

**EXPLORATION
SCIENCE FORUM** MOVIE NIGHT

**Chesley Bonestell: A
Brush with the Future**

WEDNESDAY at 5:30 ★ BUILDING 152 MAIN ROOM



Chesley Bonestell:
A BRUSH WITH THE FUTURE

FREE ADMISSION
Purchase tickets
for pizza at
registration desk

NASA Exploration Science Forum Program

[VIEW POSTER LIST \(/POSTER-LIST\)](#)

[DOWNLOAD PROGRAM \(/DOWNLOADS/NESF2018_PRINT_PROGRAM_V3.PDF\)](#)

[DOWNLOAD POSTERS \(/DOWNLOADS/NESF2018_PRINT_POSTERS_V4.PDF\)](#)

Time	DAY 1: Tuesday, June 26, 2018	Location
7:00 AM	Poster Set-up Begins	BUILDING 152
7:30 AM	Student Lightning Round Presentations: Breakfast with SSERVI Director	BUILDING 152
7:30 AM	REGISTRATION	BUILDING 152, LOBBY
	Plenary Session I: Welcome and Announcements Chair: Yvonne Pendleton	BUILDING 152, MAIN ROOM
8:30 AM	Ames Center Director & SSERVI Director -- Welcome & Announcements	
9:00 AM	Carle Pieters, David Kring, Robin Canup, James Head -- Transformative Lunar Science Panel	
10:00 AM	Sarah Noble -- Science Mission Directorate Lunar Program Overview	
10:15	Ben Bussev -- Human Exploration & Operations Mission Directorate Update	

AM

10:30 BREAK

AM

10:45 Harrison Schmitt -- Transformative Lunar Science - Response

AM

11:15 Brian Day -- Solar System Treks Project Update

AM

11:30 Ryan Watkins -- Lunar Science for Landed Missions Workshop Findings Report

AM

11:45 William Farrell -- SSERVI Year in Review: Team Highlights

AM

12:15 Student Lightning Round Talks

PM

12:30 LUNCH / POSTER VIEWING / Focus Group Sessions

PM

Plenary Session II: Overview Talks

Chair: Jennifer Heldmann

BUILDING 152,

MAIN ROOM

Time DAY 1: Tuesday, June 26, 2018

Location

2:00 Parallel Session 1 Human and Robotic Exploration Hardware Overview Talk: Human Efficiency

PM Improvements in Lunar and Martian Field Exploration -- Harrison Schmitt
(/abstract/NESF2018-042)

2:20 Parallel Session 2 Human and Robotic Missions and Operations Overview Talk: What Ever Happened

PM to the Future? -- Daniel Britt
(/abstract/NESF2018-005)

2:40 TRANSITION TO PARALLEL SESSION ROOMS

PM

	BUILDING		BUILDING
	152,		152,
Parallel Session 1: Human and Robotic Exploration Hardware	MAIN	Parallel Session 2: Human and Robotic Missions and Operations	ROOM
	ROOM		117

Chairs: Kris Zacny, Marc Cohen

Chairs: Noah Petro, Pascal Lee

2:45 Kris Zacny -- Stinger: Geotechnical Tool for Small

PM Planetary Rovers
(/abstract/NESF2018-054)

Barbara Cohen -- Exploration Mission 1

Secondary Payloads
(/abstract/NESF2018-010)

3:00 PM	Zack Seibers -- Chemically Functionalized Reduced Graphene Oxide as Additives in Polyethylene Composites for Radiation-Shielding Applications (/abstract/NESF2018-046)	Jennifer Heldmann -- Geologic Exploration Enabled by Optimized Science Operations on the Lunar Surface (/abstract/NESF2018-019)	
	Parallel Session 1: Human and Robotic Exploration Hardware	Parallel Session 2: Human and Robotic Missions and Operations	
			BUILDING 152, MAIN ROOM
			BUILDING 152, ROOM 117
3:15 PM	Joseph Samaniego -- Investigation of Coatings for Langmuir Probes in an Oxygen-Rich Space Environment (/abstract/NESF2018-041)	Anthony Colaprete -- Multi-Lunar Day Polar Missions with a Solar-Only Rover (/abstract/NESF2018-011)	
3:30 PM	Marc Cohen -- Sample Receiving Lab And Planetary Quarantine Facility For The Deep Space Gateway (/abstract/NESF2018-009)	William Farrell -- A Possible Limit on Roving Speed for Resource Prospector (/abstract/NESF2018-014)	
3:45 PM	Michael Walker -- VR Simulation Testbed: Improving Surface Telerobotics For The Deep Space Gateway (/abstract/NESF2018-052)	Pascal Lee -- Human Return to the Moon: A Mars Forward Analog Strategy for Lunar Science and Exploration (/abstract/NESF2018-026)	
4:00 PM	Alexander Sehlke -- Requirements For Portable Instrument Suites During Human Scientific Exploration Missions (/abstract/NESF2018-045)	Noah Petro -- Lunar Reconnaissance Orbiter: Status and Support for Future Missions (/abstract/NESF2018-035)	
4:15 PM	Discussion	Discussion	
4:30 PM	Transition to Plenary Room		BUILDING 152, MAIN ROOM
4:35 PM	PLENARY SESSION II : Science enabled by Lunar Commerce (Panel Members: A.C. Charania [Blue Origin], Dan Hendrickson [Astrobotic] and others TBD)		BUILDING 152, MAIN ROOM
5:30 PM	POSTER SESSION		BUILDING 152

