

**SECOND JOINT MEETING of the
PLANETARY & TERRESTRIAL MINING SCIENCES SYMPOSIUM
(PTMSS) and the
SPACE RESOURCES ROUNDTABLE (SRR)**

JUNE 19-22, 2011

PRELIMINARY AGENDA

Sunday June 19, 2011

6:30- 9:30	Evening Reception
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Monday June 20, 2011

7-8am	Breakfast	
8:00 - 9:00am	Opening Remarks	Dale Boucher, PTMSS Angel Abbud-Madrid, SRR CIM (TBC)
Technical Session 1: ISRU Exploration		
9:00	CSA Exploration Plan Jean Claude Piedboeuf	
9:30	ISRU for NASA Bill Larson NASA KSC	
10:00	June 2012 Field Test Jerry Sanders, NASA JSC, Martin Picard, CSA	
10:30	Coffee Break	
Technical Session 2: Foundations		
10:45	South Africa Awakens to Space Resources A. M. Neale SASRA President, South Africa	
11:15	Economic Incentives and Tax Credits for Space Mining: Analogies and Ideas E. J. Lark	
11:45	Experiences/Lessons Learned with Space-Terrestrial Cooperation MDA	
12:15	2011 NASA Lunabotics Mining Competition For Universities: Results And Lessons Learned R.P. Mueller and G.A. Murphy NASA, KSC	
12:45	Lunch	
Technical Session 3: Mission Concepts		
1:45	Mars In-Situ Resource Utilization Technology Evaluation Anthony C. Muscatello and Edgardo Santiago-Maldonado NASA KSC	
2:15	Lunar Water Requirements For Cislunar Transportation D. G. Bienhoff	
2:45	CULPRIT: A Canadian Lunar Penetrator Mission Jesse Hiemstra Carleton University Department of Mechanical and Aerospace Engineering	
3:15	Science and Characterization for Early Moon & Mars Exploration MDA	
3:45	Coffee Break	
Technical Session 4: Designing for Extreme Environments		
4:15	Rovers for Hazardous Environments: Natural Gas Pipeline and Radiation Applications Matt Gryniowski, ESI	

4:45	Five Stage Defense Against Lunar Regolith Daniel Lefebvre CSA
5:15	Requirements and Progress Towards a Planetary Surface Simulation Facility Diane Linne NASA Glenn Research Center
5:45	Roundtable Discussion
7:00	Space Resources Technical Committee Meeting

Tuesday, June 21

7-8am	Breakfast
Technical Session 5: Resource Prospecting	
8:00am	Introduction to Terrestrial Hydrogeology Rich Schmidt WESA
8:30	Correlations Between Iron Distribution And Morphological Evolution Of The Lunar Farside Lu Yangxiaoyi Moscow State University, Sternberg Astronomical Institute, Moscow
9:00	New Space Resources of Rare-Earth Elements in the Moon, Mars and Asteroids Y. Miura Yamaguchi University
9:30	New Underground Melting Process For Space Resources By Shock Wave Y. Miura Yamaguchi University
10:00	Coffee Break
Technical Session 5 con't	
10:15	Measure While Drilling Development Plan Markus Timusk, Laurentian University
10:45	Rover Passive Mineralogy Instrument Andrew Bell COM DEV
11:15	Rotary Percussive Coring Drill And Caching Architecture For Mars Sample Return Mission K. Zacny Honeybee Robotics
11:45	Lunar Prospecting Rover Utilizing Sampling Drill the Moonbreaker, Pneumatic Excavator, and Jet Trencher K. Zacny Honeybee Robotics
12:15	Advantageous Bucket-Wheel Configuration For Lunar/Planetary Excavators K. Skonieczny Carnegie Mellon University Robotics Institute
12:45	Lunch

1:45	Board bus
2:30-5:00	Technical Demonstrations Neptec – Coffee break served on Location –
5:00	Board bus for Albert at Bay
5:30	Arrive at hotel
6:30-9:30	BANQUET Special Guest: Martha Chaves

Wednesday, June 22

7-8am	Breakfast
Technical Session 6: Mobility Platforms	
8:00am	Mobility Design, Analysis, and Experimental Characterization of the Juno Rover Michele Faragalli
8:30	Applying Structural Optimization Techniques to Designing Lunar Rover Wheels Michele Faragalli and Peter Radziszewski
9:00	Design and Fabrication of an Alternative Wheel for Lunar and Martian Environments P. Visscher, J. Smith Ontario Drive and Gear
9:30	Design and Fabricating Third Generation Lunar Tracks P. Visscher Ontario Drive and Gear
10:00	Coffee Break
Technical Session 7: Regolith Moving	
10:15	A Comparison Between the NORCAT Rover Test Results and the ISRU Excavation System Model Predictions Christopher A. Gallo NASA Glenn Research Center
10:45	'Production': Entry in the 2011 Lunabotics Competition Greg Lakinen Laurentian University
11:15	The Future Worksite Demonstrator: A Hardware Infrastructure for Testing Automated Earthmoving for Planetary Applications E. Halbach Aalto University Department of Automation and Systems Technology, Finland.
11:45	Lunch
Technical Session 7 cont:	
12:45	Pneumatic Transfer System and Packing System for the Moon Tai Sik Lee Civil and Environmental Engineering, Hanyang University
1:15	Experimental Testing and Modeling of a Pneumatic Regolith Delivery System for ISRU Edgardo Santiago-Maldonado, James G. Mantovani NASA Kennedy Space Center

1:45	Coffee break
	Technical Session 8: ISRU Processing
2:00	Size Beneficiation of Regolith for Simplicity and Efficiency Allen Wilkinson NASA Glenn Research Center
2:30	Waterless Concrete Landing Pad to Prevent Fine-Dust in the Moon Tai Sik Lee Civil and Environmental Engineering, Hanyang University
3:00	Regolith Heat Recuperation with A Dusty Gas Heat Exchanger Ariane Chepko
3:30	Concentration Of Lunar Ice From Lunar Regolith With Separation Technologies Belt Separator At Cryogenic Temperatures D. R. Whitlock Separation Technologies LLC
4:00	Roundtable Discussion
5:00	END OF MEETING