



Flight Opportunities



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Dear Flight Opportunities community,

Summer is flying by, and the season is a hub of much activity—and change—here at Flight Opportunities.

This month, I'd like to take the opportunity to officially welcome Tim Chen as the new Flight Opportunities program manager. If you read our May issue, you know that our own Ron Young has begun transitioning into retirement. While Ron will continue helping to oversee the suborbital payload demonstrations for the program, Tim is stepping fully into the managerial position. Tim's background in engineering and with industry combined with his tenure here at NASA give him an ideal foundation for understanding our community and our goals. I look forward to seeing the program become even stronger under his leadership.



Bob Yang, Program Executive

In addition, we're also covering a variety of flights, people, and events this month:

- Blue Origin's recent flight, which included five Flight Opportunities-supported payloads
- A profile of Tim Chen, our new program manager
- Announcement of new IDIQ contracts, including one with a new flight provider for Flight Opportunities: Aerostar
- Upcoming events--we hope to see you there

As always, thank you for reading and for being a valued part of this community.

Bob Yang, Program Executive
NASA's Flight Opportunities Program

Latest Blue Origin Flight Tests Five NASA-Supported Payloads

On July 18, 2018, at 8:35 a.m. PDT, Blue Origin successfully launched its New Shepard rocket from the company's West Texas launch site with five NASA-supported technologies onboard. For each of these payloads, this flight was one in a series of suborbital demonstrations to facilitate technology development.

The flight helped researchers collect critical data to help them confirm theories, refine previous results and fine-tune experiments for future testing. Selected for flight test by Flight Opportunities, many of the payloads on this New Shepard flight aim to provide value to other payloads in the future. The payloads flown were:



Blue Origin's New Shepard rocket lifted off July 18 carrying five NASA-supported technologies for suborbital demonstration. Photo courtesy of Blue Origin.

- Suborbital Flight Experiment Monitor-2 (SFEM-2) from NASA's Johnson Space Center (PI: Kathryn Hurlbert)
- Low-Cost Data Communications for Research Payloads, Payload Operators, and Space Vehicle Operators from Solstar (PI: Brian Barnett)
- Vibration Isolation Platform from Controlled Dynamics, Inc. (PI: Scott Green)
- Zero-G Condensation Droplets and Flow in Phase-Change Loops from Purdue University (PI: Steven Collicott)
- Electromagnetic Field Measurements in sRLV from Johns Hopkins University's Applied Physics Laboratory (PI: H. Todd Smith)

"NASA needs technologies that enable space exploration," said Campaign Manager Ryan Dibley. "The Flight Opportunities program funds flights on commercial suborbital vehicles to test these technologies in a relevant environment, enabling researchers to validate their technology, as well as fostering the public and private relationships that grow this nation's economy."

To learn more about the technologies flown and their research goals, read the [full web feature](#).

Introducing our new Program Manager: Tim Chen



Tim Chen,
Program Manager

In late June, Flight Opportunities announced the selection of Tim Chen as its new program manager. Formerly the small launch technology manager for Flight Opportunities, Tim provided oversight to NASA's Announcement of Collaborative Opportunity (ACO) and Tipping Point activities, which help to advance small launch technology to benefit both NASA and industry. While continuing to oversee these agency goals, this summer he stepped into his new role to oversee the full program. We recently spoke with Tim about his new role and strategy for the transition to program manager.

First of all, congratulations on your new role with Flight Opportunities! You have a broad background at NASA, and also in engineering and with industry. How have these various positions helped set you up for this new chapter in your career?

I spent more than 20 years in industry—mostly with Boeing and Marquardt—before I joined NASA 10 years ago. So, yes, I really have an appreciation of what industry is trying to do in terms of technology and capability development and gaining access to space. I can understand and appreciate the need for those in both industry and academia to get the most bang for their buck in terms of technology development. That's something that also benefits NASA. When we work together, everyone wins because we can develop technology and capabilities faster by sharing costs and expertise. When I worked as an engineer in industry myself I looked to NASA for flight opportunities to test my experiments. Because I've been in the shoes of these PIs, I know the realities of their R&D challenges. I'm happy to be in this position where I can hopefully use this experience to help our community reach their goals while also helping NASA achieve its missions.