Time	DAY 2: Wednesday, June 27, 2018		Location
8:00 AM	REGISTRATION		BUILDING 152, LOBBY
	Plenary Session III: Overview Talks Chair: Brad Bailey		BUILDING 152, MAIN ROOM
8:30 AM	Parallel Session 3 Lunar Geophysics & Magnetism Overview Talk: Renee Weber		
8:50 AM	Parallel Session 4 Lunar Volatiles Overview Talk: Anthony Colaprete		
9:10 AM	Student Lightning Round Talks		
9:25 AM	Transition to Parallel Rooms		
	Parallel Session 3: Lunar Geophysics & Magnetism	BUILDING 152, MAIN ROOM	Parallel Session 4: Lunar Volatiles BUILDING 152, ROOM 117
	Chairs: Parvathy Prem, Ian Garrick-Bethell		Chairs: Rosemary Killen, Kathleen Mandt
9:30 AM	Ian Garrick-Bethell -- A Magnetized Elliptical Disk on the Moon (/abstract/NESF2018-015)		Brant Jones -- Thermal and Solar Wind-Driven Water Cycle Model on Airless Bodies: The Moon as a Test Case (/abstract/NESF2018-021)
9:45 AM	Megan Kelley -- Constraints on the formation age and evidence for thermal demagnetization of the Moon's Reiner Gamma magnetic anomaly (/abstract/NESF2018-023)		Andrew Jordan -- A Framework for the History of the Moon's Polar Ice (/abstract/NESF2018-022)
	Parallel Session 3: Lunar Geophysics & Magnetism	BUILDING 152, MAIN ROOM	Parallel Session 4: Lunar Volatiles BUILDING 152, ROOM 117
10:00 AM	Carle Pieters -- Evolution of Mature Soils at Lunar Swirls (/abstract/NESF2018-037)		Rosemary Killen -- Enhancements In The Lunar Exosphere Seen In LACE Data (/abstract/NESF2018-024)
10:15 AM	Li Hsia Yeo -- Experimental Simulation of Solar Wind Interaction with Magnetic Dipole Fields above Insulating Surfaces (/abstract/NESF2018-053)		Thomas Morgan -- The Lunar Sodium Exosphere from Ground Based Observations (/abstract/NESF2018-032)

10:30 AM	Discussion	Discussion
10:45 AM	BREAK	BREAK
11:00 AM	Dylan McDougall -- New Thermal Emission Maps of the Moon (/abstract/NESF2018-030)	Shuai Li -- Orbital Detections of Water in Crystalline Plagioclase and Olivine on the Lunar Surface: Insights Into Magma Ocean Water (/abstract/NESF2018-028)
11:15 AM	Parvathy Prem -- Modeling the Influence of Near-Surface Temperature Gradients on Thermal Emission from Airless Bodies (/abstract/NESF2018-038)	Kathleen Mandt -- Mapping Lunar Permanently Shaded Regions in the Far Ultraviolet (/abstract/NESF2018-029)
11:30 AM	Noah Petro -- Volcanic Fissure and Associated Deposit on the North Massif of the Taurus-Littrow Valley: Source of the Apollo 17 VLT Basalts? (/abstract/NESF2018-036)	Alejandro Soto -- Initial Modeling Of The Atmospheric Physics Of A Transient Lunar Atmosphere On The Ancient Moon (/abstract/NESF2018-048)
11:45 AM	James Head -- A Theoretical Model for the Formation of Ring Moat Dome Structures: Products of Second Boiling in the Distal Parts of Lunar Basalt (/abstract/NESF2018-017)	Thomas Orlando -- Water Formation and Release via Thermal Desorption on and within Hydroxylated Lunar Mare and Highland Samples (/abstract/NESF2018-034)
12:00 PM	Discussion	Discussion
12:15 PM	LUNCH / POSTER VIEWING / Focus Group Sessions	
Plenary Session IV: Overview Talks Chair: Brad Bailey		BUILDING 152, MAIN ROOM
1:45 PM	Parallel Session 5 Astrophysics Enabled at the Moon Overview Talk: The Gateway - Enabling Infrastructure for a New Era of Lunar Robotics -- Terry Fong	
2:05 PM	Parallel Session 6 Geochemistry Overview Talk: Sarah Valencia	
2:25 PM	Transition to Parallel Sessions	

