmap
9:00	Glaze	NASA Planetary Science Division Update
9:45		Networking Break
		Parallel Session 1: Lunar Geology and Exploration (Glotch, Zellner)
10:00	Feist	Documenting of Geologic Field Activities in Real Time in Four Dimensions: Apollo Temporal Data Management - A Case Study
10:15	Greenhagen	Groundtruthing Laboratory Experiments with Diviner Lunar Radiometer Observations
10:30	Bottke	Testing a Possible Surge in Impacts on the Earth and Moon from Two Billion Years Ago
10:45	Zellner	Lunar Impact Glasses: Small Samples, Big Science
11:00	Anand	Reconciling the Hydrogen and Chlorine Isotopic Signatures of the Moon
11:15	Boston	The Moon as a Thanatocoenosis: Is There Any Hope for Lunar Paleontology?

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Parallel Session 2: Science From and Of the Moon (Donaldson Hanna, Bassett)

10:00	Furlanetto	Insights into the First Stars from Low-Frequency Radio Observations: The Lunar Environment as an Astrophysics Platform
10:15	Bassett	The Radio Quiet Environment Above the Lunar Farside and its Application to 21-cm Experiments
10:30	Samaniego	A Double hemispherical Probe (DHP) for Improving Space Plasma Measurements
10:45	Deutsch	Investigating Diurnal Changes in the Normal Albedo of the Lunar Surface at 1064 nm: A New Analysis with the Lunar Orbiter Laser
11:00	Kremer	Discrete Spectral Absorption Bands in 4-8 μm Infrared Region: New Tool for Remote Compositional Assessment of Olivine FE Content
11:15	MacDowall	Lunar Payload for Radio Wave Observations at the Lunar Surface of the Photoelectron Sheath (ROLSSES)
11:30		Bus to USS Hornet (with Pre-ordered Box Lunch)
13:00 - 18:00		Apollo 11 Splashdown Anniversary on the USS Hornet

Thursday, July 25, 2019

8:00		Registration Open
8:30		SSERVI Awards
		Plenary Session: Mission & International Partner Updates (Gibbs, Schmidt)
9:45	Fujimoto	JAXA Lunar Exploration Plan
10:00		Networking Break
10:15	Petro	A New Decade of Lunar Reconnaissance Orbiter Observations of the Moon: Science and Exploration in the 2020s
10:30	Fujimoto	Hayabusa-2 Overview and Updates
11:00	Sandford	OSIRIS-REx Overview and Updates
11:30	Fujimoto	MMX Overview and Updates
11:45		SSERVI - JAXA Partnership Agreement Signing
12:00		Lunch & Focus Groups
		Parallel Session 3: Lunar Volatiles (Killen, Anand)
13:30	Flom	Water and Hydroxyl Features at Reiner Gamma
13:45	Li	Surface Water at Lunar Magnetic Anomalies
14:00	Tucker	On the Effect of Magnetospheric Shielding on the Lunar Hydrogen Cycle
14:15	Killen	The Lunar Neon Exosphere Seen in LACE Data
14:30	Prem	Modeling the Response of the Lunar Exosphere to the Release of Spacecraft Exhaust Volatiles
14:45	Jones	In Situ Formation of Molecular Water on Mercury
		Parallel Session 3: Crewed and Robotic Space Activities (Beltran, Bussey)
13:30	Beltran	Radiation Polymer Radiation Testing for Crew Safety
13:45	Hendrix	Generating a More Analogous Lunar Regolith Simulant in Order to Better Understand Reactivity and Potential Toxicity
14:00	Cohen	Lunar Daytime: Architectural and Behavioral Experiments in a Space Analog Habitat
14:15	Bickel	Lunar South Pole Boulders and Boulder Tracks: Implications for Crew and Rover Traverses
14:30	Walker	Virtual Reality Interfaces for Surface Telerobotics from the Lunar Gateway
14:45	Szalay	Impact Ejecta Environment of an Eccentric Asteroid: 3200 Phaethon
15:00		Networking Break
		Plenary Session : Lunar Volatiles (Killen, Anand)
15:15	Colaprete	Characterizing Lunar Polar Volatiles at the Working Scale: Measurement Requirements and Demonstration
15:30	Hendrix	Lunar Hydration as Observed by LRO LAMP
15:45	Farrell	The Young Age of the LAMP-Observed Frost in Lunar Polar Craters
16:00	Hurley	Exospheric Signatures of Water Interaction with the Lunar Surface
16:15	Schmidt	Closing Remarks