

NASA Exploration Science Forum

July 23-25, 2019

NASA Ames Research Center, Building 152

Poster Number	Full Name	Abstract Topic	Abstract Title
1			Moved to plenary
2	Christopher Bennett	Asteroids/NEO Characterization/Planetary Defense	Damage Induced by Raman Excitation Laser during Analysis of Carbonaceous Chondrites
3	Christopher Bennett	Asteroids/NEO Characterization/Planetary Defense	Beyond the Diffraction Limit: Shedding Light on a 4.6 Billion Year-Old Question
4	Amanda Hendrix	Asteroids/NEO Characterization/Planetary Defense	C-Complex Asteroids: UV-Visible Characteristics
5	Andrew Rivkin	Asteroids/NEO Characterization/Planetary Defense	The Main-belt Asteroid and NEO Tour with Imaging and Spectroscopy (MANTIS)
6	Flaviane Venditti	Asteroids/NEO Characterization/Planetary Defense	Arecibo Observatory: Supporting Solar System Exploration
7	Kevin Cannon	ISRU	Refining Ice Abundance Estimates for Selective Mining Units on the Moon
8	Ashley Clendenen	ISRU	Concentrated Slar Driven In-Situ Resource Utilization on the Moon
9	Garrett Schieber	ISRU	Computational Study of Tortuosity of Packed Lunar Regolith for ISRU Transport Models
10	Garrett Schieber	ISRU	Experimental Study and Modeling of Gas Transport within Regolith for Examining ISRU/Sampling Scenarios
11	Alessandra Springmann	ISRU	ISRU Challenges From Heating Carbonaceous Chondrite Material For Water
12	Esther Beltran	Radiation, Plasma, Exosphere	Radiation Safety Systems Integration for EVA and Surface Operations in Human Space Exploration
13	Elliot Frey	Radiation, Plasma, Exosphere	Graphene-Based Electrical Resistance Device for Neutron Dosimetry
14	Kaden Jeppesen	Radiation, Plasma, Exosphere	Real-Time Radiation Dosimetry Reporting to an EVA Astronaut
15	Rafael Martinez	Radiation, Plasma, Exosphere	Electronic Sputtering of Silicates as Planetary Surfaces Analogues
15-2	Quentin Nenon	Radiation, Plasma, Exosphere	The Ion Environment of Phobos as Observed by MAVEN
16	Andrew Poppe	Radiation, Plasma, Exosphere	Just How Strong Should Lunar Induced Fields be?
17	Anthony Rasca	Radiation, Plasma, Exosphere	Modeling Plasma Flows Around a Small-Scale Phobos-Like Obstacle Using a 2-D Grid-Free Code
18	Joseph Samaniego	Radiation, Plasma, Exosphere	Effects of Oxidation on Coatings for Langmuir Probes and their Photoemission Characteristics in an Oxygen-Rich Space Environment
19	Micah Schaible	Radiation, Plasma, Exosphere	Damage Mechanisms of High Energy Radiation and Charged Dust Grains in Biomolecule Thin Films: Implications for Astronaut Health
20	Li Hsia Yeo	Radiation, Plasma, Exosphere	Experimental Simulation of Solar Wind – Magnetic Anomalies and Wakes
21	Jessica Marquez	Human Research & Performance	Human Factors and Behavioral Performance Challenges for Lunar Surface Exploration
