National Aeronautics and Space Administration

2026 NASA SCIENCE

CBPSS Update

March 25, 2026

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Director
Biological & Physical Sciences Division

NASA Updates

Jared Isaacman becomes NASA Administrator – Dec. 18, 2025

- Bold vision for returning NASA to greatness, accelerating science, igniting orbital economy

FY26 Enacted Budget

- $24.4B – NASA
- $7.25B – NASA Science
- $86M – Biological & Physical Sciences

Artemis & Lunar Science

Artemis: Why Go?

Scientific Discovery

Economic Benefits

Inspiration for a New Generation of Explorers

ARTEMIS I

First Mission
(Uncrewed Test Flight)

COMPLETE

ARTEMIS II

First Artemis Crew

ARTEMIS III

First Artemis Docking in Space
With Human Landing System

ARTEMIS IV

First Artemis
Human Surface Landing

ARTEMIS V+

Annual Mission Cadence
Sustained Lunar Presence

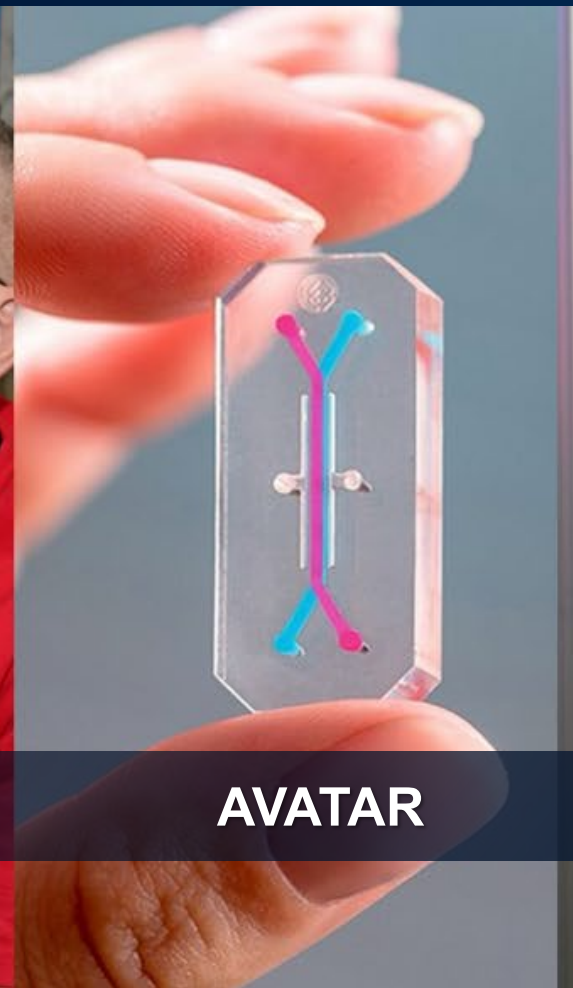
Artemis II

Know before we go.

Science that enables exploration.
Exploration that enables science.

- Uncover **critical scientific insights** needed for NASA's deep space missions
- Leverage unique conditions in space to **conduct research impossible to do on Earth**
- Optimize mission investments by **advancing science and technology**

