



NASA Flight Opportunities

Commercially Enabled Space Science in TechFlights 2023

Stephan Ord, Chief Technologist, NASA's Flight Opportunities Program
Lisa Carnell, Ph.D., Program Scientist for Translational Research,
Biological and Physical Sciences Division

Community of Practice Webinar Series – April 5, 2023
Session will start at 10 a.m. PT – Please mute your microphone and turn off your camera

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Welcome to the Community of Practice Webinar Series!


First, a bit of housekeeping...

- Please mute your microphone and turn off your camera
- Today's session will be recorded
- Recordings for this and all future sessions will be posted on the Flight Opportunities website
- Please engage!
 - Use the chat throughout the session to ask questions

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Welcome to the Community of Practice Webinar Series!

Flight Opportunities hopes these webinars will enable researchers, program staff, and flight providers to connect informally and share information


- Designed to distill and share the most important lessons learned to:
 - Increase the impact of suborbital flight tests
 - Transfer best practices
 - Optimize the experience of current and prospective program participants
- Part of a broad effort to capture, organize, and communicate lessons learned by suborbital researchers
- An opportunity to hear from subject matter experts on best practices for preparing for suborbital flight tests

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Today's Speakers



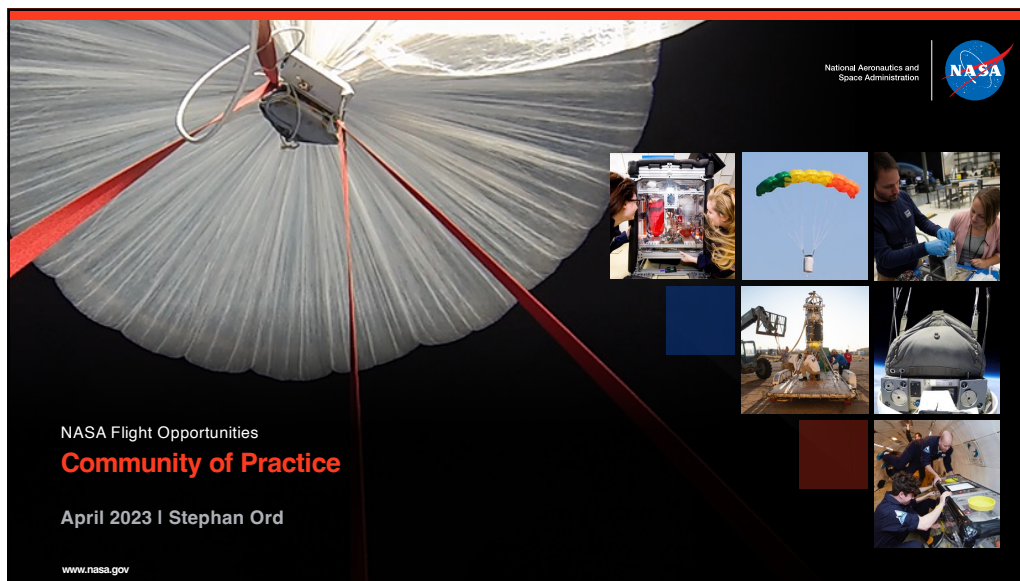
Stephan Ord
Chief Technologist
NASA's Flight Opportunities Program



Dr. Lisa Carnell
Program Scientist for Translational Research
NASA's Science Mission Directorate,
Biological and Physical Sciences Division

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FLIGHT OPPORTUNITIES MECHANISMS

	<p>Includes topic areas that address agency and mission goals; up to \$1M to purchase flights on suborbital or hosted orbital platforms directly from any eligible U.S. commercial flight provider</p>
	<p>Challenges addressing specific NASA technology needs; previous awards have been up to \$650K to build payloads, plus access to a suborbital flight test</p>
	<p>Competition to inspire the next generation of space researchers; offers hands-on insight into the design and test process used by NASA-supported researchers</p>
	<p>Through collaborative internal and external relationships, the program takes advantage of opportunities to flight test valuable space technologies</p>

Flights of Opportunity:

- In-Space Manufacturing / ISS Program Office
- SMD
 - ROSES
 - Human Research Program
 - Biological and Physical Sciences
- Sub-C
- EPSCoR
- SBIR/STTR
- Intergovernmental support (Department of Defense, USDA)
- Reflights

