

IN SITU RESOURCE UTILIZATION (ISRU) TECHNICAL INTERCHANGE MEETING

February 4–5, 1997
Lunar and Planetary Institute, Houston, Texas

AGENDA

To view a particular abstract, click on the title of that talk using the “grab-hand” tool, and the abstract will appear on your screen. Use the “Back” button on your browser to return to this document to select another abstract.

Tuesday, February 4

8:00 a.m.	Registration
8:45 a.m.	Welcome
9:15 a.m.	J. Sanders <i>ISRU Roadmap</i>
10:00 a.m.	BREAK
10:15 a.m.	D. Rapp <i>Adsorption Pump for Acquisition and Compression of Atmospheric CO₂ on Mars</i>
11:00 a.m.	M. Reddig <i>CO₂ Pumping System for Mars ISRU: Advanced Absorbent Materials</i>
11:30 a.m.	J. E. Finn <i>Mining the Mars Atmosphere</i>
12:00 noon	LUNCH
12:30 p.m.	MIST Facility Tour
1:30 p.m.	M. L. Stancati <i>Mars In Situ Propellant Production: Needs and Technologies</i>
2:15 p.m.	T. Nakamura <i>Optical Waveguide Solar Energy System for Lunar Materials Processing</i>
2:45 p.m.	A. Ignatiev <i>Thin Film Solar Cell Growth on the Surface of the Moon by Vacuum Evaporation</i>
3:15 p.m.	BREAK

- 3:30 p.m. C. Knudsen
Hydrogen Reduction of Lunar Soil
- 4:15 p.m. T. D. Lin
Concrete: A Low-Cost Lunar and Planetary Construction Material
- 4:45 p.m. C. C. Allen
Regolith Evolved Gas Analyzer (REGA)

Wednesday, February 5

- 8:00 a.m. Announcements
- 8:15 a.m. K. Ramohalli
A Quantitative Methodology for Mission Architecture and Figure-of-Merit with ISRU and Comparisons with a Baseline
- 9:00 a.m. N. Q. Minh
Production of Oxygen from Carbon Dioxide Using Zirconia Electrolysis Cells
- 9:30 a.m. K. R. Sridhar
Oxygen Production on Mars Using Solid Oxide Electrolysis
- 10:00 a.m. BREAK
- 10:15 a.m. A. F. Hepp
A Chemical Approach to Carbon Dioxide Utilization on Mars
- 10:45 a.m. T. Meyer
Investigation of the Reverse Water Gas Shift Reaction for Production of Oxygen from Mars Atmospheric Carbon Dioxide
- 11:15 a.m. L. Vuskovic
Radio-Frequency-based Glow-Discharge Extraction of Oxygen from Martian Atmosphere: Experimental Results and System Validation Strategies
- 11:45 a.m. LUNCH
- 12:15 p.m. MIST Facility Tour
- 1:30 p.m. R. S. Wegeng
Chemical Process System Miniaturization

- 2:15 p.m. A. MacKnight
*Assessment of Liquefaction/Refrigeration of Mars In Situ
Propellant Production*
- 2:45 p.m. S. Gorevan
*Technology Allowing for Qualification, Sampling, Removal and
Excavation of Minerals and Elements from Below the Surface of
Planetary Bodies*
- 3:15 p.m. S. C. Coons
*Experimental Study of a Water Vapor Adsorption Reactor for Mars In Situ
Resource Utilization*
- 3:45 p.m. BREAK
- 4:00 p.m. D. L. Clark
*In Situ Propellant Production on Mars: A Sabatier/Electrolysis
Demonstration Plant*
- 4:45 p.m. D. Kaplan
MIP Flight Demonstration
- 5:15 p.m. Meeting Wrap Up