Artemis II Human Health & Performance Studies



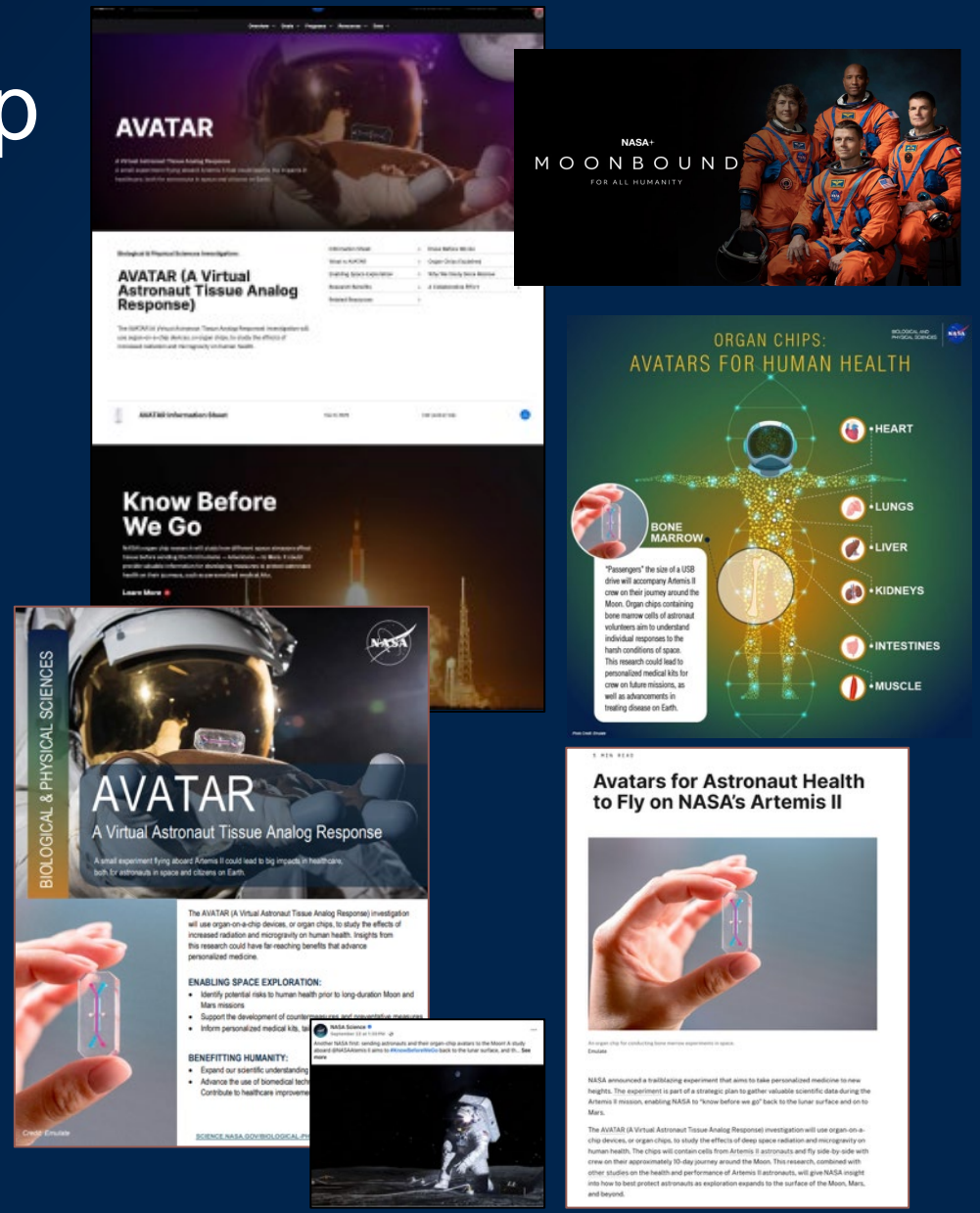
AVATAR

A Virtual Astronaut Tissue Analog Response

- Organ-on-a-chip devices to fly aboard Artemis II
- 1st study of its kind
- Identify potential risks to individual crew health
- Paving the way for personalized medicine
- A partnership between government, academia, and industry

