



Lunar Surface Innovation

C O N S O R T I U M

LSIC ISRU Focus Group Monthly

<http://lsic.jhuapl.edu/>

<http://lsic-wiki.jhuapl.edu/> (“Confluence” sign-up required)

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Agenda

- 3:00 – General updates
- 3:05 – Review and revision of the Facilities survey
 - Jodi Berdis. <https://forms.gle/4hyhuz2X5PhBrZQu6>
- 3:10 – NASA AO formulation – community input.
 - Kirby Runyon – summary and message to NASA
- 3:20 – Value Networking Input
 - Kirby Runyon
- 3:30 - NASA LWIMS report related to water-ice mining in the PSRs.
 - Julie Kleinhenz, NASA GRC
- 3:45 - Conceptual Lunar Water and Volatile Depositional Models.
 - Jeff Plate, WGM Ltd..
- 4pm - Move to our respective breakout groups (WaterIce Prospecting, O2-Metal Extraction, ValueChain Analysis, Facilities).
 - As before these Zoom rooms for the respective breakout groups will remain open until 430+ EDT.
 - Water. Moderator: Karl Hibbitts
 - O2&Metals. Moderator: Michael Nord
 - Value Chain. Moderator: Kirby Runyon
 - Laboratory Facilities. Moderator: Jodi Berdis

Updates

- The LSIC Fall meeting is Nov 3- 4. Robotics and Autonomy. Hybrid. Hosted by Bowie State, Md.
- ASCEND. 15-17 Nov. Session topics include: regolith processing, ISRU economics.
- Congrats to Helios. News reports that “Startup Helios, Israel Aerospace Industries, and Germany's space technology group OHB SE sign MoU to install Helios' technology to produce oxygen on the moon in its lunar landing systems”
- NASA recently released a report on methodologies for testing equipment to be exposed to a dusty planetary environment. <https://standards.nasa.gov/standard/nasa/nasa-std-1008>
- **LunaNet initiative**, NASA is planning to buy communications and PNT services from commercial providers at the Moon, as well as collaborate with international partner agencies for these services. NASA is seeking feedback from the community on their proposed LunaNet Interoperability Standards for these services. The Extreme Access (EA) group will be providing feedback to NASA.
- Remember: “Who’s Who in ISRU” at <https://lsic-wiki.jhuapl.edu/display/ISRU/Who%27s+Who+in+ISRU>

ISRU Topics for upcoming meetings

ISRU Monthly Meetings

- Nov 17 – O₂ & Metals.
- Dec 15 – Searching for a white Christmas.
- Jan 19 – Break out group report-outs to entire FG.

Thematic Meeting joint with Excavation & Construction

- “From Regolith to Rebar – what solid by-products result from O₂ extraction and how can they be used in lunar construction?”
- Date: TBD; considering near end of January.

Facilities Survey Presentation of Results

Jodi Berdis, APL

- Final opportunity to provide information about your needs for ISRU facilities and to compile and provide that information to NASA in the form of a recommendation.

LSIC | ISRU Facilities Survey V2.0

- ISRU Facilities subgroup presented results last telecon from the ISRU Facilities Survey – BEFORE the LSIC Facilities Directory went live.
- **How do the perceived facility needs of the ISRU community differ, now that the LSIC Facilities Directory exists?**

<https://forms.gle/4hyhuz2X5PhBrZQu6>

- Results from this survey will be incorporated into a report that will be sent directly to NASA. Your responses can **directly influence that report, and the future of facilities.**
- As an example of this influence: Question recently came up at NASA -- whether a gravity offload capability existed in thermal vacuum chambers with regolith bins.
 - Specific request from NASA: **Do any developers actually require gravity offload in TVac chambers?**

NASA AO formulation – community input

Kirby Runyon, APL

- Final opportunity to provide input about how you would like NASA AO's written and mechanisms by which projects funded.

Value Chain Mapping

Kirby Runyon, APL

- Walkthrough on how to fill out the table/database for enabling identification of mutually beneficial technologies.

Focus Talk

“NASA LWIMS report related to water-ice mining in the PSRs”

Julie Kleinhenz, NASA GRC

Showcase Presentation

Conceptual Lunar Water and Volatile Depositional Models

Jeff Plate, WGM Ltd.

Wrap-Up and Transition to Breakout Groups

Water. Moderator: Karl Hibbitts

O₂ tech. Moderator: Michael Nord

Value Chain. Moderator: Kirby Runyon

Laboratory Facilities. Moderator: Jodi Berdis



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