22	Benjamin Mellinkoff	Human Research & Performance	Low-Latency Telerobotic Assembly of a Low Frequency Radio Telescope on the Moon: Baselines for Sit. Awareness & Cognitive Load
23	Valentin Bickel	Lunar Exploration & Destination Drivers	A Big Lunar Data Application: Deep Learning-Driven Rockfall Detection and Mapping with NASA's Moon Trek
24	Daniel Britt	Lunar Exploration & Destination Drivers	The CLASS Planetary Landing Team
25	Jan Deca	Lunar Exploration & Destination Drivers	The Solar Wind Interaction with the Reiner Gamma anomaly: The Effect of Varying the Solar Wind Incidence Angle
26	Chiara Ferrari-Wong	Lunar Exploration & Destination Drivers	A Thermal Hyperspectral Cubesat Concept for Lunar Exploration
27	Zachary Morse	Lunar Exploration & Destination Drivers	Overview of the 2019 CSA-LEAD CanMoon Lunar Sample Return Analogue Mission
28	Austin Pastnak	Lunar Exploration & Destination Drivers	Parametric Study for Miniaturized Tensile Testing of HDPE for Application in Crew Mobility, Infrastructure, and Refabricated Devices
29	Dov Rhodes	Lunar Exploration & Destination Drivers	Drilling in a lunar polar crater: Triboelectric charge regulation
30	Madhu Thangavelu	Lunar Exploration & Destination Drivers	Return to the Moon 2024: Recommendations of the 2018 USC Advanced Development Architectures for the Moon (ADAM) Project
31	Edwin Bernardoni	Dust/Regolith	Characterizing Lunar Dust Impact Plumes
32	Reilly Brennan	Dust/Regolith	A Laser Based Micrometeorite Accelerator for Impact Studies
33	Daniel Britt	Dust/Regolith	The CLASS Exolith Lab
34	Wesley Chambers	Dust/Regolith	GRIT: A Plume-Surface Interaction Experiment in Vacuum Microgravity
35	William Goode	Dust/Regolith	Chemical Composition of Particles From Europa's Surface
36	Noah Hood	Dust/Regolith	The Role of Initial Conditions on Laboratory Measurements of Electrostatic Dust Lofting
37	Melissa Lane	Dust/Regolith	The TREX fine-particle spectral library of minerals using UV-VNIR-MIR optical data (reflectance, emission, Raman)
38	Melissa Lane	Dust/Regolith	TREX Mid-infrared spectra of Fine-particulate Minerals for Application to Dusty Airless Bodies
39	Philip Metzger	Dust/Regolith	Lander Plume Effects at Outpost on Shackleton Crater Rim
40	Keith Noicki	Dust/Regolith	Instrument Development and Results of the Grain Velocimetry and Tomography Analysis System
41	Zach Ulibarri	Dust/Regolith	On the Genesis and Detectability of Organic Chemistry in Hypervelocity Impact Ice Spectra
42	Alexander Hegedus	Astrophysics/Heliophysics	Measuring the Earth's Synchrotron Emission from Radiation Belts with a Lunar Near Side Radio Array
43	Nivedita Mahesh	Astrophysics/Heliophysics	Modeling Planar Dipoles on Lunar Regolith for a Radio Array on the Lunar Far-side.
44	David Rapetti	Astrophysics/Heliophysics	Hydrogen Cosmology Data Analysis Pipeline for Lunar-based Observations