AVATAR: Putting BPS on the Map

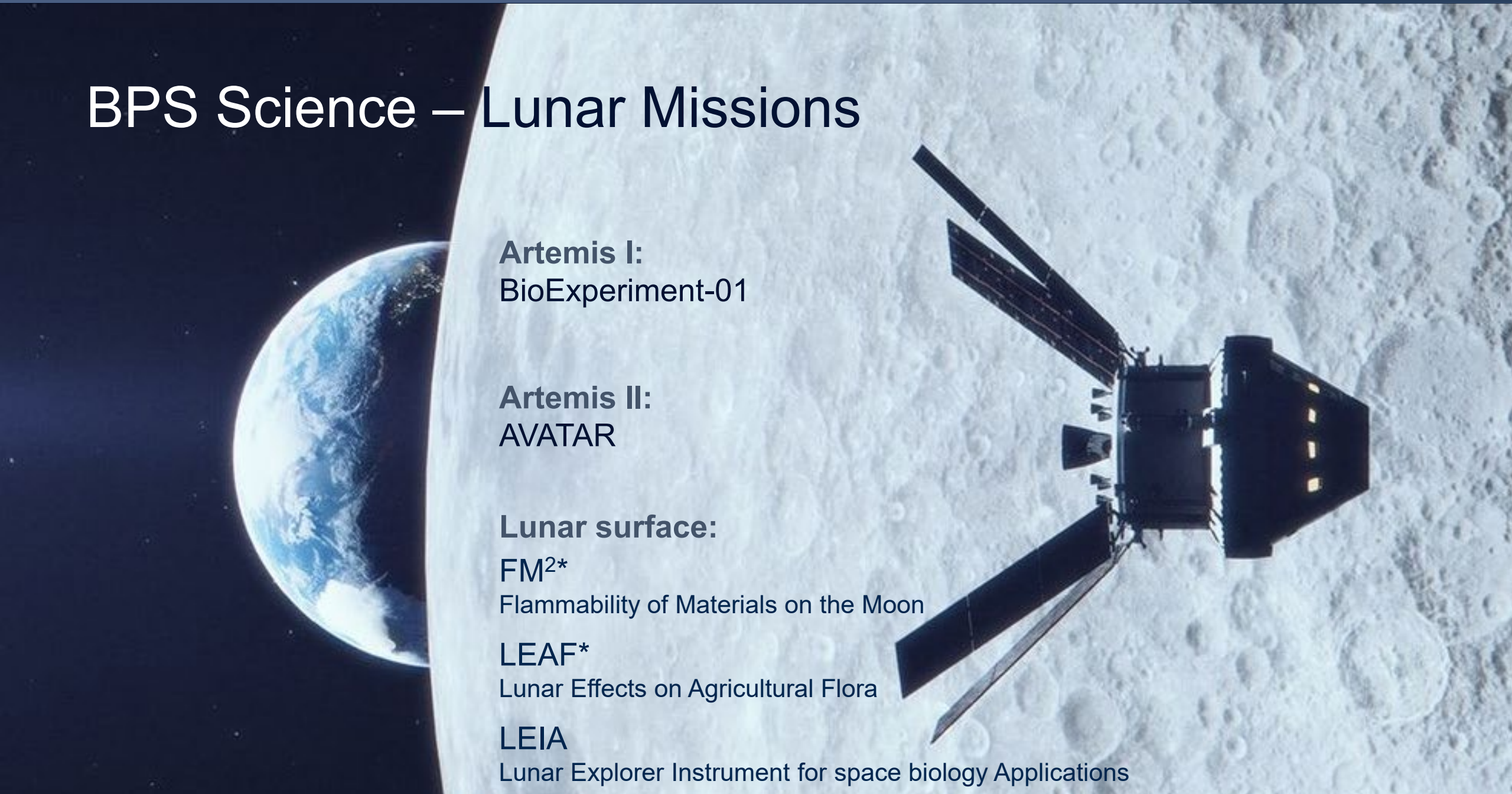
- Artemis II Media Days
- 40+ media mentions, incl. major news outlets
- 3+ podcasts, incl. Planetary Radio, Houston We Have a Podcast
- Videos, article, website, 1-pagers, social media blitz
- University talks, Moonbound screening, public engagement
- Launch: Artemis II media event, KSC Visitor Center exhibit, Mars Theatre presentation, influencer event
- 2026 MPS World Summit
- 7th European IRPA Congress
- 41st Space Symposium



Aboard Artemis II: Seeds

- Chile pepper and Zinnia seeds flying inside Orion capsule
- Returned samples will be used for a public engagement activity

BPS Science – Lunar Missions



Artemis I:
BioExperiment-01

Artemis II:
AVATAR

Lunar surface:

