



# Center for Space Medicine Space Health Pilot Pre-proposal Briefing

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# Agenda

**Objective:** provide details about the BCM Pilot Grants RFA and answer proposer questions

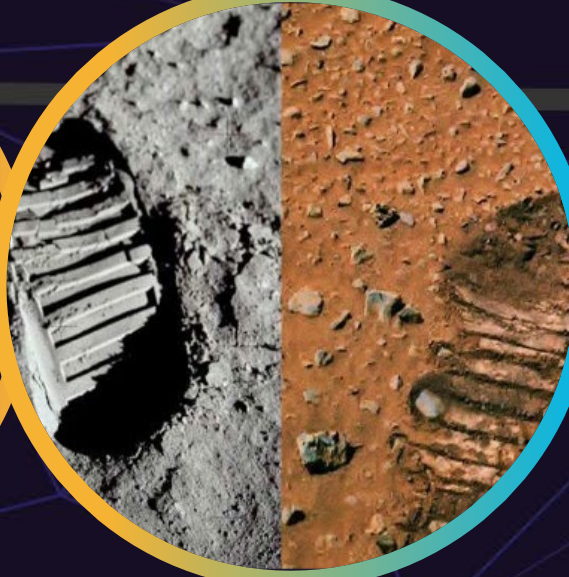
- The TRISH Mission and what does TRISH fund?
- Scientific Initiatives
- Pilot Grant RFA
- FAQs
- Questions

# TRISH MISSION

To relentlessly seek and support high-impact scientific, technological, clinical, and psychological advances that will enable any human to explore space safely.

## WE COMPLEMENT NASA'S EFFORTS

**NASA**  
Steady Progress in  
reducing space  
health risks



**TRISH**  
Risk taking for  
potential GIANT  
LEAPS

# WHAT DOES TRISH FUND?

TRISH supports the development of health technologies and knowledge for:

-  Commercial Spaceflight
-  NASA's Artemis Program
-  Missions to the Mars system



Advancing technologies,  
discovery and creating  
economic opportunities

# TRISH Science Initiatives

## Human and Environmental Research Matrix for Exploration of Space (HERMES)

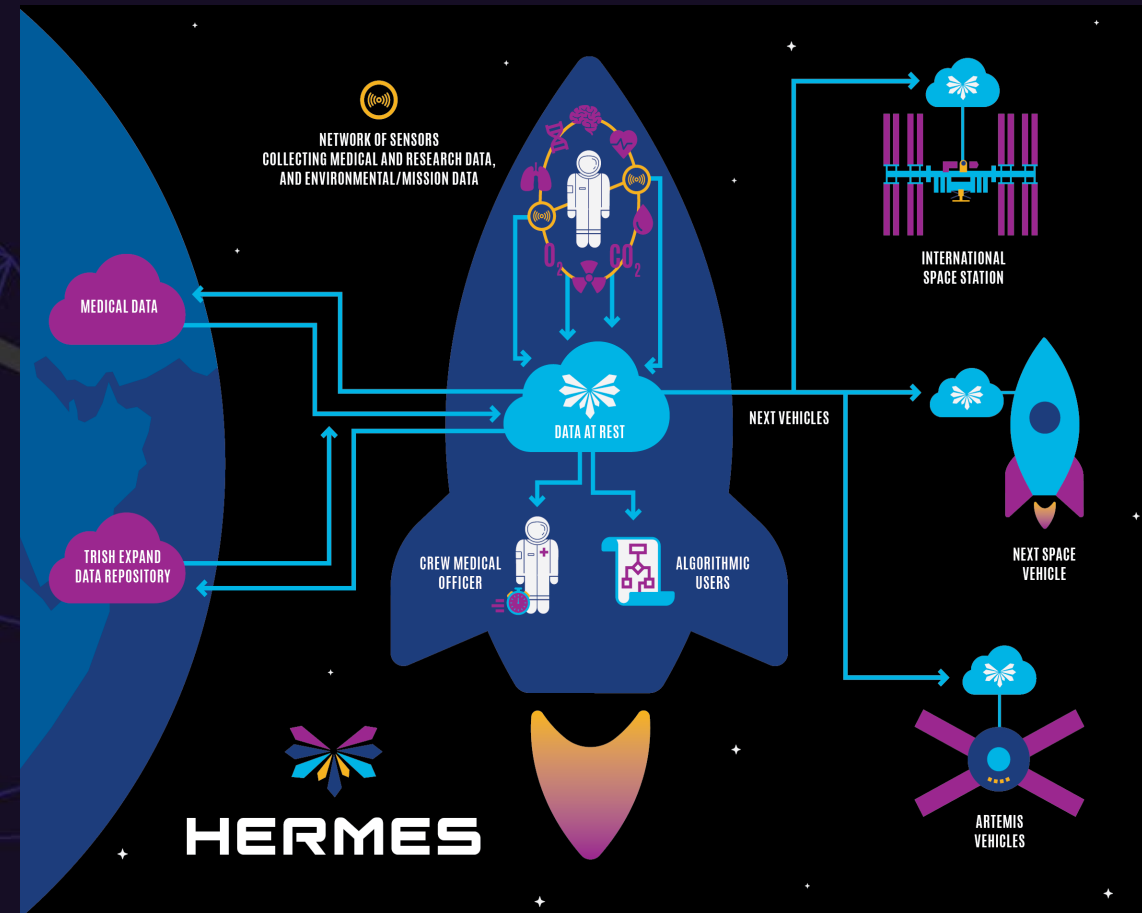
**Aim** – Develop a semi-automated, vehicle-agnostic data management platform to support both research activities and healthcare delivery

