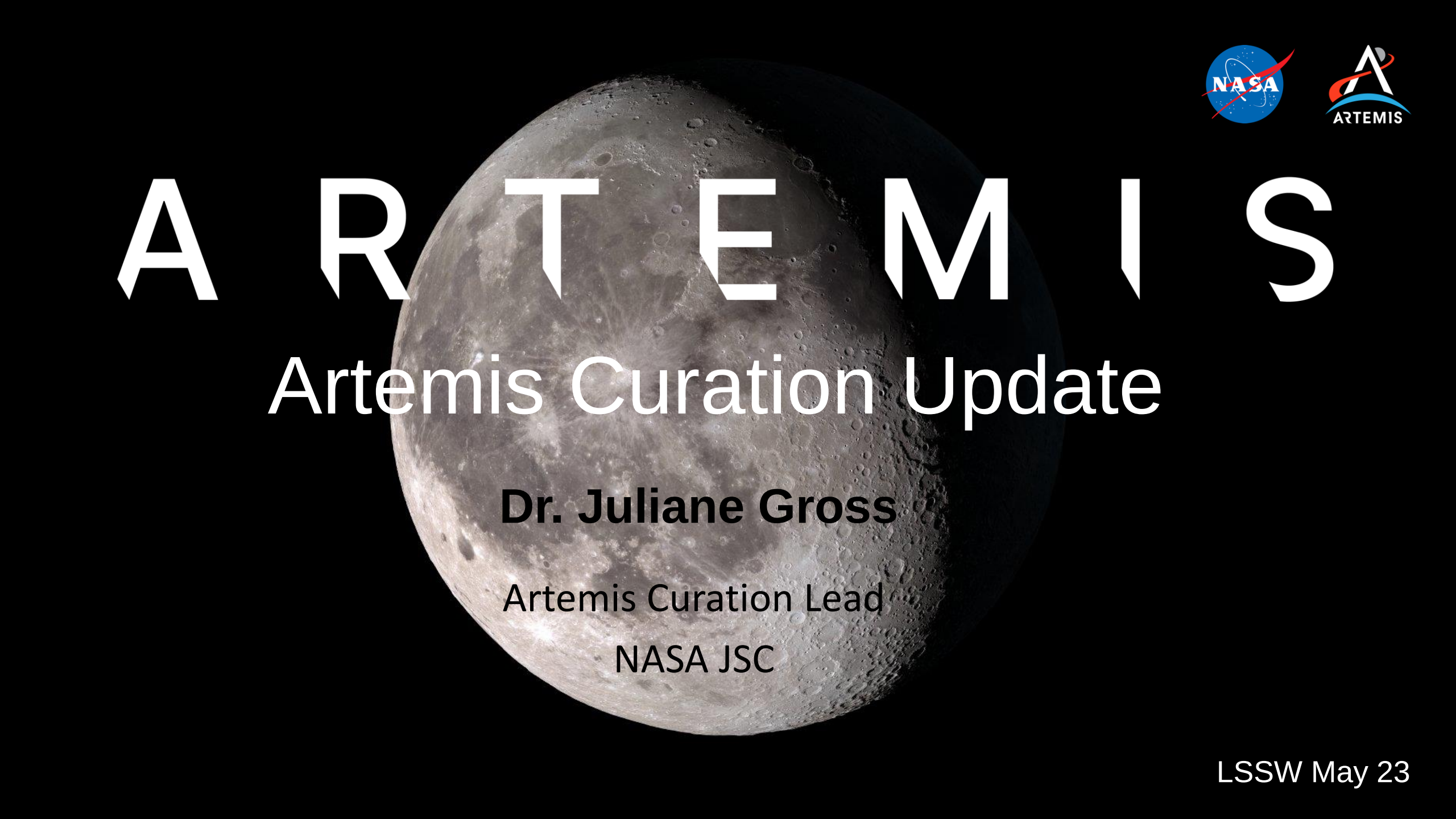


Artemis Curation Update

Dr. Juliane Gross

Artemis Curation Lead

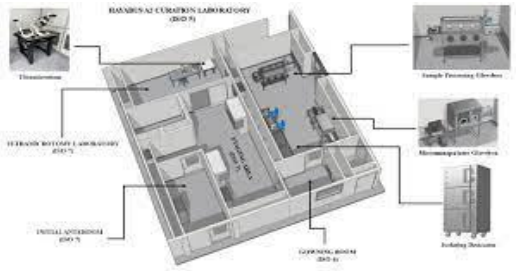
NASA JSC

LSSW May 23

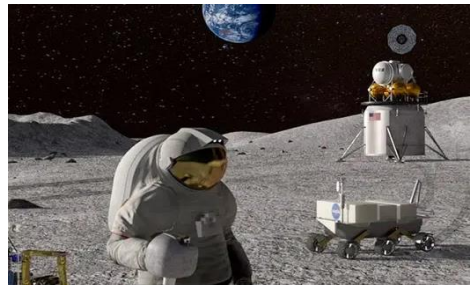
Goal and Importance of Artemis Curation

- **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

Curation starts pre-mission with the Curation Lead

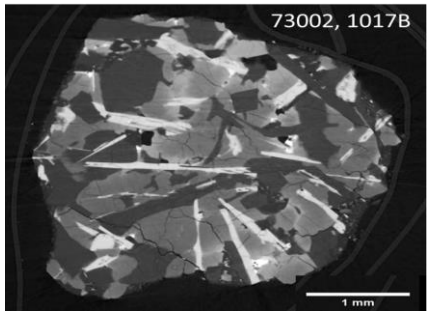


pre-mission planning



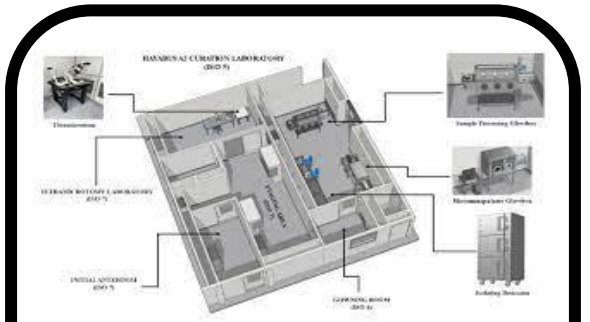
During active mission

Recovery and Transport

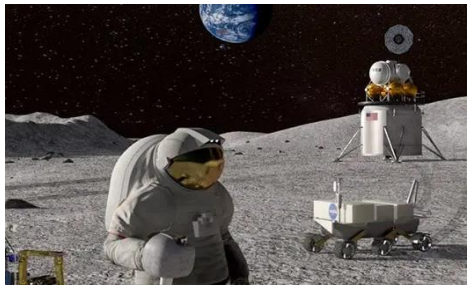