FM^{2}*
Flammability of Materials on the Moon

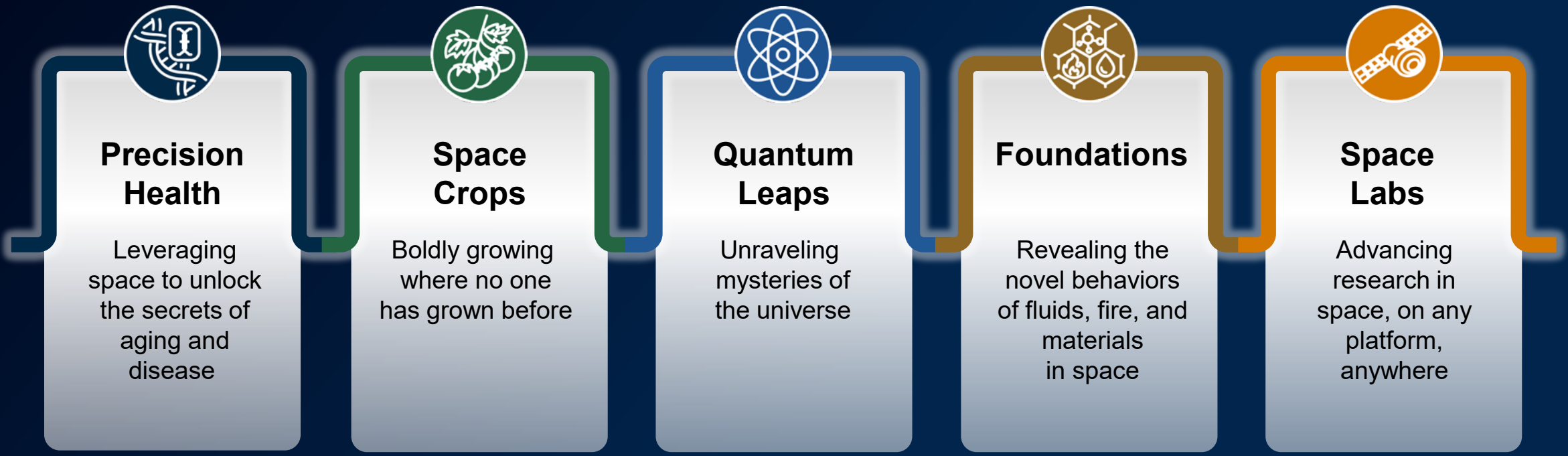
LEAF*
Lunar Effects on Agricultural Flora

LEIA
Lunar Explorer Instrument for space biology Applications

Decadal Science

Advancing NASA and National Priorities

BPS Decadal Science Goals



BPS Decadal Science Road Map

Updates

- New Road Map video of BPS Road Map rollout at ASGSR 2025
- Interactive Road Map V2.2 available online
- NASA invited community input on Sunsetting & Emerging Science – received 55 inputs
- Initiated science tracing to Mars Campaign Office and Human Research Program

Next Step

- BPS science priorities by Goal

FY26 Active Tasks

108 Active grants

44 Post-Docs

52 PhDs

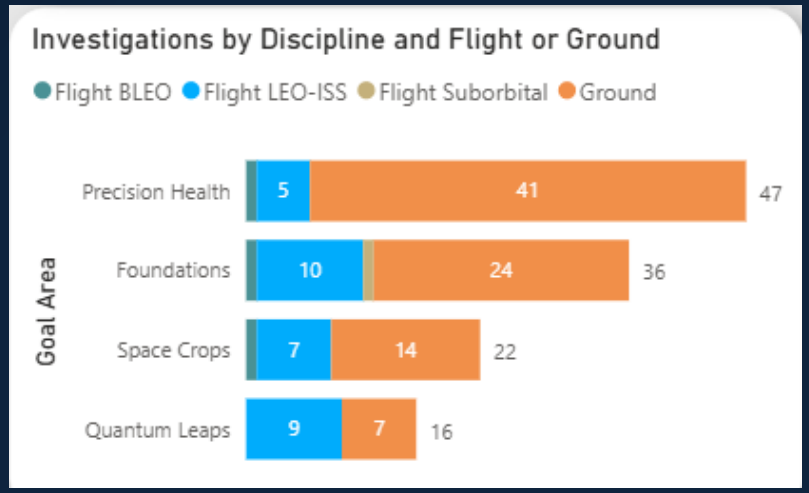
21 PhD Candidates

13 Masters Degrees

21 Masters Candidates

49 Bachelor's Degrees

72 Undergraduate students



ROSES-2024 E.9: 12 Proposals of Interest
ROSES-2024 E.12: 17 Proposals of Interest

Status: Finalizing Awards

Alignment to Decadal Key Scientific Questions, by Theme*:

18 – Adapting to Space

12 – Living & Traveling in Space

7 – Probing Phenomena Hidden by Gravity/Terrestrial Limitations

**Note: Individual proposals address multiple KSQs*

Upcoming Solicitations

ROSES25:

- Precision Health and Space Crops focused topics, anticipated release May/June 2026
- FINESST anticipated release spring 2026

NASA Solar System Exploration Research Virtual Institute Cooperative Agreement Notice – 5 (SSERVI CAN-5):

- Under NASA review, expected to be released for community comment

Request for Information (RFI) for Lunar Science and Technology Payloads for Expanded Lunar Landing Opportunities (CLPS)

CERISS Updates

Challenge Winners

Ambrosia Space: Food & Nutrition for Mars and Sustained Lunar - Parabolic Flight Winner