**Goal** – Enable crew and ground-based medical teams to seamlessly monitor and access crew health status and research study progress

**Why** – with Cis-Lunar and lunar surface space missions and multiple vehicles and habitats being built, astronauts will be transitioning between these on a regular basis. Continuity of access to health-related data is key for safeguarding health, assessing immediate risks, and making informed and timely medical decisions.



# HERMES



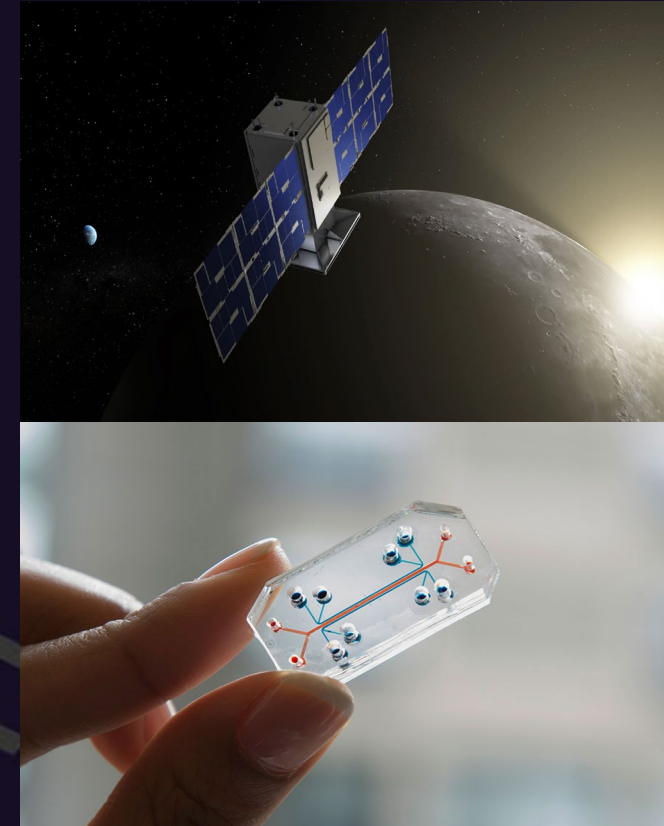
# TRISH Science Initiatives

## SENTINEL (Science ENTERprise to Inform Exploration Limits)

**Aim** – Develop automated human microphysiological systems (MPS) including non-human tending and automated sensing

**Goal** – Enable non-human tended MPS to be sent to deep space as a payload and relay back relevant data

**Why** – Microphysiological systems have the potential to address many human spaceflight risks of the space environment. By using automated and self-reporting MPS/3D tissue chips, the lunar surface and vicinity can enable critical health and performance studies. These systems can also be built as single organs or as systems of organs allowing for interactions to simulate responses that might occur within the human body in space. Successful research and technology development in this area would improve the capability to test the effects of the realistic, deep space radiation environment on a tissue as well as the impacts of medications or other interventions. In addition, these systems are also being matured and validated with the goal of facilitating personalized and precision medicine.





