Designing a Flight Test-Ready Payload
Veerle Reumers, Ph.D., R&D Manager, Imec USA
Earl Adams, Flight Campaign Manager, NASA’s Flight Opportunities program
Michelle Peters, Director of Research & Education, Zero Gravity Corporation

Community of Practice Webinar Series – February 2, 2022
Session will start at 10 a.m. PT – Please mute your microphone and turn off your camera
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 session will be posted on the Flight Opportunities website
• Please engage!
  • Use the chat throughout the session to ask questions
Flight Opportunities Mission

The Flight Opportunities program facilitates rapid demonstration of promising technologies for space exploration, discovery, and the expansion of space commerce through suborbital testing with industry flight providers.
Join us for future Community of Practice webinars!

Watch our website and newsletter for next month’s topic

nasa.gov/directorates/spacetech/flightopportunities/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
Today’s Speakers

Veerle Reumers, Ph.D.
R&D Manager
Imec USA

Earl Adams
Flight Campaign Manager
Flight Opportunities

Michelle Peters
Director of Research & Education
Zero Gravity Corporation (ZERO-G)
NASA TECH FLIGHT WEBINAR

SILICON-BASED MICROFLUIDIC BLOOD TEST FOR SPACEFLIGHT

VEERLE REUMERS PHD, R&D MANAGER
Opened in 2016
Not for profit research institute in nanotechnology
Headquarters in Belgium, Europe (since 1984)

500 acre technology district part of Osceola County’s NeoCity initiative located in Kissimmee, Florida

Partnered with on-site cleanroom for fabrication of our devices

Currently ~20 employees, and growing

Pursuing R&D in cryoelectronics for next gen computing, and space health
Point-of-care diagnostic device
Core silicon chip with capillary force driven nanofluidics for sample handling
Lens-free imaging for blood cell imaging
Two main technology components were tested in flight

- **Component 1:** Visualization of fluidic performance of the silicon nanofluidic structures
- **Component 2:** Lens-free imaging functionality and resulting blood cell imaging quality
Next step: Fully automated LFI test in suborbital flight

Installs in imec LFI
Installs in Space Tango CubeLab
Installs in Blue Origin Flight Locker
Flies on Blue Origin New Shepard
embracing a better life

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Thank you!

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

Contact us:
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