- Parabolic campaign (FY27)*

Helogen: Addressing In-situ Sample Preparation - Sub-Orbital Flight winner

- Sub-Orbital Flight with Virgin Galactic: FY27*

Solicitations

- NRA in partnership with ISS Program Office (FY26)

**Subject to change*

NASA TechLeap PRIZE

Activities, Open Science & Workforce Development

BPS On the Road

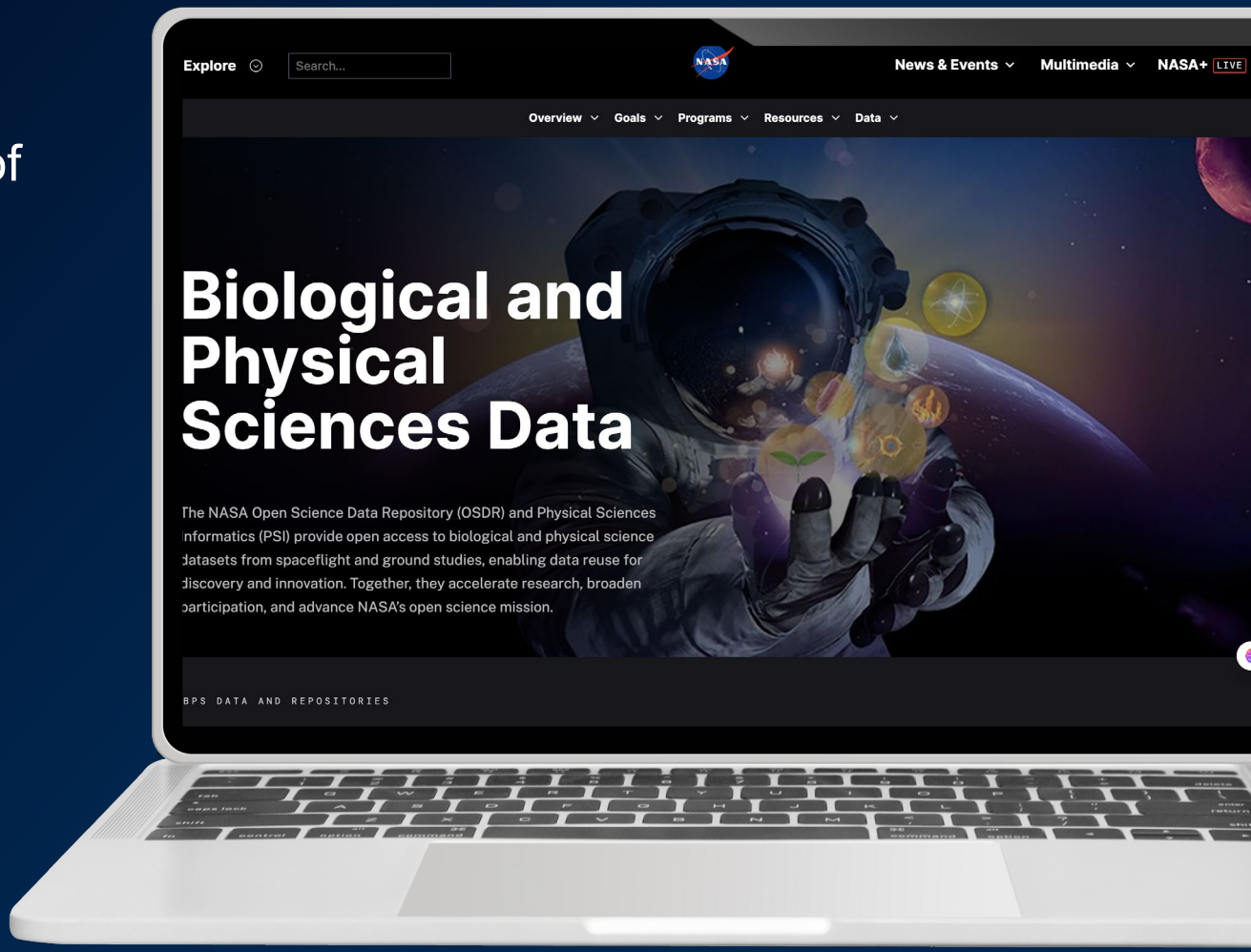
- NASA Day on the Hill
- ASGSR 2025 Annual Meeting
- 27th NIH Tissue Chip Consortium Meeting
- Fundamental Physics in Space with Quantum Sensors Conference
- 25th Anniversary of Human Presence on the ISS
- KSC's 52nd Space Congress Conference
- ESA 7th Quantum Technology Conference
- Women in Aerospace Awards Ceremony