# TRISH Broad Institute Announcement



- TRISH Research Page

**TRISH Broad Institute Announcement**

- <https://cdn.bcm.edu/sites/default/files/2024-12/trish-dec-2024-broad-institute-announcement.pdf>

# Center for Space Medicine Space Health Pilot RFA

The goal of this RFA is to **expand space health research at Baylor College of Medicine (BCM)** and **foster collaboration focused on space health relevant topics**. This program is designed to bring new ideas and innovations to space health, which may also translate to support health care on the ground. Three broad topics of interest have been prioritized:

- **Advancing Technology to Support Remote Crew Health and Performance Monitoring**
- **Advancing Remote Healthcare Knowledge Base**
- **Advancing Remote Research Capabilities**





# Center for Space Medicine Space Health Pilot RFA

**Release Date:** December 17, 2024

**Award Amount:** \$50,000 (direct costs only) **All grants will be funded through CSM**

**Award Duration:** up to 12 Months

**Proposals Due:** March 6, 2025 at 11:59 pm Central

**Estimated Selection Announcement:** May 2025

**Project Start Date:** June 2025

**Project End Date:** June 2026



# Advancing Technology to Support Remote Crew Health and Performance Monitoring



TRANSLATIONAL  
RESEARCH INSTITUTE FOR  
SPACE HEALTH

- Advancements are required to enable remote healthcare delivery and enable astronauts to stay healthy while further from Earth for longer than ever before.
- Biomedical monitoring tools will be needed to enable advanced healthcare **away** from Earth that are **smaller or more unobtrusive** and can replace currently used monitoring methods.
- Capabilities like **artificial intelligence and machine learning** tools to interpret health status based on personalized health data collection, **remote just-in-time training tools** and **shelf-life improvements of food and medications**.
- Align with TRISH's HERMES and SENTINEL initiatives.

# Advancing Remote Healthcare Knowledge Base



- Moving towards **personalized healthcare** will aid in a more effective use of a spacecraft's **limited mass, power and volume** resources.
- Advancing the **knowledge base** to inform personalized health care solutions is needed.
- Consider how the data obtained relates to the ability to provide adequate and personalized health care to the future and expanding spacefaring population.
- Align with TRISH's HERMES and SENTINEL initiatives.

# Advancing Remote Research Capabilities



- Advancements are needed to improve **remote** research capabilities to enable effective science in new environments. How does the data obtained relate to the ability to conduct adequate research in remote environments?
- Efforts here should consider removing the need for human intervention and **automating** research efforts.
- Align with TRISH's SENTINEL initiative.

# Frequently Asked Questions

Q. When will the funding decisions, regarding proposals, be made?

A. Announcement of awards will be made in May 2025.

Q. Can I request an extension for submitting my application?

A. **Extensions will not be given.** It is strongly suggested that you begin your application preparation early and familiarize yourself with the solicitation and TRISH GRID.

Q. Is there a required format for biographical sketches?

A. A NIH or NSF biosketch format is acceptable, but **there is no required format.** A template has been provided alongside the solicitation for the proposer's convenience. Regardless of the format used, please take careful note of the 2-page limit for biographical sketches.

Q. I cannot find the answers to my questions in the solicitation documents or the FAQ. Who can I ask for assistance?

A. Please ensure that you read both the TRISH solicitation and this FAQ in their entirety before contacting TRISH with questions. For additional information, please see <https://trish.my.site.com/s/concierge>.



# CONNECT WITH TRISH



[bcm.edu/spacehealth](http://bcm.edu/spacehealth)



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Questions?

