



National Aeronautics and
Space Administration

EXPLORE

NASA SmallSat Coordination Group (SSCG)

Florence Tan

Chief Technologist (Acting)

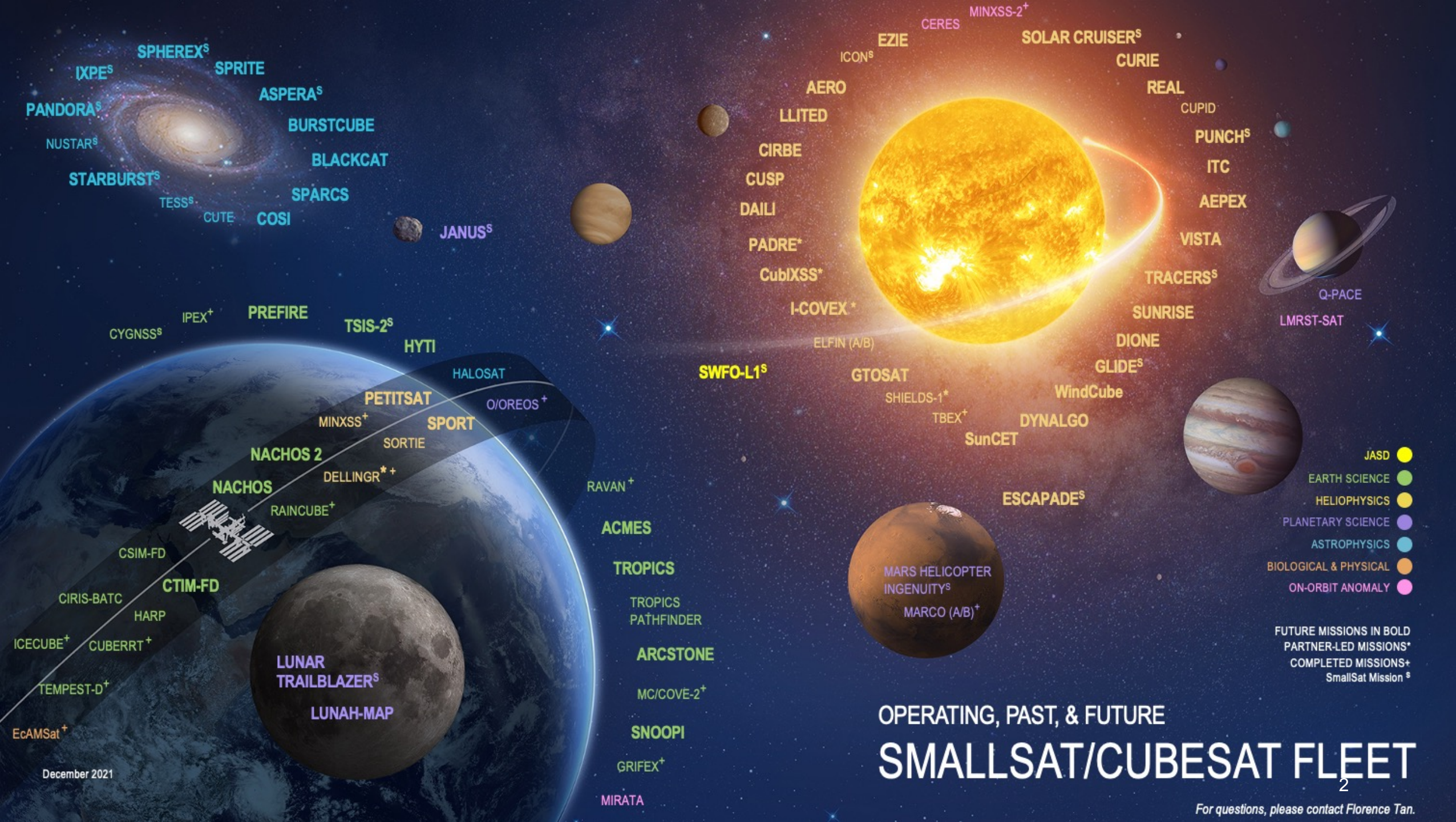
Science Mission Directorate (SMD)

