ISSUE: 41 | February 2021

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Enjoy!
The Flight Opportunities team

Community Learning

Make Plans to Attend our March Community of Practice Webinar

Growing Research Careers with Suborbital Flight Testing with
Adrienne ("Addie") Dove, Ph.D., University of Central Florida
Kevin Crosby, Ph.D., Carthage College

Wednesday, March 3, 2021 | 10:00 a.m. PST

In addition to technology development, the process of suborbital flight testing presents a variety of learning opportunities for researchers to hone skills like project management, experiment design, and risk reduction. This webinar will feature two seasoned Flight Opportunities investigators who will share their experience leveraging the program to advance their own research while also helping their students develop skills that are critical for career success, both in academia and industry. They will illustrate why cultivating student experience and career growth is important for growing the space community, and also offer tips on effectively engaging students in projects while still meeting flight test objectives.

Microsoft Teams meeting
Join on your computer or mobile app
Click here to join the meeting
Or call in (audio only): +1 256-715-9946
Phone Conference ID: 746 836 058#

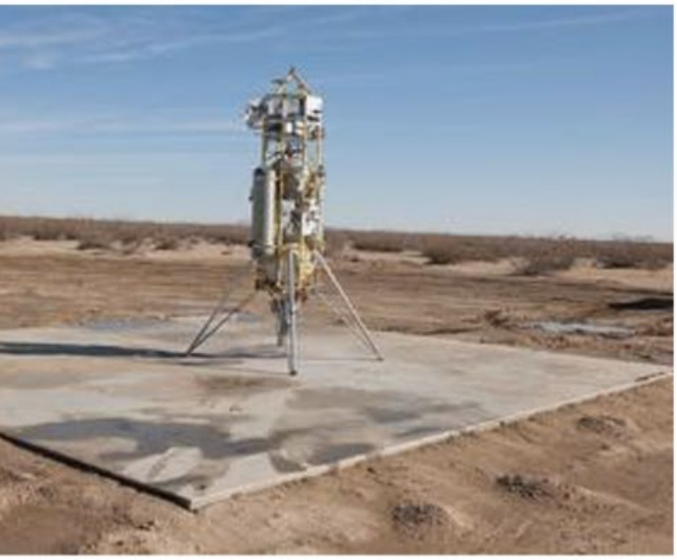
Community of Practice webinars take place the first Wednesday of every month at 10 a.m. PT. To learn more about this initiative and to view the recording of last month's webinar, please visit the **Community of Practice page** *on our website.*

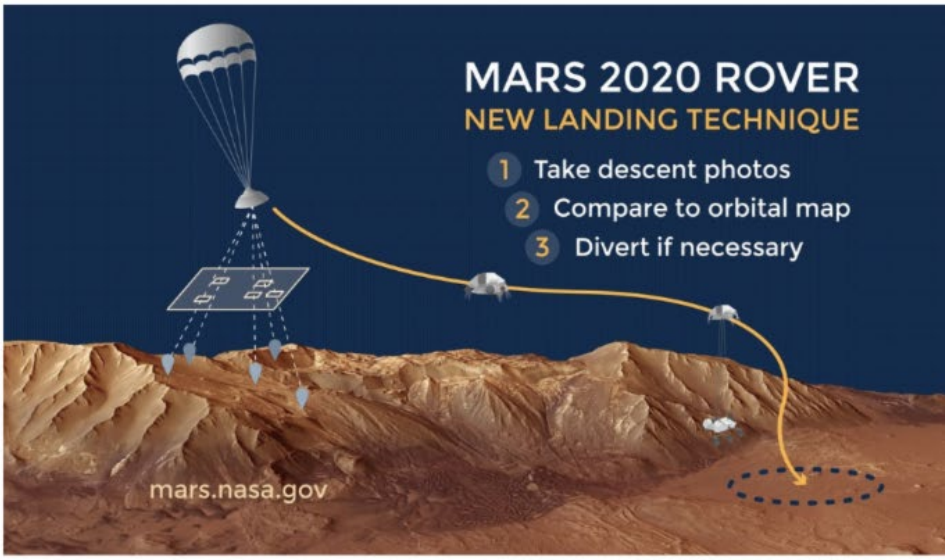
The Perseverance of Testing: Helping to Assure a Safe Mars Rover Landing in Tricky Terrain

