




NASA Flight Opportunities
Researcher Roundtable: Best Practices for Camera Use in Flight Test Payloads

Community of Practice Webinar Series – April 3, 2024
Session will start at 10 a.m. PT – Please mute your microphone and turn off your camera

www.nasa.gov

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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 and offer reflections
 - And raise your hand if you'd like to contribute to the discussion!

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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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Join us for future Community of Practice webinars!

Subscribe to our newsletter for updates on future webinars!

https://www.nasa.gov/directorates/spacetech/fli_ghtopportunities/newsletter

Future webinars

- Webinars are held 1st Wednesday of each month at 10 a.m. PT
- Topics will be announced in the Flight Opportunities newsletter and website
- Session recordings will be posted on the Flight Opportunities website
- Let us know session topics you would like to see covered

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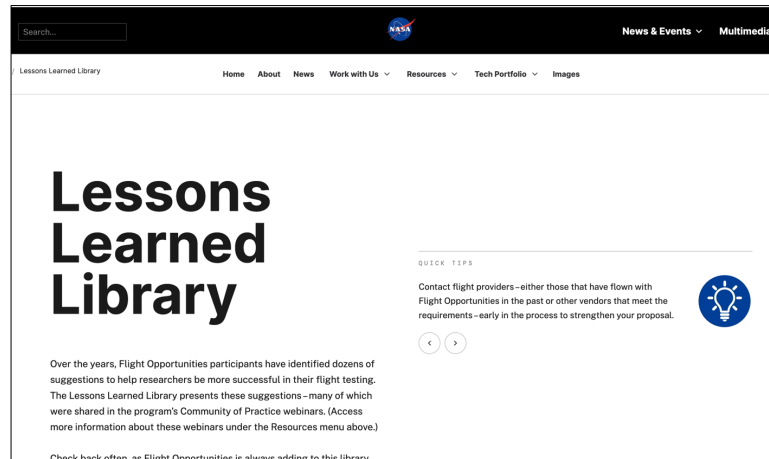
LESSONS LEARNED LIBRARY

An ongoing collection of best practices and suggestions to help researchers optimize their flight test outcomes

Designed to support researchers as they move through each part of the flight testing process:

- Getting involved with the program
- Preparing proposals
- Step-by-step suggestions for getting ready to fly
- Best practices for payload design
- Top tips for each type of flight platform

Practical tips are linked to helpful clips from the program's monthly Community of Practice webinar.



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Researcher Roundtable: Cameras

Our conversation today will take place in three parts:

- Environmental considerations
- Equipment tips and tricks
- Creative payload design

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Environmental Considerations

- Considering diverse flight environments and integration with a variety of vehicles
- Tackling unexpected environmental challenges that affect cameras in flight testing

Lightning talks:

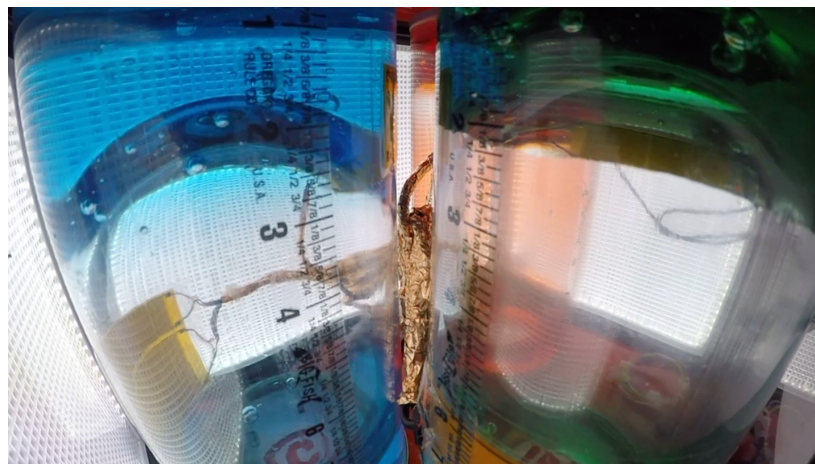
- Kevin Crosby, Carthage College
- Josh Baumann, Rhea Space Activity

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Kevin Crosby, Carthage College




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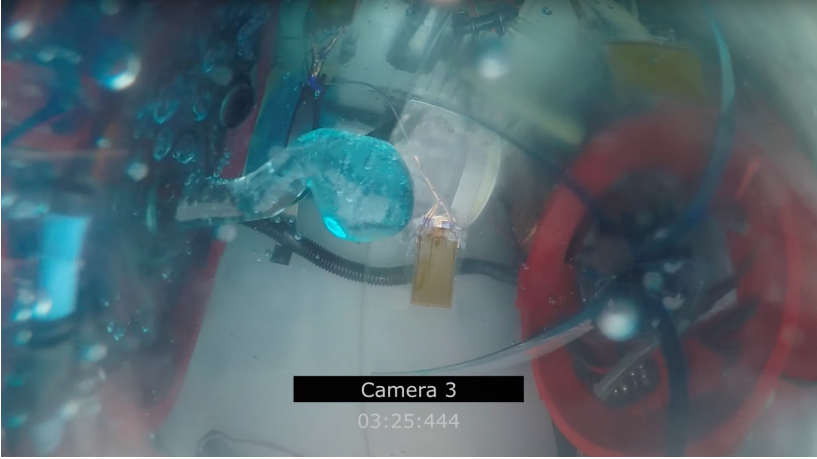
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Kevin Crosby, Carthage College