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	Parallel Session 5: Astrophysics Enabled at the Moon	MAIN ROOM	Parallel Session 6: Geochemistry	ROOM 117
		BUILDING 152, MAIN ROOM		BUILDING 152, ROOM 117
	Chair: Jordan Mirocha		Chair: Timothy Glotch	
2:30 PM	Jack Burns -- Science On The Lunar Far Side Facilitated By Low Latency Telerobotics from A Lunar Orbiting Platform-Gateway (/abstract/NESF2018-006)		Timothy Glotch -- Correlated Analyses of Experimentally Space Weathered Mineral Samples (/abstract/NESF2018-016)	
2:45 PM	Alexander Hegedus -- Tracking Solar Type II Bursts to 0.5 AU with Radio Interferometers on the Lunar Surface (/abstract/NESF2018-018)		Benjamin Chilson-Parks (presented by Alberto Saal) -- Boron And Lithium Contents And Isotopic Compositions Of The Lunar Volcanic Glasses (/abstract/NESF2018-008)	
3:00 PM	Jordan Mirocha -- Low-Frequency Radio Observations from the Moon: The Essential Next Step for Particle Physics, Cosmology, and Galaxy Formation (/abstract/NESF2018-031)		Carey Legett -- Visible and Near Infrared Reflectance of Mineral Mixtures and Nanophase Iron Under Anoxic Conditions (/abstract/NESF2018-027)	
3:15 PM	Discussion		Discussion	
3:30 PM	Transition to Plenary Room		BUILDING 152, MAIN ROOM	
3:35 PM	LEAG Town Hall			
4:30 PM	POSTER SESSION			
5:30-7:30 PM	Pizza & Movie - Special showing: "Chesley Bonestell: A Brush with the Future"			

Time	DAY 3: Thursday, June 28, 2018	Location
8:00 AM	REGISTRATION	BUILDING 152, LOBBY
	Plenary Session V: Overview Talks Chair: Greg Schmidt	BUILDING 152, MAIN ROOM
9:20	EvMASS: Four Years of Authentic Lunar and Asteroid Research by High School Students	

8:30 EXHIBIT - FOUR YEARS OF AUTHENTIC LUNAR AND ASTEROID RESEARCH BY HIGH SCHOOL STUDENTS --

AM Andy Shaner
(/abstract/NESF2018-047)

8:50 Parallel Session 7 & 9 Lunar Geology Overview Talk: Debra Needham
AM

9:10 Parallel Session 8 & 10 Asteroids and Comets Overview Talk: Adrienne Dove
AM

Time DAY 3: Thursday, June 28, 2018 Location

9:30 Transition to Parallel Rooms
AM

	BUILDING		BUILDING
	152,		152,
Parallel Session 7: Lunar Geology	MAIN	Parallel Session 8: Asteroids and	ROOM
	ROOM	Comets	117

Chairs: Ryan Watkins, Timothy Stubbs

Chairs: Faith Vilas, Alessandra Springmann

9:35 Ryan Watkins -- Photometry, Mineralogy, and
AM Optical Maturity of Lunar Surface Features
(/abstract/NESF2018-001)

Julie Brisset -- Interacting with Surfaces
of Small Asteroids: Penetration Depth
and Coefficient of Restitution
(/abstract/NESF2018-003)

9:50 Ariel Deutsch -- GRAIL-identified Gravity Anomalies
AM in Procellarum: Insight into Subsurface Impact and
Volcanic/Magmatic Structures on the Moon
(/abstract/NESF2018-013)

Daniel Britt -- The Dehydration Of
Serpentine Polymorphs: Implications For
The Evolution Of NEA Carbonaceous
Chondrite Parent Bodies
(/abstract/NESF2018-004)

	BUILDING		BUILDING
	152,		152,
Parallel Session 7: Lunar Geology	MAIN	Parallel Session 8: Asteroids and	ROOM
	ROOM	Comets	117

10:05 Patrick Hill -- Comparative Morphological Analyses
AM Of Impact Melt Rock Emplacement In Terrestrial
And Apollo Impact Breccias To Understand
"Suevite" Formation
(/abstract/NESF2018-020)