BPS Workforce Development – Recent Highlights

- **GeneLab for High Schools (GL4HS)** – Virtual Expansion Continuing in 2026
- **GeneLab for Universities (GL4U) Courses** – On-Demand Broad Reach Going Strong
- **Spaceflight Technology, Applications & Research (STAR)** – Concluding current cohort
- **Space Life Sciences Training Program (SLSTP)** – Preparing for summer cohort
- **Growing Beyond Earth Symposium –** April 11th annual symposium
- **Future Investigators in NASA Earth & Space Science and Technology (FINESST)** – Applicants informed of science review completion

Advances in Open Science & Data Access

- Centralized data access
- Space Physical and Life-sciences Archive of Scientific Hardware (SPLASH)
- AI-enabled discovery
- Impact through data reuse



Launches

Returned: Bone Loss Samples

Microgravity Associated Bone Loss-B (MABL-B) samples returned on SpX-33:

- Examines how microgravity affects bone-forming or bone-resorption activity
- Evaluate the role of IL-6 signaling in bone loss
- Could inform countermeasures for crew on long-duration missions

Launched: Microplate Reader

A small but mighty piece of lab equipment traveled with Crew-12 to the International Space Station on Feb 13:

- Size of a cellphone
- Used in biological, chemical, or physical reactions
- Supports in situ analysis, real-time monitoring
- Reduces the need to return samples to Earth
- Initial study on MABL-B samples
- Enabled by the CERISS program

NG-24 (NET 4/8/2026)*

Space Crops:

Helper bacteria could bolster space plants

- **VEG-06** (Dissecting Beneficial Plant-Microbe Interactions and their Efficacy in the ISS Spaceflight Environment)
- Dr. Norman Lewis, Washington State University

Quantum Leaps:

Upgraded tools for studying atoms in space

- **SM-3X and HXM-1** modules for Cold Atom Lab
- Dr. Jason Williams, NASA Jet Propulsion Laboratory, California Institute of Technology

Foundations:

Continuing fuel storage research in microgravity

- **ZBOT-NC** (Zero Boil-Off Tank Noncondensables)
- Dr. Mohammad Kassemi, Case Western Reserve University

Precision Health:

Roundworms on a round trip

- **CBIOMES (**C. elegans Biological Investigation on Microbiome Effect in Space)
- Dr. Siva A. Vanapalli, Texas Tech University

**Subject to change*

SPX-34 (NET 5/12/2026)*

Precision Health:

Understanding how microbes exchange genetic material in space

- **ODYSSEY** (Outcomes of microbial Dynamics during Spaceflight and in SimulatEd microgravity)
- Dr. Camilla Urbaniak, NASA Jet Propulsion Laboratory

Combatting antibiotic-resistant bacteria in space

- **GEARS** (Genomic Enumeration of Antibiotic Resistance in Space) flight 3
- Dr. Christopher Carr, Georgia Institute of Technology

Studying how platelets and bone-marrow megakaryocytes adapt to changes during spaceflight

- **MeF1**(Megakaryocytes Orbiting in Outer Space and Near Earth) re-flight
- Dr. Hansjorg Schwertz, University of Utah

**Subject to change*

BPS FLEET CHART: FY 2026 ENACTED BUDGET

FORMULATION
IMPLEMENTATION
OPERATIONAL
*Partner-led

Mars
Moon

LEAF
FM²
ARTEMIS III
MoBE

ARTEMIS II
AVATAR

BRIC
CAL
ELF*
EML*
FLARE*
APEX
Microplate Reader
GEARS
MABL
ACES*
VEGGIE
MICRO
ZBOT-NC

International Space Station

BRIC-LED
APEX-11
CBIOMES
MeF1
VEG-06
MVP-Plant-02
Space Algae 2
ODYSSEY
Organoid Chip

Commercial LEO Destinations
Snack Boxes
MoBE

2026-03-23

What's Next…

- Launches
  - SpaceX-35 NET 08/15/2026
- New NASA parabolic platform – lunar and Mars gravity
- Glenn Research Center Drop Tower enhancements – partial gravity
- ROSES-26 (FY27)

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