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Kevin Crosby, Carthage College



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Equipment Tips and Tricks

- Best practices for selecting cameras
- Optimizing hardware design and efficacy
- Common camera equipment pitfalls

Lightning talks:

- Andrew Horchler, Astrobotic
- Steven Collicott, Purdue University

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Creative Payload Design


- Using cameras in unique ways
- Developing new camera-based technologies
- Custom solutions to make comprehensive observations

Lightning talks:

- Vee Reumers, imec
- Jason Achilles Mezilis, Zandef Deksit

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FLIGHT OPPORTUNITIES COMMUNITY OF PRACTICE WEBINAR

APRIL 3, 2024

VEERLE REUMERS PHD, R&D MANAGER

PUBLIC

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IMEC'S LENS FREE IMAGING TECHNOLOGY VALIDATED IN PARABOLIC & SUBORBITAL FLIGHT



GRANT NR: 80NSSC20K0110

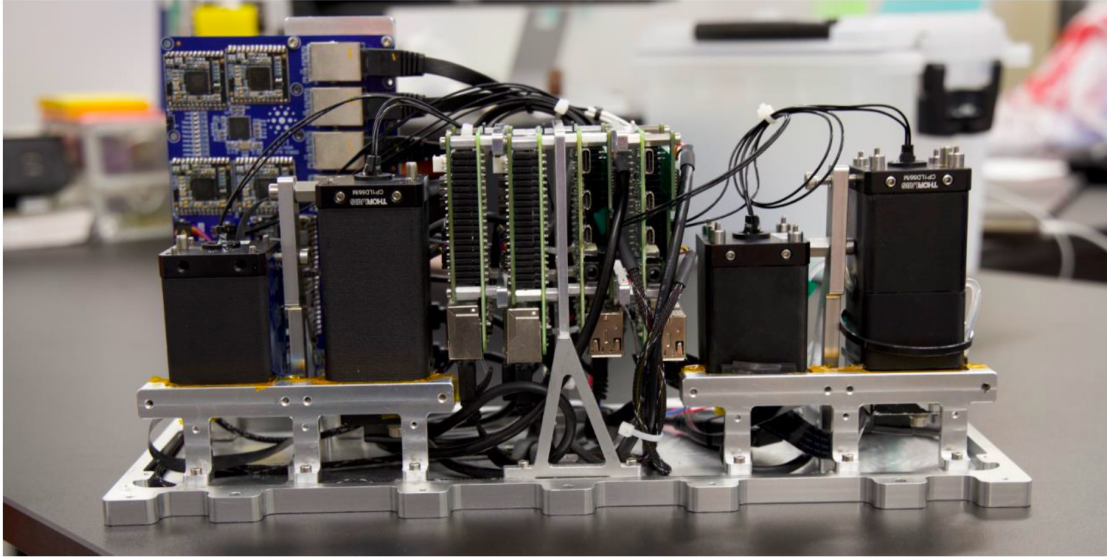
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4 Lens Free Imaging (LFI) modules showcased in Suborbital Flight



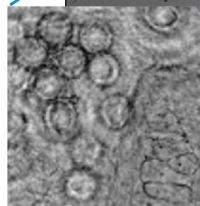
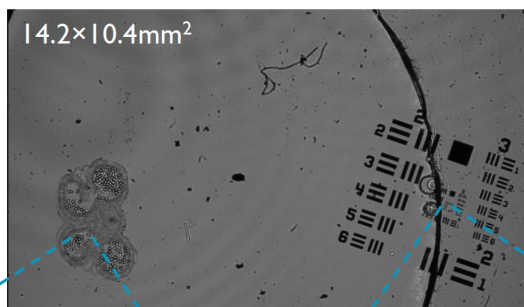
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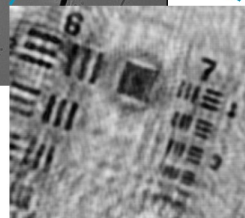
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Lens-free imaging of a variety of samples

MM FIELD OF VIEW WITH μm RESOLUTION



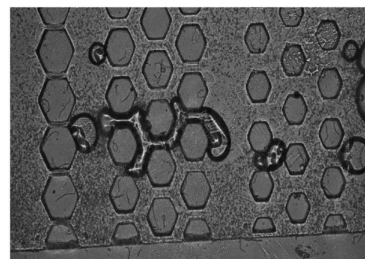
In flight image



TIMELAPSE OF MICROFLUIDIC SAMPLE



In flight movie



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public

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The slide features the imec logo, which consists of a small blue square followed by the lowercase letters 'imec' in a white, sans-serif font. Below the logo is the tagline 'embracing a better life' in a smaller white font. At the bottom right, the email address 'veerle.reumers@imec-int.com' is displayed in white text.

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This slide is titled 'NASA FLIGHT OPPORTUNITIES' in the top left corner. The NASA logo is in the top right corner. The main title is 'Jason Achilles Mezilis, Zandef Deksit'. Below the title are two images: on the left, a 3D rendering of a lunar lander with the text 'LUNAR EXOCAM' above it, showing the lander's descent and camera field of view; on the right, a photograph of a physical camera payload mounted on a metal frame, with a rocket launch tower in the background.

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Thank you!

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