



## 2021 NASA Small Spacecraft Forum

### AGENDA

March - May 2021

Hosted Virtually over a Series of Dates

#### Introductory Session

March 25, 2021

9:30AM – 2:30PM PDT (5.0 hours)

*All Times are Pacific Daylight Time*

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|------------------------|------------------------------------|---|
| <b>9:30AM – 9:45AM</b> | <b><i>Welcome and Overview</i></b> | Florence W. Tan, <i>Forum Chair</i><br><i>Chair, Small Spacecraft Coordination Group (SSCG)</i><br><i>NASA Headquarters</i>   |
|                        |                                    | <i>Peter B. Kahn, Forum Co-Chair</i><br><i>Manager, Project Systems Engineering and Formulation</i><br><i>Section; SSCG Representative</i><br><i>NASA Jet Propulsion Laboratory</i> |
|                        |                                    | <i>Bruce D. Yost, Forum Co-Chair</i><br><i>Director, Small Spacecraft Systems Virtual Institute</i><br><i>SSCG Representative</i><br><i>NASA Ames Research Center</i>               |

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#### **9:45AM – 11:00AM**    ***Organizational Lightning Talks***

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|---|--|
| Science Mission Directorate                             | Wanda C. Peters, Ph.D<br><i>Deputy Associate Administrator for Programs</i><br><i>NASA Headquarters</i>              |
| Human Exploration and Operations<br>Mission Directorate | James O. Norman<br><i>Director, Launch Services Office</i><br><i>NASA Headquarters</i>                               |
| Science Mission Directorate                             | Aly Mendoza-Hill<br><i>Rideshare Lead</i><br><i>NASA Headquarters</i>  |
| Small Spacecraft Coordination Group                     | Florence W. Tan, <i>Forum Chair</i><br><i>Chair, Small Spacecraft Coordination Group</i><br><i>NASA Headquarters</i> |
| CubeSat Launch Initiative                               | Liam J. Cheney<br><i>Flight Projects Office, Launch Services Program</i>   |

*NASA Kennedy Space Center*

Small Spacecraft Systems Virtual Institute

Bruce D. Yost, *Forum Co-Chair*  
*Director, Small Spacecraft Systems Virtual Institute*  
*SSCG Representative*  
*NASA Ames Research Center*

Small Satellite and Special Projects Office

David A. Wilcox  
*Chief, Small Satellite and Special Projects Office*  
*SSCG Representative*  
*NASA Goddard Space Flight Center/*  
*Wallops Flight Facility*

Thomas Johnson  
*Lead Portfolio Manager for Heliophysics Division/*  
*Astrophysics Division Small Satellites,*  
*NASA-Goddard Space Flight Center/*  
*Wallops Flight Facility*

Space Communications and Navigation  
(SCaN) Program

Gregory W. Heckler  
*Acting Director, Commercial Services Office*  
*NASA's Space Communication and Navigation Program*  
*NASA Headquarters*

Space Technology Mission Directorate

Christopher E. Baker  
*Program Executive,*  
*Small Spacecraft Technology Program and*  
*Flight Opportunities Program*  
*SSCG Representative*  
*NASA Headquarters*

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***11:00AM – 12:00PM NASA Center Introductions***

NASA Ames Research Center

Chad R. Frost  
*Chief Technologist, Engineering Directorate*  
*SSCG Representative*

NASA Glenn Research Center

Carl E. Sandifer II  
*Deputy Chief, Space Science Project Office*  
*SSCG Representative*

NASA Goddard Space Flight Center/  
Wallops Flight Facility

David A. Wilcox  
*Chief, Small Satellite and Special Projects Office*  
*SSCG Representative*

NASA Jet Propulsion Laboratory

Peter B. Kahn, *Forum Co-Chair*  
*Manager, Project Systems Engineering and Formulation*  
*Section*  
*SSCG Representative*

NASA Johnson Space Center

Samuel M. Pedrotty  
*Deputy Project Manager*  
*Safe and Precise Landing Integrated Capability*  
*Evolution Project*  
*SSCG Representative*

NASA Kennedy Space Center

Liam J. Cheney  
*Flight Projects Office, Launch Services Program*

NASA Langley Research Center

William "Chris" Edwards  
*Associate Director for Science, Engineering Directorate*  
*SSCG Representative*

NASA Marshall Space Flight Center

Joseph C. Casas  
*Science, Technology and Exploration Small Missions and*  
*DoD Formulation Manager, Partnerships and Formulation*  
*Office; Manager, Office of the Secretary of Defense, Joint*  
*Capability Technology Demonstration, Arctic Collaborative*  
*Environment*  
*SSCG Representative*

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**12:00PM – 12:15PM Break**

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***12:15PM – 1:15PM NASA Directorates and Programs - Opportunities***

Advanced Exploration Systems  
Human Exploration and Operations  
Mission Directorate

Andres Martinez  
*Program Executive, Advanced Exploration Systems*  
*SSCG Representative*  
*NASA Headquarters*

Planetary Science Division,  
Science Mission Directorate

Carolyn R. Mercer, Ph.D  
*Program Executive, Small Innovative Missions for*  
*Planetary Exploration (SIMPLEx)*  
NASA Glenn Research Center

