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Upcoming S3VI Events & Releases

- December 3: **Notices of Intent Due - Industry-Developed Tipping Point Technologies and Climate and Clean Energy Technologies for Early Stage Investment - NASA RFI**
- December 8: [Community of Practice Webinar](#)- Temporal Experiment for Storms and Tropical Systems – Demonstration (TEMPEST-D) Mission Overview
- December 13-17: [AGU Fall Meeting](#) – Visit the S3VI Exhibit & E-Poster!
- January 12: [Community of Practice Webinar](#)- IceCube Mission Overview
- February 16: [Community of Practice Webinar](#) - Radar in a CubeSat (RainCube) Mission Overview
- March 16: [Community of Practice Webinar](#)- Radiometer Assessment using Vertically Aligned Nanotubes (RAVAN) Mission Overview

RELEASED!

NASA's Small Spacecraft Technology State of the Art Report



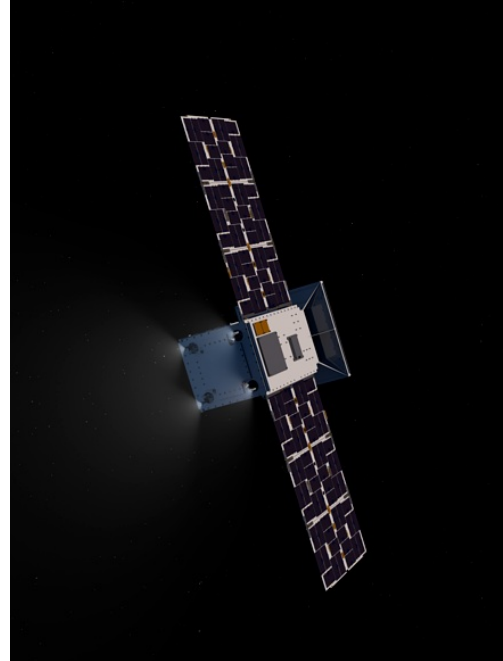
The Small Spacecraft Systems Virtual Institute is pleased to announce the release of [NASA's 2021 Small Spacecraft Technology State of Art Report](#). This fifth edition of the report captures a number of new and more mature small spacecraft technologies and subsystems available across industry, academia, and government sectors. Surveyed content summarizes device performance, capabilities, and flight history, as presented in publicly available literature.

[Access the SoA Report](#)

NASA Small Spacecraft Technology Program Guidebook for Technology Development Projects

Released in summer 2021, the [Guidebook for Technology Development Projects](#) provides recommended practices for the research and technology development projects sponsored by NASA's Space Technology Mission Directorate's Small Spacecraft Technology Program. It offers guidance for efficiency, best practices, and improved success based on program experience and policies. The guidebook aims to advise potential projects at NASA centers as well as external partners and grantees.

[Download the Guidebook](#)



Community Engagement & Learning

SMALL SPACECRAFT SYSTEMS VIRTUAL INSTITUTE (S3VI)

Small Spacecraft Community of Practice Webinar Series

The Small Spacecraft Systems Virtual Institute (S3VI) hosts a public webinar series to share information with the small spacecraft community at large on work NASA, partner agencies, and other members of the community are performing in the area of small spacecraft. Our "Mission Accomplished" webinars celebrate the success of small spacecraft in helping to achieve science, exploration and technology goals for NASA. These webinars highlight accomplishments of small spacecraft missions as they are employed broadly across all NASA mission areas.

Upcoming Webinars 2021 & 2022

Wednesday, December 8, 2021
10:00AM-11:00AM Pacific Standard Time
Temporal Experiment for Storms and Tropical Systems Demonstration (TEMPEST-D)
Speaker: **STEVEN REISING** - Colorado State University

Wednesday, January 12, 2022
10:00AM-11:00AM Pacific Standard Time
IceCube Mission Overview
Speaker: **DONG WU, PH.D.** - NASA Goddard Space Flight Center

Wednesday, February 16, 2022
10:00AM-11:00AM Pacific Standard Time
Radar in a CubeSat (RainCube) Mission Overview
Speaker: **SHANNON STATHAM, PH.D.** - NASA Jet Propulsion Laboratory

Wednesday, March 16, 2022
10:00AM-11:00AM Pacific Standard Time
Radiometer Assessment using Vertically Aligned Nanotubes (RAVAN) Mission Overview
Speaker: **WILLIAM H. SWARTZ, PH.D.**
Johns Hopkins University Applied Physics Laboratory

For webinar details visit
<https://www.nasa.gov/smallcraft/institute/small-spacecraft-community-of-practice>

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www.nasa.gov

Small Spacecraft Community of Practice Webinar Series

Join us for our continuing "Mission Accomplished" series of webinars. Over the next few months we will host a number of NASA and university researchers who will share the success of their recently completed small spacecraft missions including TEMPEST-D, IceCube, RainCube, and RAVAN

[Bookmark the Schedule](#)

New Space Mission Design Tools Listed

The S3VI tracks publicly available software tools found useful in the

development of small spacecraft missions. New tools included in this quarter's list include those for satellite constellation remote sensing, mission operations, and radiation analysis.

- **Trade-space Analysis Tool for designing Constellations (TAT-C)** provides a framework to explore new ways to design Earth science missions.
- **Core Flight System (cFS)** is a generic flight software architecture framework used on flagship spacecraft, human spacecraft, CubeSats, and Raspberry Pi.
- **NASA Operational Simulator for Small Satellites (NOS3)** is a suite of tools to aid in areas such as software development, integration & test, mission operations/training, verification and validation, and software systems check-out.
- **Radiation Guidelines for Notional Threat Identification and Classification (R-GENTIC)** tool is used as guidance for understanding the radiation risks that apply to a specific set of circumstances.
- **Cosmic Rays Effects on Micro-Electronics (CREME)** predicts single event effects.

[Learn More](#)

SmallSat Parts On Orbit Now (SPOON) Update

The S3VI provides the SmallSat Parts On Orbit Now (SPOON) database for the benefit of NASA and the small spacecraft community. The SPOON database website includes compilations of government, academia and commercial information, including small spacecraft subsystem components, instruments, payloads, software and services.

The SPOON database was recently deployed to a NASA site and is now live!

[Explore SPOON](#)

More Opportunities to Engage

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Around the Agency

Highlights and links to NASA centers engaged in small spacecraft activities

Image Credit: Spaceflight Inc.



Launch Window

[NASA Launch Portal](#)

[Recent NASA Launches](#)

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.

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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