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Poster Number	Full Name	Abstract Topic	Abstract Title
45	Keith Tauscher	Astrophysics/Heliophysics	Searching for Exotic Physics and Investigating the First Stars with the 21-cm Signal Measured from Lunar Orbit
46	Bijoya Dhar	Volatiles	Composition-dependent simulated space-weathering effects on hydroxyl interactions on silicate films
47	William Farrell	Volatiles	Spacecraft Outgassing and Subsequent Effects on In Situ Measurements of Lunar Exospheric Water
48	Andrew Jordan	Volatiles	Using Albedo Protons to Search for Hydrogen in Shallow Regolith on the Moon
49	Jason McLain	Volatiles	Solar Wind Proton Induced Hydroxylation on Lunar Soil 78421.38
50	Katharine Robinson	Volatiles	The Volatile Content of Ancient Lunar Basalts as Inferred from Trace Element Abundances in Silicate Phases
51	Maria Banks	Geology/Geophysics	Photometric and Optical Maturity Investigations at Lunar Lobate Scarps
52	Kerri Donaldson Hanna	Geology/Geophysics	The Moon and Asteroids Across the Thermal Infrared
53	Friedemann Freund	Geology/Geophysics	Stress-Induced Electric Currents in Icy Bodies
54	Friedemann Freund	Geology/Geophysics	Monitoring of Stresses in Planetary Bodies by Monitoring Infrared Emission
55	Jennifer Heldmann	Geology/Geophysics	SSERVI / FINESSE (Field Investigations to Enable Solar System Science and Exploration) Team Highlights
56	Masatoshi Hirabayashi	Geology/Geophysics	Regolith Generation Due to Multiple Impact Cratering on the Moon
57	Scott Hughes	Geology/Geophysics	Balistic Eruptive Fissures on Earth as Analogs to Volcanic Processes on the Moon and Mars
58	Zach Mank	Geology/Geophysics	The Stinger: A Geotechnical Sensing Package for Robotic Scouting on a Small Planetary Rover
59	Katherine Mistick	Geology/Geophysics	Determining the Age of an Unnamed Lunar Impact Crater in South Pole-Aitken Basin Using Boulder Size-Frequency Distributions
60	Andrew Romero-Wolf	Geology/Geophysics	Passive Sounding of Lunar Lava Tubes
61	Lingzhi Sun	Geology/Geophysics	Rock Types of Apollo Sampling Stations and Beyond
62	David Williams	Geology/Geophysics	Apollo Data Restoration - 50 Year Report
63	John Christian	Missions	Resolved Imagery as a Tool for Space Science and Exploration
64	Pamela Clark	Missions	GLOWIN: Global Lunar Organized Water In-Situ Network
65	Barbara Cohen	Missions	Lunar Flashlight: Searching For Accessible Water Frost
66	Marc Cohen	Missions	Antaeus: Sample Receiving Lab/Planetary Quarantine Facility at the Gateway
67	Dana Hurley	Missions	Science Objectives of a Mission to the Lunar Permanently Shadowed Regions
68	Joseph Lazio	Missions	Poster Withdrawn
69	Kristen Luchsinger	Missions	Using LCROSS as a Template for Future Impact Missions: Probing Sediment and Volatile Stratification
70	David Moyers	Missions	Electrical Resistance Tomography for Structural Health Monitoring of Nanocomposite Materials for Spacesuit Applications
71	Timothy Stubbs	Missions	Lunar Tethered Resource Explorer (Lunar T-REx)
72	Marc Heemskerk	Education & Public Outreach/Citizen Science	IGLUNA: Field Campaign and Preparations for a Habitat in Ice
73	Cassandra Runyon	Education & Public Outreach/Citizen Science	The World Ender: An Interactive Problem Based Learning Unit
74	Madhu Thangavelu	Education & Public Outreach/Citizen Science	Space Activity and the Future of City
75	Timothy Glotch	Geochemistry/Petrology	Near-field Infrared Spectroscopy of Ordinary Chondrites: New Insights into Mineral and Organic Components
76	Daniel Moriarty	Geochemistry/Petrology	Revisiting the Apollo Landing Sites with Moon Mineralogy Mapper Data
77	Marcella Yant	Geochemistry/Petrology	Project ESPRESSO: Exploration Roles of Handheld LIBS at the Potrillo Volcanic Field
78	Midhun Sreekumar Menon	Robotics	Computationally Efficient Morphological and Photometric Models of the Lunar Terrain
79	Alex Parker	Robotics	Magnetic Grapples for Asteroid Regolith Sample Collection, Anchoring, and Mobility
80	Bhavesh Manivannan	Data Systems	Full-Stack Development of the Solar System Exploration Research Virtual Institutes Publication Database
81	Jordan Croom	LSITP Instrumentation	SAMLR: Sample Acquisition, Morphology Filtering, and Probing of Lunar Regolith
82	Stuart Bale	LSITP Instrumentation	The Lunar Surface Electromagnetics Experiment (LuSEE)
83	Kris Zacny	LSITP Instrumentation	PlanetVac: Sample Acquisition and Delivery System for Instruments and Sample Return