NO SMALL DREAMS:
THE MOON at the PLANETARY SCIENCE VISION 2050 MEETING

On 27-28 February and 1 March 2017, NASA's Planetary Science Division hosted the Planetary Science Vision 2050 Workshop at NASA Headquarters to to provide a visionary perspective on what planetary science might look like in 2050. Your LEAG Executive Committee was there to present the viewpoint of the large and vibrant lunar exploration community.

THE OPENED GATEWAY: LUNAR EXPLORATION IN 2050

LEAG Vice-Chair DR. SAMUEL LAWRENCE gave the keynote lunar science and exploration talk, an inspiring vision of how we can follow the LEAG Lunar Exploration Roadmap to explore the Moon to make incredible science discoveries and use lunar resources become a truly space-faring civilization. His talk illustrated how by 2050, we can and should be routinely performing transformational planetary science research - much of which can only be carried out on the lunar surface by humans - on the Moon, while provide enduring commercial opportunities to grow our economy and mount ambitious expeditions throughout the Solar System.

PROSPECTING FOR RESOURCES

LEAG Volatiles Chair DR. DANA HURLEY presented the LEAG Polar Volatile Exploration Strategy, a subset of the Lunar Exploration Roadmap outlining the step-by-step, cohesive plan for ascertaining the state and form of the vast resources found in "the most valuable real estate in the Solar System" during the 2020s.

EXPLORING THE CRUST

LEAG Chair DR. CLIVE NEAL presented the importance of human and robotic lunar sample return missions for deciphering the geology of the Moon and, indeed, the rest of the Inner Solar System, outlining almost four dozen critical destinations for future missions on the surface and needed technology investments in cold sample collection, curation, and analysis.

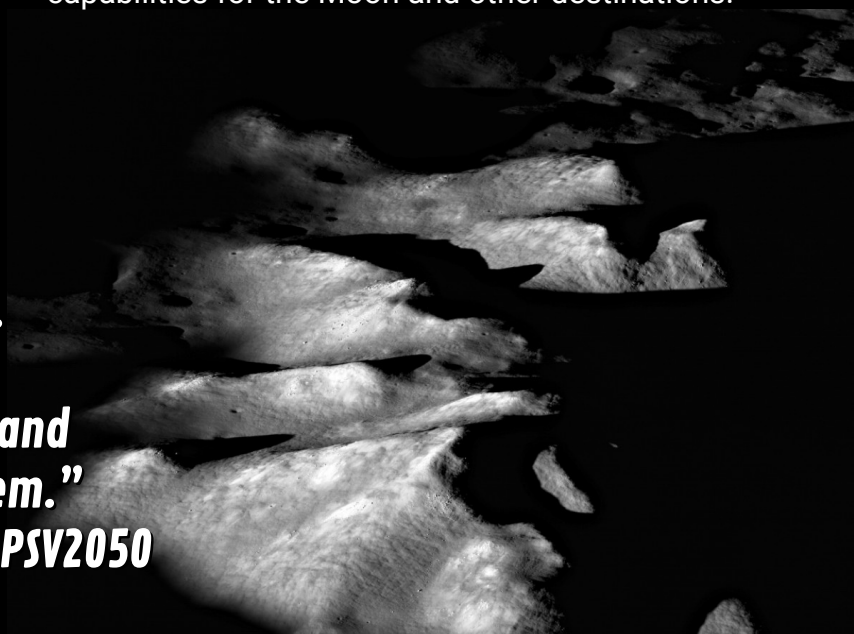
LUNAR EXPLORATION DEPENDS ON YOU!

The Moon has a critical role to play in planetary science, and the lunar exploration community must ensure that the profound excitement and immense value of lunar surface exploration is compellingly communicated to all stakeholders.

A WORLD FULL OF OPPORTUNITY

The Moon was a recurring theme of the workshop, particularly science advances that require direct exploration of the surface with humans and robotic precursor missions. Some highlights were:

- It was frequently observed that the Moon was the natural "first step" in developing viable commercial strategies to use extraterrestrial resources.
- Long-term monitoring of human lunar surface facilities is an important "witness plate" to fully understand the environmental and biological impacts of humans in extraterrestrial environments prior to any human Mars exploration, with implications for astrobiology.
- The Moon is an important platform for radio astronomy and other observations.
- Infrastructure in cislunar space could facilitate precursor missions, including sample returns.
- Key technology investments are needed, particularly nuclear fission powerplants, to enhance exploration capabilities for the Moon and other destinations.



"The MOON is not a distraction.
It is not a detour.
It is a destination in its own right and
the true Gateway to the Solar System."
-LEAG Vice-Chair Samuel Lawrence at PSV2050