After a nearly seven-month journey to Mars, on Feb. 18, 2021, NASA's **Perseverance** rover landed safely at the Red Planet's **Jezero Crater**, a rugged expanse chosen for its scientific research and sample collection possibilities. But the very features that make the site fascinating to scientists also made it a relatively dangerous place to land – a challenge that motivated rigorous testing here on Earth for the lander vision system (LVS) that the rover counted on to safely touch down.

Learn more about the extensive field testing of the rover's landing technology facilitated by Flight Opportunities with Masten Space Systems in the full **NASA web feature**.

"Testing on [Masten's] rocket laid pretty much all remaining doubts to rest and answered a critical question for the Lander Vision System operation affirmatively. It was then that we knew LVS would work during the high-speed vertical descent typical of Mars landings."
— Nikolas Trawny, payload and pointing control systems engineer, NASA's Jet Propulsion Laboratory





Left: Masten's Xombie VTVL system sits on a launchpad in Mojave, California in December 2014, prepared for a flight test that would help prove lander vision system capabilities for the Mars 2020 Perseverance rover mission. Credits: Masten Space Systems. Right: Mars 2020's Perseverance rover is equipped with a lander vision system based on terrain-relative navigation, an advanced method of autonomously comparing real-time images to preloaded maps that determine the rover's position relative to hazards in the landing area. Divert guidance algorithms and software can then direct the rover around those obstacles if needed. Credits: NASA / JPL

Opportunities

Recently Announced

CASIS Unveils Research Announcement in Technology Advancements to Leverage the ISS National Lab

The Center for the Advancement of Science in Space (CASIS), manager of the International Space Station (ISS) U.S. National Laboratory, has made public a **research announcement soliciting proposals** for technology advancements and applied research that would utilize the space-based environment of the orbiting laboratory.

This research announcement will follow a two-step proposal submission process. Before being invited to submit a full proposal, all interested investigators must complete and submit a Step One concept for review by end of day on **February 25, 2021**. Full proposals (from those invited to submit) will be due by end of day April 26, 2021.

Upcoming

Stay Tuned for the Tech Flights 2021 Solicitation
Specific timing for the release of the Tech Flights 2021 solicitation is still being determined, so please be sure to keep an eye on this newsletter and the **Flight Opportunities website** for information as it becomes available.

In preparation for the 2021 solicitation:

- **View the recording** of our February Community of Practice webinar for information about how to strengthen your Tech Flights proposal
- Read an **overview of the Tech Flights program** and eligibility criteria
- Learn more about the technologies **selected for Tech Flights awards in 2020**

Closing Soon

Established Program to Stimulate Competitive Research (EPSCoR)
Suborbital Flight Opportunity
Proposals due: February 26, 2021 (deadline extended)

Events

Mark Your Calendars

- **Institute of Electrical and Electronics Engineers (IEEE) Aerospace Conference:** March 6-13, 2021 (virtual)
- **52nd Lunar and Planetary Science Conference:** March 15-19, 2021 (virtual)
- **Society of Photo-Optical Instrumentation Engineers (SPIE) Defense and Commercial Sensing Expo:** April 11-15, 2021

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Have ideas or feedback for the Flight Opportunities newsletter?
Drop us a line at:
NASA-FlightOpportunities@mail.nasa.gov

STAY CONNECTED:

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(650) 604-5876 (Stephan Ord, Chief Technologist)

Flight Opportunities is part of NASA's Space Technology Mission Directorate.