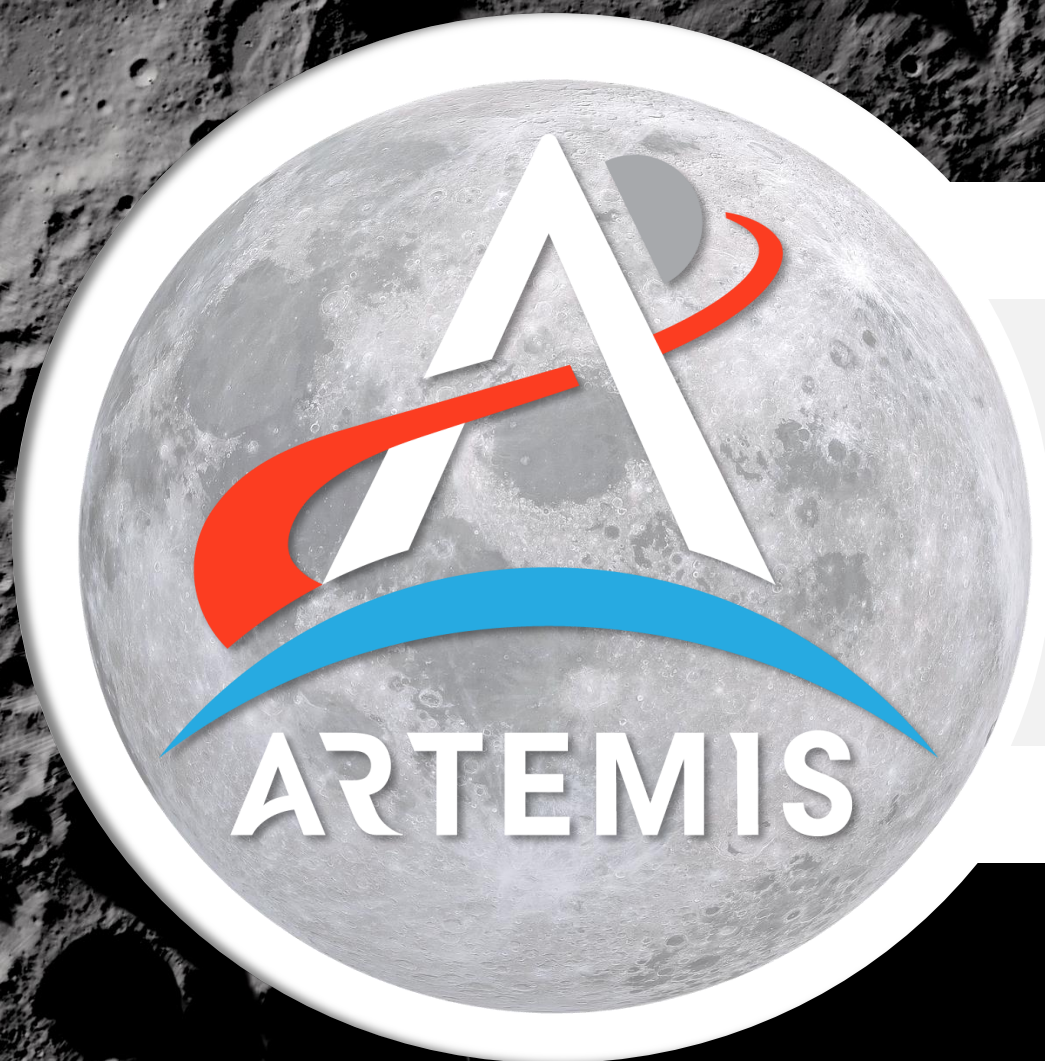


National Aeronautics and Space Administration

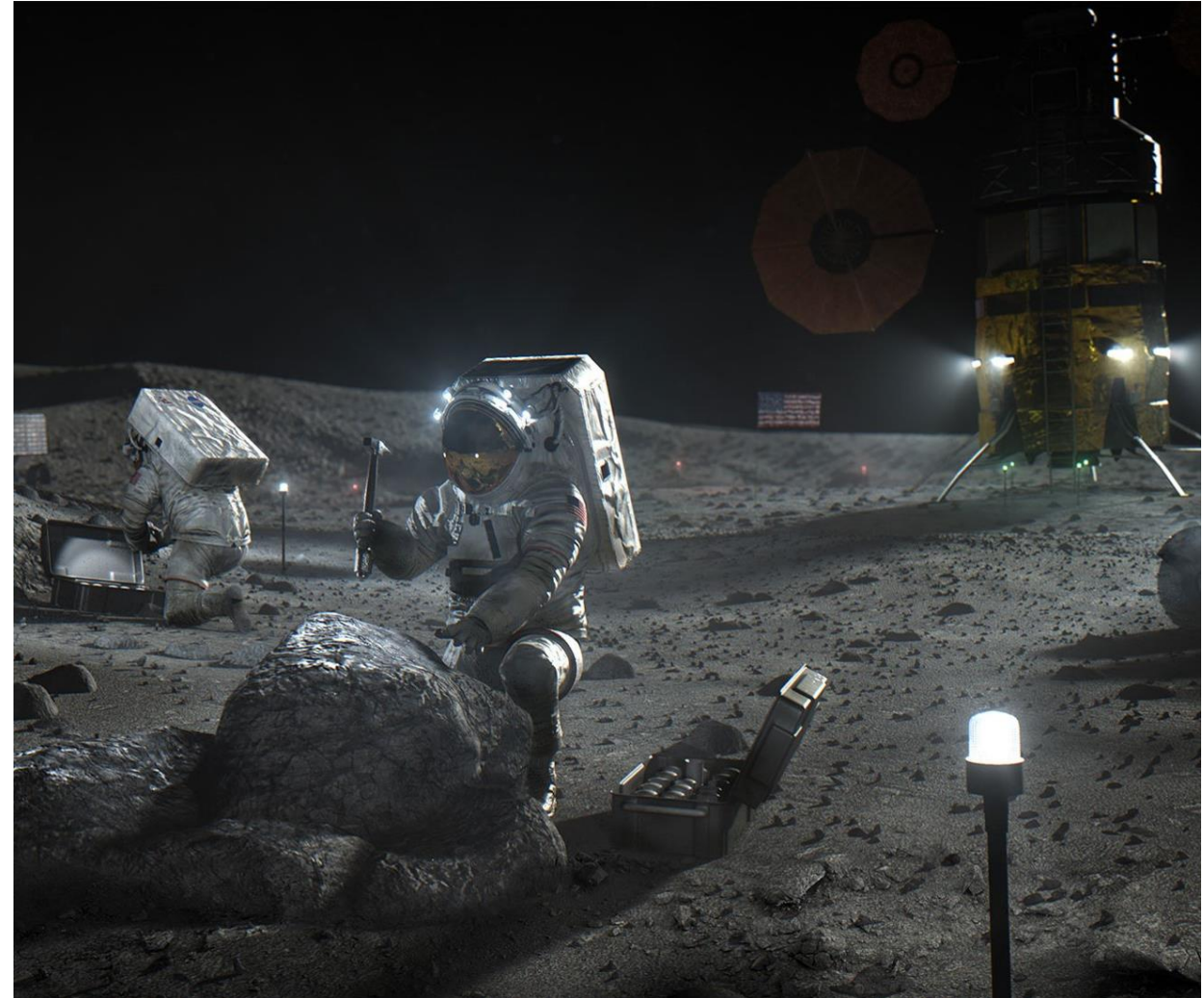


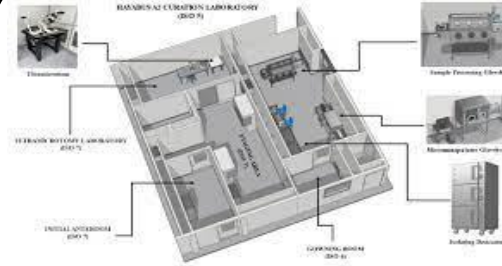
Artemis Curation: From Planning to Execution

Dr. Julianne Gross

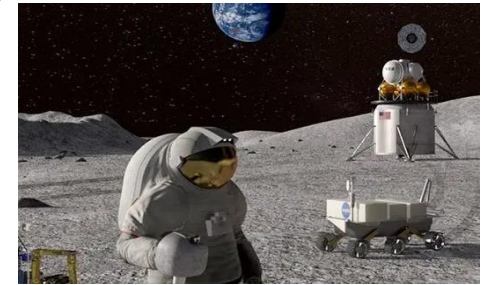
Artemis Curation Lead
Lunar Curation, ARES, NASA JSC

- **Preserve** Artemis samples from collection on the lunar surface to their return to Earth
- **Provide** initial sample characterization and catalog development to enable scientific studies of samples
- **Curate** Artemis samples for the long term, facilitating scientific investigations using technologies that will be developed in the future





