



Flight Opportunities

ISSUE: 46 | August 2021

In This Issue

Recent Flights:

- NASA-supported technologies tested on this week's launch of Blue Origin's New Shepard

Community Learning:

- September Community of Practice webinar: Advancing small spacecraft technologies with suborbital flight tests
- Lessons From the Launchpad: Design with ease of access, modularity, and EMI in mind

Opportunities:

- NASA TechRise Student Challenge: Applications now open
- NASA TechLeap Prize: Winners to be announced next month
- NASA Tech Flights: Invitations to submit full proposals forthcoming

Spotlight:

- Meet the newest member of the Flight Opportunities team: Amanda Downing

Events:

- Space Tech Expo: October 6-8, 2021
- SBIR/STTR Innovation Conference: October 19-20, 2021
- ASGSR 2021 Meeting: November 3-6, 2021
- ASCEND 2021: November 15-17, 2021

Enjoy!

The Flight Opportunities team

NASA-Supported Technologies Tested on Blue Origin's New Shepard

On August 26, 2021 six Flight Opportunities-supported payloads were tested on the latest launch of Blue Origin's New Shepard rocket-based system. For several of the innovations, the flight was just one of several tests supported by NASA on different flight vehicles.

Read the [NASA web feature](#) to learn more about the technologies aboard this week's New Shepard launch and how iterative flight testing helps to quickly ready innovations that could eventually support deep space exploration.

Community Learning

Join us for the September Community of Practice Webinar

Advancing Small Spacecraft Technologies With Suborbital Flight Tests
Wednesday, September 8, 2021
10 a.m. PDT

Anh Nguyen, Ph.D., NASA's Ames Research Center

Mary Palmer, Raven Aerostar

Paul De León, Flight Opportunities Campaign Manager

A primary aim of the Flight Opportunities program is to prepare technologies for larger missions. Earlier this year, Flight Opportunities supported high-altitude balloon flight tests for NASA's Payload Accelerator for CubeSat Endeavors initiative (PACE) through Raven Aerostar. In this webinar, PACE Project Manager Dr. Anh Nguyen will share how she and her team leveraged suborbital flight tests to better prepare their small spacecraft technologies for orbital missions. She will be joined by Raven Aerostar Program Manager Mary Palmer and Flight Opportunities Campaign Manager Paul De León to discuss how researchers can get the most out of suborbital flight tests so that they are poised for success in future tests and missions.

How to Join the Webinar

Join the Microsoft Teams-hosted webinar on your computer or mobile app:

Click [here](#) to join the meeting

Or call in (audio only): +1 256-715-9946

Phone Conference ID: 472 704 395#

Lessons From the Launchpad

Design with Ease of Access, Modularity, and EMI in Mind

No two payloads are alike, but well-designed flight experiments do have some things in common. Flight Opportunities has found that researchers who design modular, easily accessible payloads and consider potential interference issues can solve problems that arise with relative ease.



Community Learning *(cont)*

Employ a modular design approach with your payload hardware to enable replacement of critical parts or removal of non-critical parts if needed.

Design your payload so that its hardware is easily accessible during and after installation on the flight vehicle if possible – but be sure your design also meets the flight provider’s mechanical design requirements.

Implement radio frequency shielding techniques into your payload design and buildup stages to aid electromagnetic interference (EMI) prevention.

Do you have other payload design tips to share with the Flight Opportunities community? [Email them to the newsletter editor](#) for possible publication in a future issue.

Opportunities



TechRise Applications Now Open

Entries are now open for the [NASA TechRise Student Challenge](#) and will be accepted through November 3, 2021. This new NASA competition for the 2021/2022 school year enables students in sixth to 12th grade to propose technologies for development and flight testing. Teams can submit ideas for experiments to fly on a high-altitude balloon or a suborbital rocket. Competition winners will receive \$1,500 to build their payloads and an assigned spot on a NASA-sponsored commercial suborbital flight.

Visit the [TechRise Student Challenge website](#) for full details and to get started on your entry.

Join Us for the Virtual Field Trip

September 24, 2021

9 a.m. - 1 p.m. PDT

[Register here](#)

Students can drop in to watch any portion of this four-hour virtual event, which will feature a live main stage with NASA experts and special guest Dr. Raven the Science Maven. Students can also explore a virtual expo hall with on-demand educational content.

NASA TechLeap Prize to Announce Winners Soon



Thank you to all who submitted an entry for [Autonomous Observation Challenge No. 1](#).

What's Next

Informed by the evaluation panel, NASA will choose up to four winners who will receive an initial \$200,000 each to build their flight-ready payloads. Winners are expected to be announced by late September 2021. View the full [TechLeap timeline](#) and learn more by visiting the [TechLeap website](#).

Invitations for 2021 Tech Flights Full Proposals Coming Soon

Thank you to all who submitted a mandatory preliminary proposal (MPP) for this year's [Tech Flights solicitation](#).

What's Next

MPPs are currently being evaluated. The Flight Opportunities program expects to extend invitations for full proposals in the coming weeks.

Staff Spotlight



Name: Amanda Downing

Role with Flight Opportunities: Operations

Joined the program: May 2021

Tell us a bit about what you do for Flight Opportunities and your favorite aspects of your new role with the program.

My primary activities involve process coordination and centralization. We have a lot of great systems and procedures in place and I am interested in utilizing these and other tools to improve the way we execute operations and administrative tasks. I'm also working to better understand and improve the ways we interact with each other as a program team and with the principal investigators (PIs) and flight providers involved with Flight Opportunities. We have so many tools and technologies at our disposal, and I'm here to make sure we utilize them to our advantage.

I really enjoy that, due to the very centralized nature of my role within Flight Opportunities, I get to see the direct impact of our team's work. I like to think of myself as a day-to-day problem solver and a future-focused thinker. I strongly believe that the best answer today can be improved upon tomorrow. Looking at my role going forward, I hope to make truly collaborative work through operational improvements not only possible but something that we are all wanting to participate in.

Staff Spotlight (cont)

How do you engage with the program's researcher and flight provider communities? Anything they should know about your work with them?

My predecessor Geyne Crispi had established some great systems for keeping in contact with PIs, especially surrounding required reporting. Those systems have made it quite easy for me to step into that role and the PIs that I've worked with seem very glad to have an operations resource within the program, especially when making sure all the reports are submitted and NASA requirements are fulfilled. I want the researcher community to know that they have a direct line of communication to me when they need it. I'm the person behind the Flight Opportunities mailbox, so they can be assured that when they reach out, their messages are getting to me and the team.

Fun fact that your professional communities might not know about you but would be delighted to learn?

I grew up in Florida with Kennedy Space Center basically in my backyard, so I had the opportunity to go to Space Camp for a long weekend one summer. We got to work with the simulators and build model rockets. It was a really fun time and a great experience!

Events

Mark Your Calendars



Space Tech Expo: October 6-8, 2021 - Long Beach, California

SBIR/STTR Innovation Conference: October 19-20, 2021 - Washington, D.C.

American Society for Gravitational and Space Research (ASGSR) 2021 Meeting: November 3-6, 2021 - Baltimore, Maryland

Join Flight Opportunities personnel for a session focused on lessons learned and best practices for suborbital flight testing. Stay tuned for more details.

ASCEND 2021: November 15-17, 2021 - Las Vegas, Washington, D.C., and online

Join Flight Opportunities Program Manager John Kelly for the panel "Expanding Suborbital Testing: NASA Flight Opportunities and Commercial Partners Advance New Capabilities"

Subscribe

Visit our Web site

Have ideas or feedback for the Flight Opportunities newsletter?

Drop us a line at:

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.