



# Small Spacecraft Systems Virtual Institute

A Quarterly Brief of NASA's Small Spacecraft Community Resources

## From the Director's Desk

### Welcome to the second edition of the Small Spacecraft Systems Virtual Institute (S3VI) Resource Brief!

Like much of the aerospace industry, the small spacecraft community shares in the challenges brought about by the COVID-19 pandemic. Supply chains, development and launch schedules have all experienced impacts over the past several months. By now, hopefully more project teams are returning to the lab armed with the social distancing protocols that are now the new normal everywhere. [Read more](#)



## Upcoming Events and New Postings

**NASA Participation in SmallSat2020**  
smallsat.org

**LIVE EVENTS Side Meetings** <https://smallsat.org/virtual/live-meetings/>

**MONDAY, AUGUST 3**

- 8:00AM MDT Introduction to Radiation Effects — Radiation Tool Solutions and NASA Electronic Parts and Packaging (NEPP)
- 10:00AM MDT NASA Town Hall — Small Spacecraft Systems Virtual Institute
- 10:00AM MDT Radiation Guidelines for National Threat Identification and Classification (R-GENTIC): Webtool Walk-Through — NASA Electronic Parts and Packaging (NEPP)

**Workshop Sessions**

**PRE-RECORDED On Demand Talks** <https://smallsat.org/virtual/keynote-and-talks/>

**SESSION 1** Advanced Concepts I  
Radiation Tolerance of Low-Cost Magnetometer for Space Applications — JPL/Psionix Laboratory, NASA/Goddard Space Flight Center  
NASA Centers and Universities Collaborate in Annual SmallSat Technology Partnerships — NASA Small Spacecraft Technology Program

**SESSION 2** A Look Back: Lessons Learned  
Advanced electrical Bus (ALBus) CubeSat: From Build to Flight — NASA Glenn Research Center

**SESSION 3** Instruments/ Science I  
HyI: High Spectral and Spatial Resolution Thermal Infrared Imaging from a 6U CubeSat — JPL/Psionix Laboratory  
VTXO: The Virtual Telescope for X-ray Observations — NASA/Goddard Space Flight Center

**SESSION 4** Concepts II  
Active Thermal Architecture: Design and Status — JPL/Psionix Laboratory

**SESSION 5-6** These sessions do not offer NASA talks.

**SESSION 7** Instruments/ Science II  
The NASA CubeSat Missions Flying on Artemis-1 — JPL/Psionix Laboratory, NASA/Marshall Space Flight Center, NASA/Ames Research Center

**SESSION 8** Communications  
A Novel RF Architecture for Simultaneous Communication, Navigation, and Remote Sensing with Software-Defined Radio — NASA/Goddard Space Flight Center

**Technical Sessions**

**PRE-RECORDED On Demand Talks** <https://smallsat.org/virtual/keynote-and-talks/> Sessions: 1, 2, 4, 7, 9 do not offer NASA talks.

**SESSION 3** Spacecraft Mission Payloads  
Sustainable Ozone and Aerosol Measurements from a 6U CubeSat: The Stratospheric Aerosol and Gas Experiment (SAGE IV) Pathfinder — NASA Langley Research Center

**SESSION 5** Next on the Pad  
NASA Moderated Session — Small Spacecraft Technology Program

**LIVE SESSION Q&A WEBINARS**

NOTE: Some side meetings may require pre-registration and will be noted in their meeting descriptions on August 1.

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LST CONTINUED ON PG 2

**Small Spacecraft Technology State of the Art Report**

The Small Spacecraft Systems Virtual Institute (S3VI) works in collaboration with NASA ARC, GRC, GSFC, LaRC, MSFC, and JPL, Space Dynamics Laboratory, and the Aerospace Corporation to survey and review content for the 2020 Small Spacecraft Technology State of the Art Report.

Online Publication Expected **September 2020**  
[www.nasa.gov/smallsat/institute/soa-2020](http://www.nasa.gov/smallsat/institute/soa-2020)

**Topics Include**

- Integrated Spacecraft Platforms
- Structures, Materials & Mechanisms
- Ground Data Systems & Mission Operations
- Power
- Command & Data Handling
- Integration, Launch & Deployment
- Propulsion
- De-Orbit Systems
- Guidance, Navigation & Control
- Communications
- Flight Software
- Thermal Control

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<https://ip.constantcontactpages.com/ua/6XK1DS3V1Subscription>

THE S3VI IS JOINTLY SPONSORED BY THE SCIENCE MISSION DIRECTORATE AND THE SPACE TECHNOLOGY MISSION DIRECTORATE

www.nasa.gov

**Attend NASA's Live and Pre-recorded Activities at the 2020 Small Satellite Conference August 1-6, 2020**

**SmallSat2020 Registration Required**

### NASA Live Side Meetings - Aug 3

- Intro to Radiation Effects
- NASA Town Hall
- R-GENTIC: Webtool Walk-Through

**NASA Pre-recorded Activities**  
**NASA Short Talks August 1-6**  
**NASA Exhibits August 1-6**

**Publication of the 2020 Small Spacecraft Technology State of the Art Report is Expected in September!**

**Coverage includes:**

- Complete Spacecraft
- Power & Propulsion
- Guidance Navigation & Control
- Structures, Materials & Mechanisms
- Thermal Control
- Command & Data Handling
- Communications
- Integration
- Launch & Deployment
- Ground Data Systems & Operations
- Passive Deorbit Devices
- Flight Software



### Join us for the August 2020 Community of Practice Webinar

#### [Navigating SmallSat Development: Where to Begin and What to Expect](#)

by  
Charles Norton Ph.D.  
NASA Headquarters

Wednesday, August 26  
10:00AM-11:00AM PDT



### Small Spacecraft Reliability Initiative (SSRI) Knowledge Base

Planned for release in late summer, the SSRI Knowledge Base is an online collection of resources including best practices and lessons learned from previous small satellite missions geared to improve mission confidence for future small spacecraft.

[Read more](#)

## Opportunities to Engage

[NASA  
Solicitations](#)

[Conferences &  
Events](#)

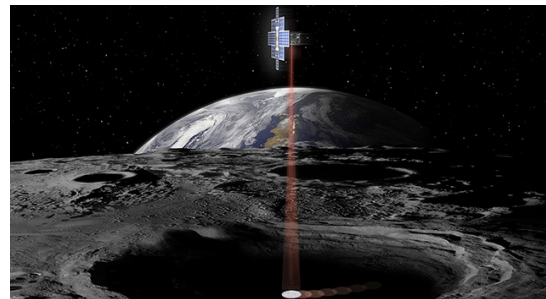
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## Around the Agency

Highlights and links to NASA centers engaged in small spacecraft activities



## Launch Window

### NASA Launch Portal

Looking for a ride? NASA's Launch Portal is a resource to provide SmallSat/CubeSat developers an opportunity to find potential secondary launch opportunities on flights that are support upcoming NASA SmallSat/CubeSat missions.

### Recent NASA Launches

Wondering what NASA has launched lately? Visit our listing of recently launched and deployed small spacecraft. Each mission highlight offers information on launch date and vehicle, orbit, deployment status and mission description.

A quarterly brief by the Small Spacecraft Systems Virtual Institute

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