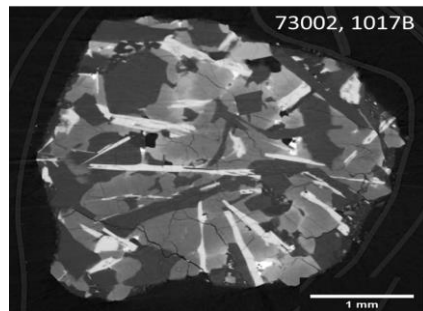
**pre-mission
planning**



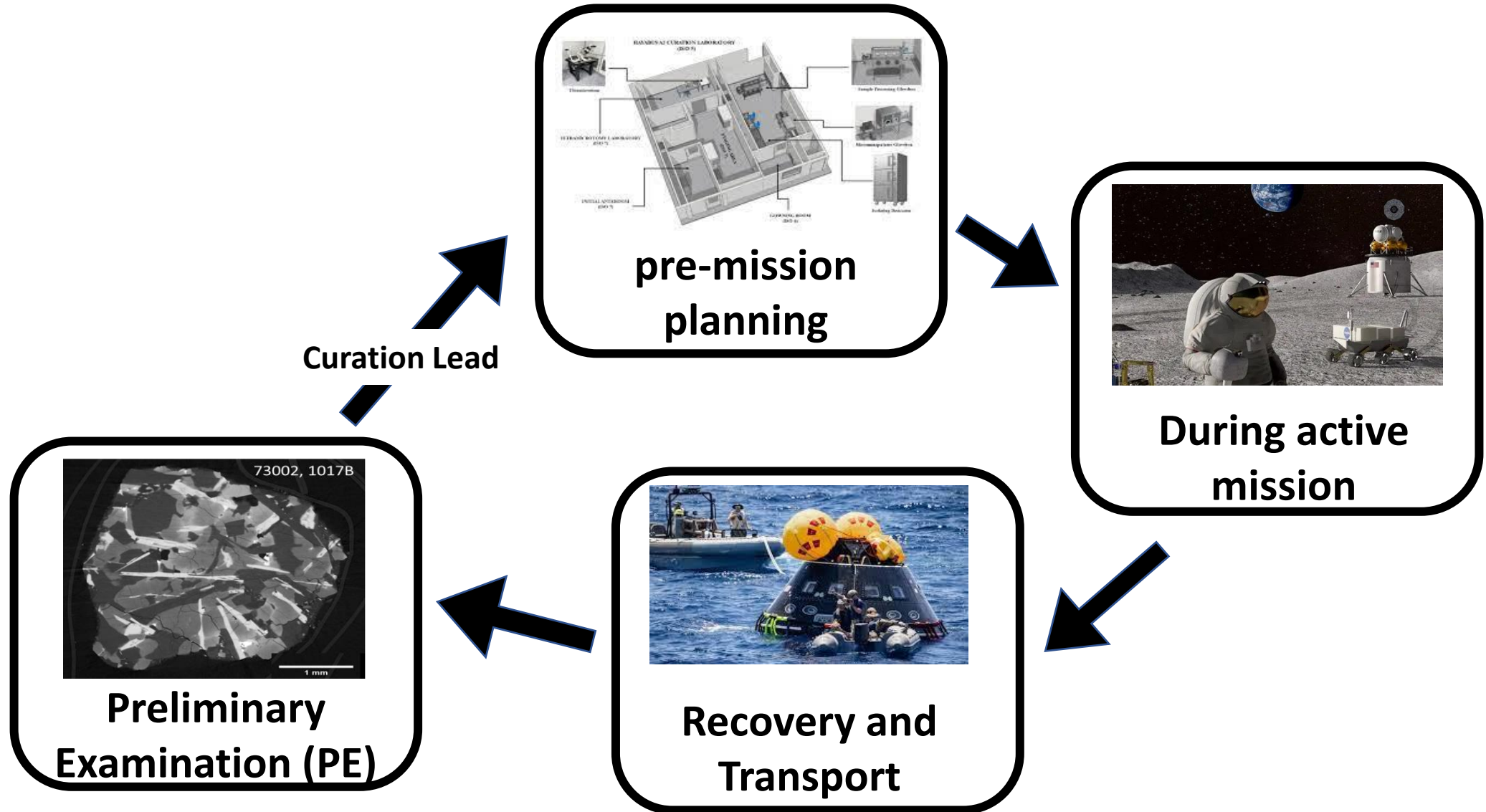
**During active
mission**

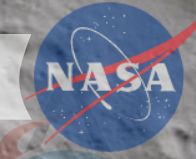


**Recovery and
Transport**



**Preliminary
Examination (PE)**





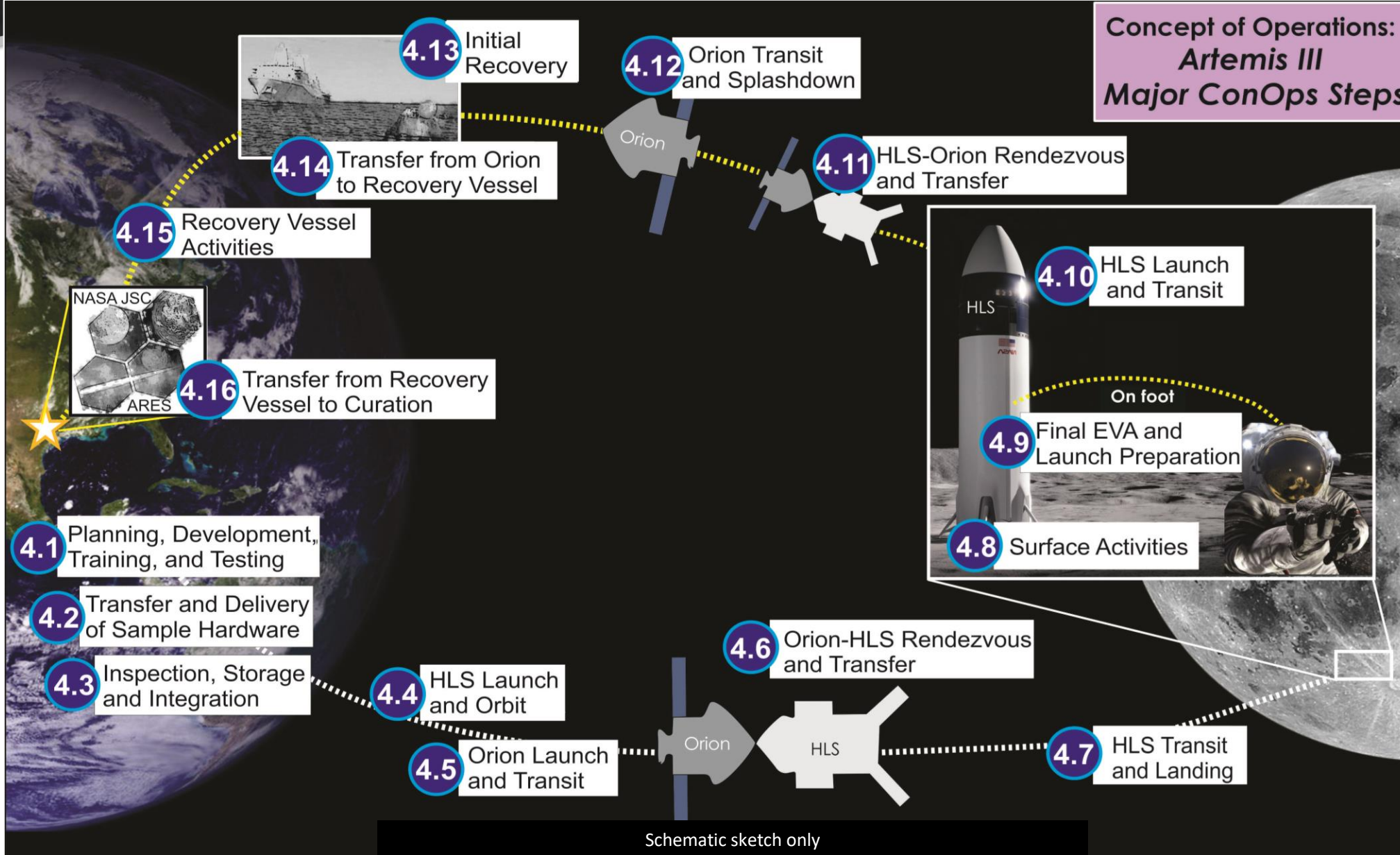
Curation Lead

Collection Curator

- South Polar Region lunar sample return with Astronauts
- Artemis 3 will return ambient temperature samples only
- For cold sample return beyond A3: Artemis Curation Lead will work with Cold Curation Lead to help define conditions for the return and curation of volatile-rich and cold samples during the Artemis Campaign.
- Artemis 3 returned samples will be processed and curated under room temperature in the Apollo Labs under the direction of the Apollo Sample Curator.

Planning: Artemis E2E Sampling Concept of Operations (ConOps)

Concept of Operations: Artemis III Major ConOps Steps



- Space for Artemis III and IV returned samples
- Pristine samples have been kept under nominal storage conditions since returned, which include:
 - Kept in ISO 6 (class 1000) clean rooms.
 - Stored and processed inside dry N₂-purged stainless steel Cabinets in vaults and labs.
 - Limited materials that have come in contact with the samples
- Handling histories are carefully recorded, both in transit, in the lab, and while with the PIs.
- Specialty facilities for core processing and band-sawing (under N₂-purge), as well as sectioning samples (not under N₂).



- Planning is underway, Apollo Curation Lab will receive ambient samples returned with Artemis 3 → processed and curated under room temperature under the direction of the Apollo Sample Curator.
- Development of Artemis E2E sampling ConOps provides an integrated strategy to protect samples and ensures a maximization of their scientific return. Baseline of the document currently represents A3.
- This document integrates multiple stakeholders to be incorporated into Artemis surface mission planning efforts and will evolve and be updated accordingly as sampling planning for the Artemis mission matures.
- Curation Strategy Document and Curation Plan are currently being developed by the Artemis Curation Lead.

Thank you for your attention

Questions?

Artemis curation: juliane.gross@nasa.gov