Preliminary Examination (PE)

Curation starts pre-mission with the Curation Lead

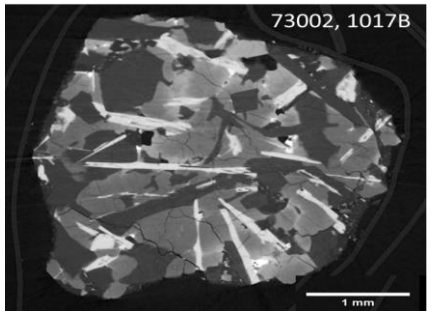


pre-mission planning



During active mission

Recovery and Transport

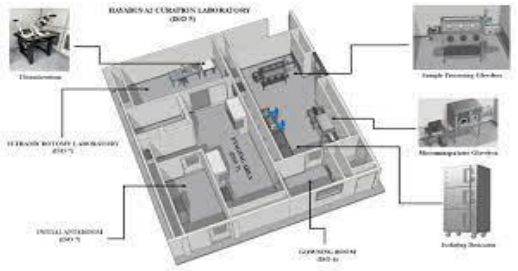


Preliminary Examination (PE)

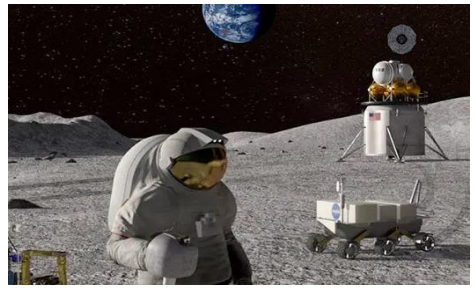
Curation Lead

Curation starts pre-mission with the Curation Lead

Long term curation

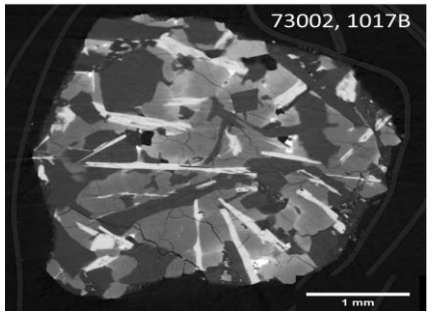


pre-mission planning



During active mission

Recovery and Transport



Preliminary Examination (PE)

