Flight Opportunities

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Enjoy!
The Flight Opportunities team

Recent Flights

The SpaceWorks RED-4U capsule in flight after being released from a Near Space Corporation high-altitude balloon at 103,000 feet. The parafoil guiding the capsule's descent was developed by Earthly Dynamics Corporation and Aerial Delivery Solutions. Credit: SpaceWorks Enterprises, Inc.

Testing Precision Landing for an On-Demand Payload Return Capsule

On Oct. 19, 2021, a payload return capsule from SpaceWorks Enterprises was put to the test in Madras, Oregon, through a Flight Opportunities-sponsored flight demonstration. The company's Re-entry Device 4U (RED-4U) capsule was suspended under a high-altitude balloon provided by Near Space Corporation and released at an altitude of 103,000 feet. The capsule landed within 250 feet of the target touch-down destination, thanks to a guided parafoil from Earthly Dynamics Corporation and Aerial Delivery Solutions.

Approximately 20 inches in diameter, the capsule could one day be used for on-demand transport back to Earth of payloads up to about 18 pounds. It could carry materials manufactured in space for use on Earth, small instruments and tools, biological samples, and science experiments from low-Earth orbit destinations.

Read the **NASA web feature** to learn more about the technology and flight test.

Opportunities

RFI: Industry-Developed Tipping Point Technologies and Climate and Clean Energy Technologies for Early Stage Development

Read the full NASA RFI
NOIs Due: December 3, 2021 by 5 p.m. EST

OSCAR Investigators Demonstrate Viability of Sustainable Space Trash Conversion Technology

Learn how researchers applied learning from their first Flight Opportunities-supported suborbital test of the Orbital Syngas/Commodity Augmentation Reactor (OSCAR) to the technology's most recent flight.

"OSCAR is a truly sustainable approach to managing the challenge of trash in space — but if it weren't for these flight tests, no one would even consider this technology a possibility for mission infusion. We still have further development work ahead, but thanks to these flights we now have data that gives us confidence that this technology can work safely in space."

—Ray Pitts, co-principal investigator for the Orbital Syngas/Commodity Augmentation Reactor (OSCAR), NASA's Kennedy Space Center

Join Fight Opportunities and the Small Spacecraft Systems Virtual Institute for Webinars in December

Making the Most of Rocket-Powered Suborbital Tests

Presented by NASA Flight Opportunities
Wednesday, December 1, 2021
10 a.m. PST

Testing technologies on suborbital rocket-powered vehicles requires careful planning and clear communication with your flight provider, but this valuable tool for technology maturation is accessible to researchers regardless of suborbital flight test experience. This session will outline how the flight provider, principal investigator, and Flight Opportunities team work together to make tests on rocket-powered vehicles successful. The panel will also share why suborbital testing is beneficial for researchers across disciplines.

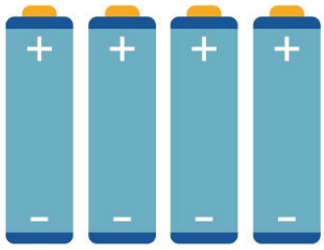
How to Join the Webinar
Join on your computer or mobile app
Click here to join the meeting
Or call in (audio only)
+1 256-715-9946
Phone Conference ID: 726 146 634#

Temporal Experiment for Storms and Tropical Systems – Demonstration (TEMPEST-D)

with Dr. Steven Reising, Colorado State University
Presented by NASA Small Spacecraft Systems Virtual Institute
Wednesday, December 8, 2021
10 a.m. PST

Visit the Small Spacecraft Community of Practice webpage to learn more about this webinar and join online.

Lessons From the Launchpad



Don't Forget the Spare Parts
You've designed your payload, you've reviewed the hardware and software, you've tested it in the lab – you're ready to head to your integration and flight… right? But first, make sure you check some final, easily overlooked items off your list. They could make all the difference to help your flight testing be successful.

Ruggedize and inspect all electrical connections and solder joints and replace any faulty components with spares.

Bring spares of all critical payload modules (including hardware, biological samples, etc.) in your payload design to the launch.

Community of Practice *(cont)*

Remember to include extra electrical peripherals like batteries, power connectors, and data cards in case of any last-minute needs.

Keep in mind the remote locations of many launch sites — they often lack conveniences like local hardware stores. Don't assume you'll be able to make a last-minute run to the shop. Come prepared!

Events

Spaceflight for Everybody Virtual Symposium
(recorded sessions)
This NASA symposium aims to communicate the current state of NASA spaceflight health knowledge. Speakers highlight NASA's operational medicine and biomedical research findings that are establishing how the human body adapts to the space environment. The sessions are targeted at scientists and researchers in space medicine and health-related fields as well as the general public. They are **available to stream online**.

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Have ideas or feedback for the Flight Opportunities newsletter?
Drop us a line at:
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STAY CONNECTED:

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