Managing a program like Flight Opportunities, with so many different elements, seems like a formidable role to fill. How are you managing the transition?

In the near term, I'll be immersing myself in all of the aspects of suborbital campaigns as well as the payload selection process. Because of my previous role, I have much more familiarity with our ACO and Tipping Point projects, which are critical to helping NASA and industry work together to advance small launch capabilities. So my near-term focus will be on understanding the suborbital demonstration portion of the program and the opportunities we have to continue our positive impact in this sector. To have as little disruption as possible, Ron Young will continue to help with suborbital payload demonstrations to keep things rolling smoothly.

In addition to the near-term transition, how are you planning for the future?

It's really important to me to get a broad view from the full community about what is working and where there is room for improvement. I'm planning to have one-on-one conversations with everyone involved in the program. This involves taking note of where we are, reviewing how

Staff Spotlight *(cont)*

things are operating day-to-day, and identifying processes that need some work. In addition to speaking with my staff, I'll be reaching out to flight providers and the research community to understand how the program can most effectively serve them and be responsive to their needs. I will then leverage this feedback to improve our operations, in particular the REDDI process.

What is the ideal result of this kind of “meeting and listening” tour for you?

My hope is that through these meetings I will establish an open channel of communication and really get to know our suborbital launch community. A key part of this transition will be understanding how Flight Opportunities can play a greater role for our stakeholders. And so much of understanding this comes from establishing strong communication with the community--this will form the basis for any changes and improvements we set out for the future. I encourage anyone in our community to reach out any time with feedback, advice, or just to say hello so we can get to know each other better.

I can be reached at timothy.t.chen@nasa.gov.

Flight Provider News

Flight Opportunities Adds New Flight Provider to its Roster



One of Raven Aerostar's Super Pressure Balloons. Photo courtesy of Raven Aerostar.

Flight Opportunities has selected four companies to integrate and fly technology payloads for demonstration on commercial suborbital reusable platforms. The list includes a new flight provider: **Raven Aerostar**.

In addition, three companies currently working with Flight Opportunities renewed their IDIQ contracts:

- Blue Origin Texas, LLC, Van Horn, Texas
- Up Aerospace Inc., Littleton, Colorado
- World View Enterprises, Inc., Tucson, Arizona

Based in Sioux Falls, SD, Raven Aerostar specializes in long-duration and navigational stratospheric missions through its fleet of high-altitude balloons.

Through these new NASA awards, selected companies will receive a five-year indefinite-delivery, indefinite-quantity (IDIQ) contract for integration and flight services.

To learn more, [read the full NASA news release](#), and look for a full profile of Raven Aerostar in this newsletter in the coming months.

ISPCS

October 10-11, Las Cruces, NM

Flight opportunities will be attending the 2018 International Symposium for Personal and Commercial Spaceflight and would love to see you there. If you have plans to attend, drop us a line to schedule a time to meet.

Other upcoming conferences...

- Sept 17-19, 2018: [AIAA SPACE Forum](#)
- Oct 31-Nov 4, 2018: [American Society for Gravitational and Space Research \(ASGSR\) 2018 Meeting](#)

Small Launch Vehicle Workshop

September 24, El Segundo, CA

NASA, in partnership with the United States Air Force/Space and Missile Systems Center, will hold a one-day workshop on Small Launch Vehicles (SLVs). The goals of the workshop include updating the SLV industry on relevant technologies and initiatives at NASA and the Department of Defense, as well as receiving industry feedback.

For more information and registration, please visit:

<https://techcollaboration.center/workshops/small-launch-vehicles-workshop/>

Have ideas or feedback for the Flight Opportunities newsletter?

Drop us a line at: NASA-FlightOpportunities@mail.nasa.gov

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NASA Flight Opportunities Program

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