Chair, Small Spacecraft Coordination Group

NASA Headquarters

December 2021





SMD leads the SSCG



Key Roles & Relationships

- Leads Coordinating Agency SmallSat Activities
- Produces Data Products
- Reviews Agency & Government Documents
- Represents SMD to the Agency SmallSat Coordination Lead

Small Spacecraft Coordination Group (SSCG) advises AAs on strategy to guide cross-agency initiatives and relevant policies, programmatic scope and priorities

SSCG is chaired by SMD with principal representatives from STMD and HEOMD

SSWG is chaired by SSCG Chair with representatives from SMD divisions and SMD Chief Technologist

SSCG Extended Group is chaired by SSCG Chair and consists of SSCG core members, representatives from NASA Centers, NASA HQ offices, S3VI, LSP



2021 SSCG Selected Activities

- 2nd Annual NASA SmallSat Virtual Forum (Mar – May 2021)
- Released Access2Space Report¹
- Draft NASA SmallSat Virtual Forum Report
- SmallSat Science and Industry Webinars (S3VI and GSFC)
- SmallSat Reliability Institute (Wiki for SmallSat) Launch²
- SmallSat Strategic Team (S3T) review of SSWG/SSCG
- Inter-agency collaboration with NOAA, DoD
- Released 2021 State of the Art Report
- Coordinate response to Agency & Government Documents

2021 SSCG Planned Activities

- Jan 11-13, 2022 Support Low Cost Mission Concepts for Mars Exploration Workshop
- 3rd Annual NASA SmallSat Virtual Forum (TBC Mar 2022)

NASA Guidance on Collision Avoidance

NID 7120.132 establishes minimum orbit and trajectory protocols and associated operational requirements to protect the space environment by minimizing risk of collision

- NID 7120.132: Collision Avoidance for Space Environment Protection approved November 19, 2020
https://nodis3.gsfc.nasa.gov/OPD_docs/NID_7120_132_.pdf
- NASA Spacecraft Conjunction Assessment and Collision Avoidance Best Practices Handbook revision date December 2020 https://nodis3.gsfc.nasa.gov/OCE_docs/OCE_50.pdf

Draft NASA Policy Requirement (NPR) for “NASA Spacecraft Conjunction Analysis and Collision Avoidance for Space Environment Protection”, intended to replace NASA Interim Directive (NID) 7120.132, in work.

Early in CY2022, an updated draft will be submitted into the NODIS process for formal review and anticipated approval in Summer CY2022. The prior NID 7120.132 remains in effect with an approved NODIS waiver.

CyberSecurity/Enterprise Protection

NASA-STD-1006 establishes Agency-level protection requirements to ensure NASA missions are resilient to purposeful threats

- Space System Protection Standard approved October 29, 2019, revised November 5, 2020
<https://standards.nasa.gov/sites/default/files/nasa-std-1006.pdf>

Informational Websites of Interest

S3VI <https://www.nasa.gov/smallsat-institute>

LAUNCH PORTAL <https://www.nasa.gov/smallsat-institute/launchportal>

SmallSat/CubeSat Fleetchart <https://s3vi.ndc.nasa.gov/cubesatfleet/>

SmallSat Reliability Institute <https://s3vi.ndc.nasa.gov/ssri-kb/>

S3VI Body of Knowledge <https://www.nasa.gov/smallsat-institute/small-spacecraft-body-of-knowledge> This tool provides high-quality resources on topics that drive smallsat mission confidence. Explore the Mission Confidence Framework to find your desired topic page. The topic page will include best practices and lessons learned from experienced smallsat developers and will provide you with links to high-quality, curated resources (books, articles, software tools, websites, articles and white papers)

- [SmallSat Parts On Orbit Now \(SPOON\)](#) This database includes small satellite components, including payloads, flight processors, antennas, propulsion systems, ground station equipment, star trackers, and more.
- [Small Spacecraft Technology State of the Art](#) Collection of information regarding the State of the Art for technology, components, and systems relevant to small spacecraft
- [CubeSat 101](#) tutorial developed by NASA's CubeSat Launch Initiative provides basic concepts and processes for first-time CubeSat developers.
- [Monthly Webinar Series](#) Recorded Webinars on a wide variety of small spacecraft topics including all phases of mission design, development, and operations; regulatory and process-oriented requirements; exploration and scientific strategies, and opportunities for the community.

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