

## About the MILO Space Science Institute



ASU's MILO Space Science Institute (MILO) makes space science and exploration accessible to countries around the world that want to increase their knowledge, infrastructure, and human capital and participate more deeply in the growing global space economy. We identify space missions with infrastructure provided as a service, and we implement programs that build capacity to support the missions. MILO offers an end-to-end pathway that creates access to space.

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### Space Exploration

Collaborative mission models offer an optimal arrangement for space science and exploration. MILO's unique approach offers reduced cost and opens access to new participants, including universities, startups, and other emerging spacefaring communities.

### Space Infrastructure

MILO provides startup programs, prototype laboratories, and insights into engaging government to help our partners create space infrastructure and build capacity. We work with space companies to provide mission infrastructure as a service, reducing mission cost.

### Workforce Development

The MILO Mission Academy is designed to develop the space workforce with foundational training needed to grow the human capital and improve the socio-economic health of the communities in which we serve.

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## MILO Structured Programs

### Mission Academy for Climate Intelligence and Earth Science

MILO offers a workforce development program with the objective of developing competences in climate intelligence supporting terrestrial markets. In this 12-week program, students will select a real-world terrestrial challenges faced by their region today. They will learn about Remote Sensing capabilities able to address the challenge, and they will walk through an innovative solution-development process that will guide them through the creation of an application that will address the challenge.



## Mission Academy for Lunar Exploration

In this 12-week program, students will select an Artemis Science objective and develop a lunar mission concept that supports the objective. They will learn about deploying payloads to the surface of the Moon and how to interface with systems like transportation, communication, support for survivability, and deployment of payloads onto the lunar surface. The program is intended to support organizations with mature space flight heritage as well as from those with relatively new, and perhaps growing, space agencies and/or ecosystems.

## Space Infrastructure

MILO offers the Space Startup Program to fill the recognized gap between foundational academic discipline and engaging in the new space market. During this 12-week program, teams will develop a sustainable business model that will support growth of the space sector. The Space Works Challenge helps participating teams advance their technology and demonstrate critical functionality using industry-standard practices, protocols, and procedures. Teams will leverage functional prototypes developed in the Space Works Laboratory to attract investors, show a pathway to successful market insertion, and support upcoming mission opportunities. A Demo Day event brings space leaders to witness innovation and creativity.

## Exploration Missions

The MILO Institute's Luna Ride Mission will send instruments on an autonomous vehicle to one or more of the identified priority regions to perform scientific exploration and significantly advance internationally recognized lunar science goals. Thirteen small regions within 6° of latitude from the Moon's south pole have been selected as the location for the Artemis III human landing site and the subsequent Artemis Base Camp. Other missions to Near Earth Objects have been designed.



*Figure 1. The MILO Academy supports design of lunar payloads that can be delivered to the Moon on the Luna Ride mission. A suite of mission services is offered to MILO and its partners, including launch, landing, payload delivery & relocation, power, data downlink, and data processing services. Image Credit: Lockheed Martin.<sup>1</sup>*

1. <https://www.lockheedmartin.com/en-us/news/features/2021/lunar-terrain-vehicle.html>.