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Commercial Vehicles Make Flight Opportunities Possible



Rocket-Powered Vehicles





High-Altitude Balloons





Parabolic Flights





Vertical Takeoff Vertical Landing (VTVL) Vehicles






Orbital Platforms Hosting Payloads



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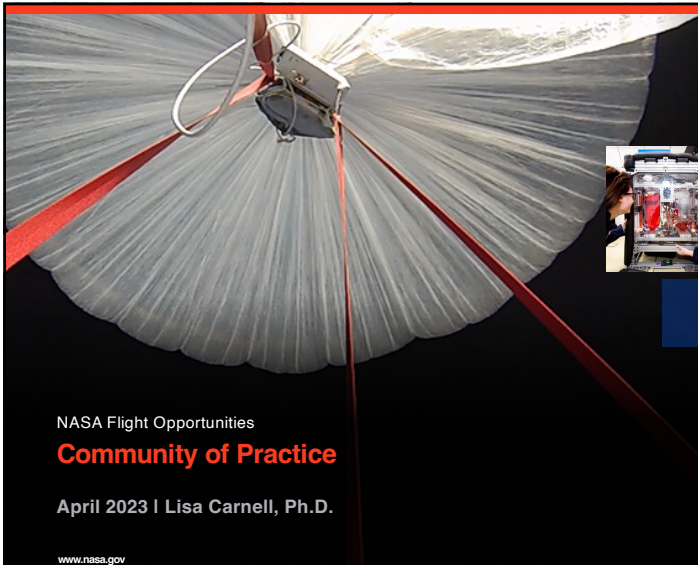
Best practices for preparing for a solicitation

- 1 Leverage the Flight Opportunities website.
 - Review Q&A presentation from prior solicitation.
 - Check out the Resources page on the website, which has program factsheets, annual reports, and more.
 - Review previous solicitations, keeping in mind that each solicitation may vary.
- 2 Subscribe to the Flight Opportunities newsletter and monitor NSPIRES to keep up with the latest news about calls and solicitations.
- 3 Gather your proposal information and line up colleagues to help with peer reviews.
- 4 Reach out to fellow community members.

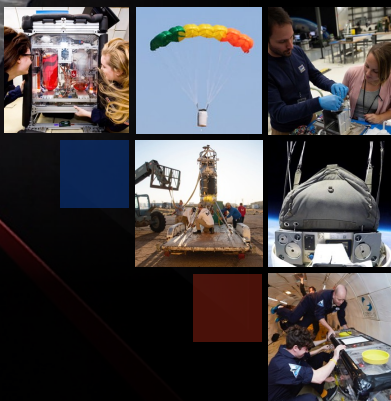

www.nasa.gov/flightopportunities

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Community of Practice
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Commercially-Enabled Rapid Space Science (CERISS)




Flight Opportunities
Community of Practice Webinar

Lisa Carnell, PhD
Program Scientist for Translational Research
Biological and Physical Sciences Division
NASA HQ

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Commercially-Enabled Rapid Space Science (CERISS) | Overview



- Focus Area**
 - Develop transformative research capabilities with commercial space industry to dramatically increase pace of research
- Long-Range Goals**
 - Conduct Scientist Astronaut Missions (SAMs) on the ISS and Commercial LEO Destinations
 - Develop automated hardware for experiments beyond low Earth orbit (e.g., lunar surface)
- Motivation**
 - The pace of ISS research is too slow for OGAs and industry; it takes years to plan, develop, launch, operate, return samples and begin the cycle again.
- Context**
 - New capabilities for platforms and payload are being developed now by commercial space in preparation for the transition from ISS in 2030
 - There are gaps in the development of capabilities for *in situ* analysis and *in situ* experiment preparation
 - Private Astronaut Missions provide a new mechanism for hyper-specialized researchers to conduct research in LEO
- Benefits**
 - 10- to 100- fold faster pace of research for a wide range of research sponsored by BPS, NASA Human Research Program, OGAs, and industry
 - Increases demand for R&D in low Earth orbit, facilitating growth of commercial space industry

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Contact Information

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Updates related to CERISS:
<https://science.nasa.gov/biological-physical/commercial>



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Thank you!

Flight Opportunities website:
<http://nasa.gov/flightopportunities>

Contact us:
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