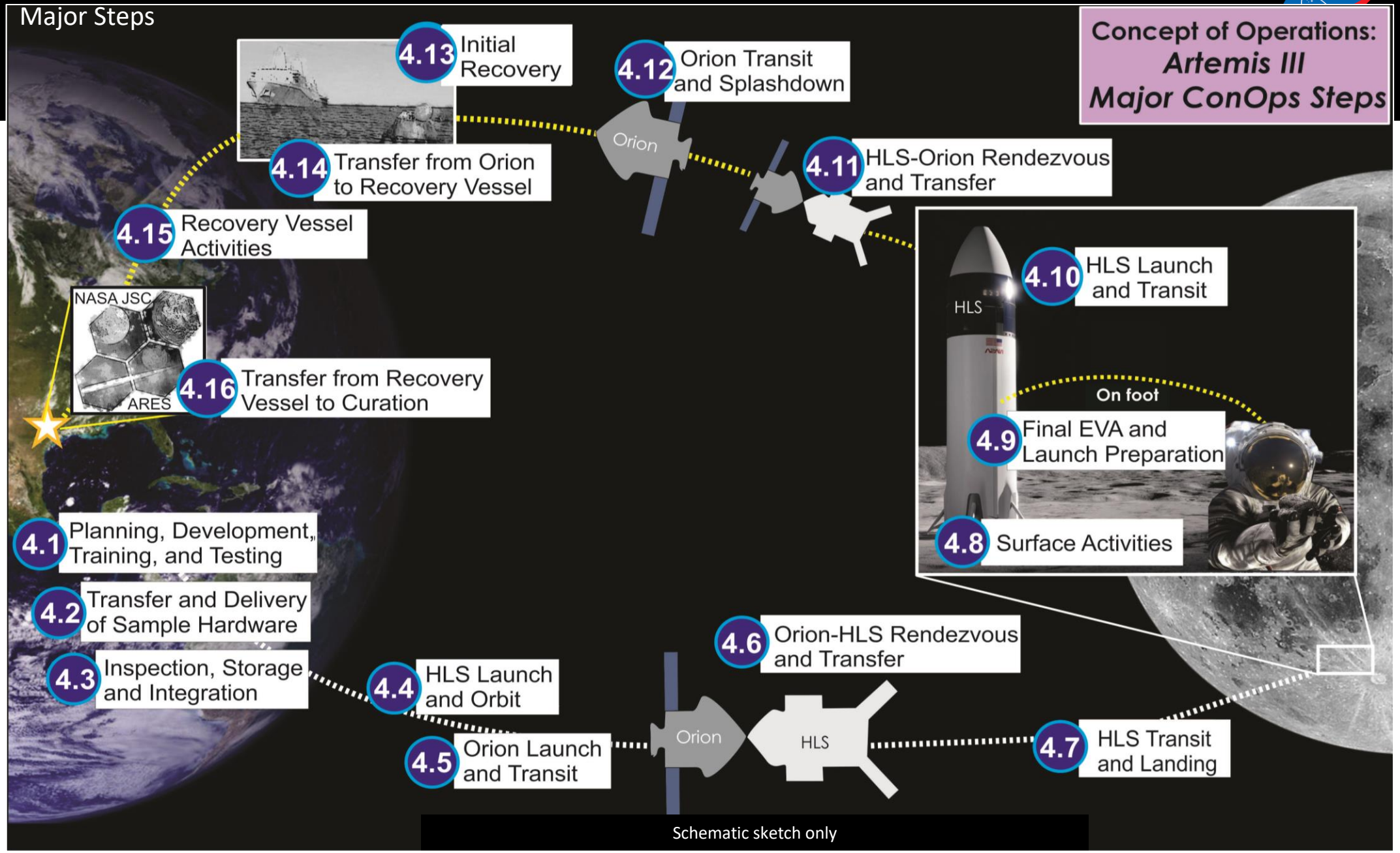
Curation Lead

Collection Curator

Planning: Current Lunar Curation Facility

- 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 N_2-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 N_2-purge), as well as sectioning samples (not under N_2).

Planning: Artemis Sampling Concept of Operations



Planning: Artemis 3 ambient Sample Return – 2026

- Farside/South Polar Region lunar sample return with Astronauts
- Artemis 3 will return ambient temperature samples only
- For cold sample return: 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 Lunar Sample Curator.

Summary and forward work

- Planning is underway, Apollo Curation Lab will receive ambient samples returned with Artemis → processed and curated under room temperature under the direction of the Lunar 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.

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Artemis Curation Update

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Artemis Curation Lead

NASA JSC