

# Flight Opportunities

ISSUE: 45 | July 2021

## In This Issue

### Opportunities:

- NASA TechLeap Prize: Overview of Flight Providers webinar July 21, 2021
- NASA Tech Flights: Mandatory preliminary proposals due July 26, 2021
- NASA TechRise Student Challenge: Educator workshops July 28 and August 11, 2021

### Recent Flights:

- NASA-supported plant experiment flies to suborbital space with Virgin Galactic

### Community Learning:

- Lessons From the Launchpad: Avoid the avoidable with smart payload design
- August Community of Practice Webinar: Planning for successful flights on suborbital rocket-powered vehicles

**Events:** Join us at the ISS R&D Conference and SmallSat 2021

Enjoy!  
The Flight Opportunities team

## Recently Announced

### NASA TechLeap Prize *Overview of Flight Providers Webinar*



NASA  
**TechLeap**  
PRIZE

**Join this webinar** to learn more about **NASA's contracted providers** for suborbital flight tests to aid your proposal planning for NASA's TechLeap Prize.

**When:** July 21, 2021 at 12 p.m. PDT

**Join Online:** [Click here to register and attend.](#)

#### **Other Important TechLeap Dates:**

- **Registration due:** July 28, 2021
- **Submissions due:** August 11, 2021

Visit the [TechLeap website](#) for full details.

---

## NASA 2021 Tech Flights Solicitation

- **Mandatory preliminary proposals due:** July 26, 2021
- **Full proposals (by invitation) due:** October 4, 2021
- **Awardee selections:** December 2021 (target)
- **Awards made:** February 2022 (target)

Visit the [solicitation page](#) for full details.

\*Dates subject to change.

---

## NASA TechRise Student Challenge

- **Educator Workshops:** July 28, 12-4 p.m. EDT; August 11, 12-4 p.m. EDT
- **Entries Open:** August 18, 2021
- **Entries Close:** November 3, 2021

Visit the [TechRise website](#) to register for workshops and read the full challenge details.

## NASA-Supported Plant Experiment Flies to Suborbital Space with Virgin Galactic

On July 11, 2021, Virgin Galactic completed its first fully crewed spaceflight, which included the University of Florida's Flight Opportunities-supported **human-tended genomics and gene expression experiment**. Read the NASA feature for more information, and **read more about the University's research** and how it has advanced through Flight Opportunities.



*Three Kennedy Space Center Fixation Tubes, like the one shown here, carried Arabidopsis thaliana plants during the crewed Unity 22 flight to space. Sirisha Bandla, vice president of government affairs and research operations at Virgin Galactic, activated the tubes to release a preservative that captured the plants' biochemistry at specific points during transitions into and out of microgravity. Co-investigators Dr. Robert Ferl and Dr. Anna-Lisa Paul plan to conduct gene expression analyses on the plants in the coming weeks. Credits: University of Florida*

## Community Learning

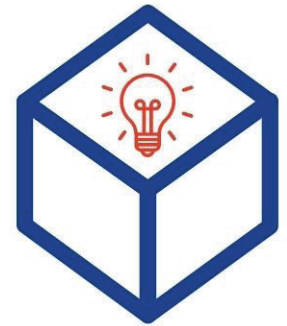
### Join us for the August Community of Practice Webinar

**Planning for Successful Flights on Suborbital Rocket-Powered Vehicles**  
**Wednesday, August 4, 2021**  
**10 a.m. PDT**

Flight tests on rocket-powered vehicles are critical for understanding how technologies perform in the intense and unique environment of launching to suborbital space. Preparation for these tests, however, requires a unique and careful approach to planning. Join Flight Opportunities Campaign Manager Ryan Dibley and Flight Opportunities-supported researchers to get their perspectives on best practices for preparing for suborbital rocket flights. This session will benefit researchers planning for flight tests of any kind, as well as anyone interested in learning more about building flight test logistics into a technology development plan.

Stay tuned for more details about this webinar in the coming weeks.

## Lessons From the Launchpad



### **Avoid the Avoidable with Smart Payload Design**

Employing intelligent choices in your payload design process can help you sidestep potential problems in your suborbital flight testing.

**Engage** with your flight provider early in the design process to let them know about specific requirements you'll have for conducting your experiment. These might include considerations for pressure systems, heat sources, fluids that might be used, or large amounts of power draw, among others. Make sure they can accommodate these requirements – and modify your design if needed!

**Bring** your colleagues (and engineering review team if you have one) into the design conversation early to allow for plenty of time to accommodate their input.

**Consider** incorporating independent or backup subsystems into your experiment design in order to avoid multi-point or chain-reaction failures.

**Evaluate** the power consumption for your payload and select a suitable-sized battery with enough capacity to withstand significant launch delays if needed.

**Discuss** nominal and off-nominal timelines (to include launch delays) with the flight provider and add margin to the duration estimates.

## Events

### Mark Your Calendars

**ISS R&D Conference 2021: August 3-5, Virtual**

**SmallSat Conference 2021: August 7-12, Virtual**

Join Flight Opportunities for the Town Hall event as well as recorded talks at this year's virtual conference:

- Competitive Access to Suborbital Flight Testing with Chief Technologist Stephan Ord
- Suborbital Flight Testing for SBIR/STTR-Funded Smallsat Technologies with Technologist Alexander van Dijk

Subscribe

Visit our Web site

Have ideas or feedback for the Flight Opportunities newsletter?

Drop us a line at:

[NASA-FlightOpportunities@mail.nasa.gov](mailto:NASA-FlightOpportunities@mail.nasa.gov)

STAY CONNECTED:



**NASA Flight Opportunities Program**

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

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