

# CNSA-ESA WORKSHOP ON CHINESE- EUROPEAN COOPERATION IN LUNAR SCIENCE 16 - 18 JULY 2018

Time	Duration	Presenter	Title
<b>Day 1, Monday, 16 July</b>			
09:30	00:05		Welcome and Introductions
09:35	00:15		CNSA Missions and plans
09:50	00:15		ESA Missions and plans
10:05	00:10		Discussion
10:15	00:25	Yongliao Zou	Proposal science goals and its payloads for China future lunar research station
10:50	00:15		Break
11:05	00:45		<b>Interactive session: Science, instrumentation and enabling infrastructure of an international Lunar Research Station</b>
11:50	00:15	Xiaohua Tong	Detecting Hazardous Obstacles in Landing Site for Chang-E Spacecraft by the Use of a New Laser Scanning imaging System
12:05	01:00		<b>Lunch</b>
<b>Lunar Sample Science Part 1</b>			

13:05	00:25	Wim van Westrenen	New Petrological Views of the Moon Enabled By Apollo Sample Return
13:30	00:15	Xiaohui Fu	Petrography and mineralogy of lunar feldspathic breccia Northwest Africa 11111
13:45	00:15	A.C. Zhang	Applications of SEM-EBSD in lunar petrology: 'Cr-Zr-Ca armalcolite' is loveringite
14:00	00:15	Yanhao Lin	Evidence for extensive degassing in the early Moon from a lunar hygrometer based on plagioclase-melt partitioning of water
14:15	00:15	Hongping Deng	Primordial Earth mantle heterogeneity caused by the Moon-forming giant impact
14:30	00:25	Alessandro Morbidelli	The deficiency of HSEs in The Moon relative to The Earth and The history of Lunar bombardment
14:55	00:15	Romain Tartèse	Recent advances and future challenges in lunar geochronology
15:10	00:15	Break	
15:25	00:25	Marc Chaussidon	Lunar soils as archives of the isotopic composition of the Sun and of the impact history of the Moon
15:50	00:15	M. Schönbacher	Tracing the origin of the Moon with isotopes
16:05	00:15	Ian Franchi	New Oxygen Isotope Constraints for the Origin of the Moon
16:20	00:25	Paul Savage	New stable isotope insights into the formation and evolution of the Moon
16:45	00:15	Hejiu Hui	Lunar anorthosites and lunar magma ocean model
17:00	00:15	Z. Deng	Using Titanium Isotopes to Trace Magma Ocean Evolutions of the Moon and Mars
17:15	00:15	Joshua Snape	Secondary Ion Mass Spectrometry (SIMS) Pb isotopic analysis of lunar basalts
17:30	Posters and Reception		
19:00	End		

Time	Duration	Presenter	Title
<b>Day 2</b>			
<b>Lunar Sample Science Part 2</b>			
09:00	00:25	L. Qin	Chromium isotope anomalies of lunar rocks
09:25	00:15	P.A. Sossi	Cold volatile loss from the Moon revealed by chromium isotopes
09:40	00:15	Ke Zhu	Chromium stable isotopic evidence for the origin of the volatile depletion from Vesta
09:55	00:25	Mahesh Anand	Laboratory measurements of H, Cl and other volatiles in lunar samples: scientific implications and considerations for future returned samples.
10:20	00:25	Evelyn Füri	Origin of volatiles (H, N, noble gases) on the Moon: Constraints from analyses of single lunar soil grains
10:45	00:15	Dayl Martin	Apollo Sample Analysis and Lunar Simulant Curation Activities at ESA ECSAT
11:00	00:15	Break	
11:15	00:15	Yangting Lin	Proposal for Pre-Chang'e 5 Consortium Study of Lunar Samples
11:30	00:15	Katherine Joy	Joint Community Report China-European coordination on Lunar Sample Analysis
11:45	00:45	<b>Discussion: A CNSA-ESA Joint Laboratory for Lunar Samples and Materials</b>	
12:30	01:00	lunch	
<b>Recent Advances In Lunar Science</b>			
13:30	00:25	Ralf Jaumann	Current understanding of the Moon, key questions to address in the future
<b>Recent Advances in Lunar Science 1: Landing Sites</b>			