Humberto Campins -- Predicting Space
Weathering Effects on Primitive
Asteroids (101955) Bennu and (162173)
Ryugu
(/abstract/NESF2018-007)

10:20 Discussion
AM

Discussion

10:30 AM	BREAK / Transition to Plenary Room	BUILDING 152, MAIN ROOM
10:45 AM	SSSERVI Award Presentations	
10:50 AM	Student Poster Awards	
11:00 AM	The Susan Mahan Niebur Early Career Award presented to Rachel Klima	
11:20 AM	The Angioletta Coradini Mid-Career Award presented to Barbara Cohen	
11:40 AM	The Michael J. Wargo Exploration Science Award presented to David Kring	
12:05 PM	The Eugene Shoemaker Distinguished Scientist Medal presented to M. Darby Dyar	
12:35 PM	LUNCH / POSTER VIEWING	

	BUILDING	BUILDING
	152,	152,
	MAIN	ROOM
Parallel Session 9: Lunar Geology	ROOM	Parallel Session 10: Asteroids and Comets
		117

Chairs: Ryan Watkins, Timothy Stubbs	Chairs: Faith Vilas, Alessondra Springmann
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2:00 PM	Jordan Kendall -- VSecondary Craters at the Apollo 17 Landing Site: New Approaches from Modeling and Observations (/abstract/NESF2018-078)	John Krantz -- Retention of Noble Gases in Ring-Bearing Silicates on the Surface of Small Bodies (/abstract/NESF2018-025)
2:15 PM	Bill Bottke -- What Really Happened to Earth's Older Craters? (/abstract/NESF2018-002)	Norbert Schorghofer -- Conditions for retention of water ice on Near-Earth Objects (/abstract/NESF2018-043)

	BUILDING	BUILDING
	152,	152,
	MAIN	ROOM
Parallel Session 9: Lunar Geology	ROOM	Parallel Session 10: Asteroids and Comets
		117

2:30 PM	Daniel Moriarty -- The South Pole - Aitken Compositional Anomaly (/abstract/NESF2018-033)	Derek Sears -- Insights Into The Internal Structure Of Near-Earth Asteroid (433) Eros Through The Ejecta Blocks On (433) Eros And At Kings Bowl (/abstract/NESF2018-044)
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2:45 PM	Le Qiao -- Lunar Irregular Mare Patch (IMP) Sub-Types: Linking Their Origin Through Hybrid Relationships Displayed at Cauchy 5 Small Shield (/abstract/NESF2018-039)	Alessondra Springmann -- Particle Sizes in the Coma of Comet 45P/Honda-Mrkos-Pajdušáková as Observed by the Arecibo Observatory Planetary Radar System (/abstract/NESF2018-049)
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3:00 PM	Timothy Stubbs – Bi-Sat Observations of the Lunar Environment Above Swirls (BOLAS): Tethered Microsat Investigation of Space Weathering (/abstract/NESF2018-050)	Faith Vilas -- Primitive Asteroids In The UV/Blue: Extending UV Spacecraft Spectra With Ground-Based Spectra (/abstract/NESF2018-051)
3:15 PM	Discussion	Discussion
3:30 PM	Transition to Plenary Room	BUILDING 152, MAIN ROOM
3:35 PM	Steven Clarke - Closing Talk	

About SSERVI

Recognizing that science and human exploration are mutually enabling, NASA created the Solar System Exploration Research Virtual Institute (SSERVI) to address basic and applied scientific questions fundamental to understanding the Moon, Near Earth Asteroids, the Martian moons Phobos and Deimos, and the near space environments of these target bodies. As a virtual institute, SSERVI funds investigators at a broad range of domestic institutions, bringing them together along with international partners via virtual technology to enable new scientific efforts.

Tweets by @NASA_Lunar



Exploration Science

@NASA_Lunar

Video: NASA Administrator Statement on Space Policy Directive-3: sservi.nasa.gov/?p=13583

Video: NASA Administrator Statement on Space Policy ...
 A statement from NASA Administrator Jim Bridenstine on Monday's signing of Space Policy Directive-3.
sservi.nasa.gov

Jun 21, 2018



Exploration Science

@NASA_Lunar

SSERVI is pleased to announce that the 2017 Annual

Information

✉ Email Support ([mailto:sservi-it@moonlight.arc.nasa.gov?subject=NESF2018 Website Inquiry](mailto:sservi-it@moonlight.arc.nasa.gov?subject=NESF2018%20Website%20Inquiry))

🌐 sservi.nasa.gov (<http://sservi.nasa.gov>)

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