



# Lunar Surface Innovation

C O N S O R T I U M

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## LSIC ISRU Focus Group Monthly

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

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

**January 20, 2021**

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# Agenda

- General updates
  - Including additions to the “ISRU Library and Resources” page on Confluence.
  - Setting Year 1 goals. Penultimate version – and topic for discussion at next meeting. How this goal can enable you.
  - Take-away from this meeting to be provided to other FGs leads.
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- Technology Showcase
  - Lunar Trailblazer mission from an ISRU perspective - Dr. Bethany Ehlmann
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- Topical ISRU Discussions
  - ISRU Technology Considerations for Preserving the Lunar Environment – Dr. Parvathy Prem
  - Lunar QuickMap – Dr. Kirby Runyon
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- February ISRU FG meeting. 17 Feb. - In addition to discussing Year 1 goals, what topics do we want to do a 20 min 'deep dive' into? The discussion needs to have a reachable goal – clarification, new information, decision-making/recommendation.

# General Updates

- ISRU FG Year 1 Goal. - will discuss this at next month FG. How does achieving this goal enable you?

**Penultimate Version:** There is a need for several 10s to a few 100s of metric tons of O<sub>2</sub> per year for propellant use by the 2030 timeframe (S&D workshop, 2020). The first-year goal of the ISRU focus group is to **provide specific input to NASA** with respect to **technology needs for *systems-level end to end ISRU processes***, and for **identifying the ground truth data** needed to inform on technology/capability development, for both O<sub>2</sub> extraction from regolith and water extraction from PSRs at the above levels.

References and Resources Page: <https://lsic-wiki.jhuapl.edu/pages/viewpage.action?pageId=6258941>

Vol. 1: "Advances in Terrestrial Drilling: Ground, Ice, and Underwater" <https://www.amazon.com/Advances-Terrestrial-Drilling-Ground-Underwater/dp/036765346X>

Vol. 2: "Advances in Extraterrestrial Drilling: Ground, Ice, and Underwater" <https://www.amazon.com/Advances-Extraterrestrial-Drilling-Ground-Underwater/dp/0367653478>

# Technology Showcase

## Lunar Trailblazer – a NASA SIMPLEX mission

### Dr. Bethany Elhmann, CalTech

A presentation followed by discussion

**Question posed to the Focus Group members:** To what extent will the data from Trailblazer be enabling to understanding where to mine for water ice, or enable development of more rigorous models of near surface ice so one can more accurately/reliably decide where to mine.

<https://lsic-wiki.jhuapl.edu>

Folder: “ISRU Discussions/Trailblazer”

# Topical ISRU Discussions

## ISRU Technology Considerations for Preserving the Lunar Environment

### Dr. Parvathy Prem

Confluence:

<https://lsic-wiki.jhuapl.edu>

Folder: "ISRU Discussions/ ISRU Technology  
Perspective on Impacting the Lunar Environment"

# Topical ISRU Discussions

## Lunar QuickMap

### Dr. Kirby Runyon

Confluence:

<https://lsic-wiki.jhuapl.edu>

Folder: "ISRU Discussions/QuickMap"



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