13:55	00:25	Jianjun Liu	Study on the landing sites of China's upcoming lunar missions
14:20	00:25	Zhizhong Kang	Geological map and age determination in landing sites of Chang'E missions
14:45	00:25	C. H. van der Bogert	Proposed Landing Sites in the South Pole-Aitken Basin for Upcoming Lunar Missions
15:10	00:15	Break	
15:25	00:15	C. Orgel	Potential Landing Sites for the Chang'e-4 Exploration Mission to the Apollo Basin, Moon
15:40	00:15	Jun Huang	Chang'E-4 Landing site characterization
15:55	00:15	L. Xiao	Geological Characteristics, Proposed Landing/sampling Sites and Anticipated Science Return of the Chang'E-5 Landing Region
16:10	00:15	Z. Yue	High Resolution Mapping and Geologic Analysis of Chang'e-5 Landing Area
16:25	00:15	D. Rommel	Volcanic structures in the von Kármán region inside the South Pole-Aitken basin
16:40	00:15	E. Sefton-Nash	Constraints on lunar polar volatiles from remote sensing datasets
16:55	00:15	J. Flahaut	Lunar polar regions of interest for future exploration
17:10	Close		

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### Day 3

#### Recent Advances in Lunar Science 2: New results and future prospects

09:00	00:15	G.P Hu	The potential constrains for the vertical variation in rock abundance of the moon by Chang'E microwave radiometer (MWR) observations
09:15	00:15	C. Wöhler	New insights into surficial hydroxyl/water on the Moon
09:30	00:15	S. De Angelis	Planetary surfaces spectroscopy laboratory facilities at INAF-IAPS
09:45	00:15	S. J. Barber	Lunar Science, Volatiles Prospecting and In-Situ Resource Utilisation: Science-Exploration Synergies at The Open University, UK
10:00	00:15	T. Liu	Numerical modelling of evolving diffusion of impact melt and its implication on the future sampling work
10:15	00:15	F. Zhang	Ring-Moat Dome Structures in the Lunar Maria: enigmatic features as potential candidate for future explorations
10:30	00:15	K. Donaldson Hanna	Remote Sensing Constraints on the Formation and Evolution of the Moon's Anorthositic Crust
10:45	00:15	M. Martinot	Surveying the lunar crust-mantle boundary with Moon Mineralogy Mapper data

11:00	00:15	Break	
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11:15	00:45	<b>Discussion session: A CNSA-ESA Joint Lunar Research Team</b> Facilitators: James Carpenter and Ruihong Yang	
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12:00	01:00	<b>Lunch</b>	
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#### Exosphere and heliophysics

13:00	00:15	M. Wieser	The Advanced Small Analyzer for Neutrals (ASAN) on the rover of Chang'E-4
13:15	00:15	M. Y. Wang	Electron Density Profile of Lunar Ionosphere Based on Radio Occultation of the Service Module of Circumlunar Return and Reentry Spacecraft

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### Physics and Astronomy

13:30	00:15	J. Ping	Jointly Promoting Low-frequency Radio Astronomical Detectors in the Earth-Moon Space between China and Europe
13:45	00:25	J. Ping	Developing High Precise Laser and Radio Ranging Techniques in Missions for Lunar and Planetary Dynamical Evolution Exploration and General Relativity Test

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### Measuring the Lunar interior

14:10	00:15	T. Kawamura	French-Chinese Collaboration towards seismic observation on the Moon
14:25	00:15	P. Lognonné	The VBB seismometer: From InSight performances to perspectives on Lunar Missions

14:40	00:15	Break	
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15:55	00:45	<b>Discussion: Request for Information for Payloads and Science Contributions</b>	
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15:40	00:20	James Carpenter and Ruihong Yang	Meeting outcomes and follow on activities
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16:00	<b>End</b>		
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<b>Posters</b>	
C. P. Tang	A Textural/Mineralogical Gradient Within Vitrophyric Mare Basalt NWA 8632A
J. F. Pernet-Fisher	The hunt for indigenous signatures within Lunar anorthosites
Wei Zuo	CLEP Lunar Science Archive Architecture and Data Management
S. Besse (TBC)	ESA approach to data management and archiving
Xiongyao Li	Indication of lunar soil properties on space weathering
H. Tang	The Characteristics of Water in Plagioclase by Proton Implantation Experiments
M. Formisano	PROSPECTing the Moon: Numerical simulations of temperature and sublimation rate on a regolith cylindrical sample
M.C. De Sanctis	A miniaturized spectrometer for surface and subsurface investigations
N. Schnuriger	Long-lived volcanism expressed through mare infilling, domes and IMPs in the Arago region of the Moon
Y. Lu	Young wrinkle ridges in Mare Imbrium: Distribution, morphology and formation times
M. Mokhtari	Experimental determination of the Zinc isotopic fractionation factor during evaporation
Additional posters (TBC)	