Astrophysics Division,  
Science Mission Directorate

Michael R. Garcia  
*SmallSats Program Scientist, Astrophysics Division*  
*NASA Headquarters*

Heliophysics Division,  
Science Mission Directorate

Amy R. Winebarger  
*Program Scientist, Heliophysics Division*  
NASA Marshall Space Flight Center

Earth Science Division,  
Science Mission Directorate

Sachidananda R. Babu  
*Program Manager, In-Space Validation of Earth Science Technologies*  
*Earth Science Technology Office*  
NASA Goddard Space Flight Center

Exploration Science Strategy and  
Integration Office,  
Science Mission Directorate

Jason E. Jenkins  
*Program Executive,*  
*Exploration Science Strategy and Integration Office*  
NASA Headquarters

Small Spacecraft Technology Program,  
Space Technology Mission Directorate

Justin V. Treptow  
*Element Lead, Small Spacecraft Technology Program and Flight Opportunities Program*  
*SSCG Representative*  
NASA Headquarters

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***1:15PM - 1:30PM      Special Sessions - Introductory Information and Expectations***

Introduction to the Special Sessions  
Framework

Luis H. Santos, *Forum Co-Chair*  
*Chief Engineer, Small Satellite Project Office*  
NASA Goddard Space Flight Center

- Organizational overview of the next several weeks of Special Sessions
- Topics and facilitators
- Discussion template

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***1:30PM – 1:45PM Break***

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***1:45PM - 2:30PM      New Principal Investigator-Focused Panel Session***

What's Next Now that I've Had a  
Proposal Accepted?

Moderator: Therese Moretto Jorgensen, Ph.D  
*Chief Scientist*  
*NASA Small Spacecraft Systems Virtual Institute*

A panel of managers will  
present their expectations and advice  
for newly selected mission teams to  
help enable the best possible start.

Panelists:  
Gregory Stover  
*Program Manager, Earth System Science*  
*Pathfinder*

*NASA Langley Research Center*

James J. Cockrell  
*Chief Technologist*  
*Small Spacecraft Technology Program*  
*NASA Ames Research Center*

Ryan P. Nugent  
*CubeSat Lab Program Lead*  
*California Polytechnic State University*

John D. Hudeck  
*Deputy Portfolio Manager for Heliophysics Division/  
 Astrophysics Division Small Satellites,*  
*NASA-Goddard Space Flight Center/  
 Wallops Flight Facility*

**Special Sessions**

**Thursdays April 1 – April 22, 2021**

**8:30AM – 10:30AM PDT**

**By Invitation**

*Each special session lasts 2.0 hours and is structured as below*

- 10 Minutes      **“All-hands” Session:** Introduction to the session and logistics
- 45 Minutes      **Breakout session A:** 3-4 concurrent breakout rooms with a specific topic
- 10 Minutes      **Break**
- 45 minutes      **Breakout Session B:** 3-4 concurrent breakout rooms with a specific topic
- 10 Minutes      **“All-hands” Session:** Wrap up to share session highlights

| <i>Day &amp; Session Title</i>                                     | <i>Breakout Topics for Session A</i>  | <i>Breakout Topics for Session B</i>  |
|--|---|---|
| <b>April 1</b><br>Pre-Phase A Concept Studies and Proposals        | 1. Project Management (reviews, staffing, schedule and budget)<br>2. HQ Process for AOs (opportunities, timeline)<br>3. Systems Engineering (technical budgets, subsystems) | 1. Characteristics of a Winning Proposal (margins, completeness, compelling science, innovative technology or approach)<br>2. Safety and Mission Assurance (Class D vs. Do No Harm, ODAR, Planetary Protection, LEO lifetime)<br>3. Mission Design Tools and Resources (S3VI, NEN, mission design labs, make vs. buy) |
| <b>April 8</b><br>Phase A, B and C Concept/Technology Development, | 1. Project Management (CM, reviews, staffing, schedule and budget)<br>2. HQ Process (status report, ARC and GSFC/WFF SmallSat Offices roles)                                | 1. Mission Documentation (PIP, SEMP, ConOps, Requirements, etc.)<br>2. Risk Program (typical practices, risk matrix, reporting)   |

| <i>Day &amp; Session Title</i>   | <i>Breakout Topics for Session A</i>   | <i>Breakout Topics for Session B</i>   |
|--|--|--|
| Preliminary/Final Design and Fabrication                                 | <ul style="list-style-type: none"> <li>3. Systems Engineering (technical budgets, subsystems, requirements definitions)</li> <li>4. Launch Opportunities (identifying launch opportunities, CSLI vs. commercial)</li> </ul>  | <ul style="list-style-type: none"> <li>3. Analysis/Simulation vs. Testing (early interface testing, no analysis vs. basic checks vs. detailed analysis)</li> <li>4. Licensing Process and Encryption (NTIA, FAA, NOAA, when encryption applies, what type of encryption)</li> </ul>  |
| <b>April 15</b><br>Phase D System Assembly, Integration and Test, Launch | <ul style="list-style-type: none"> <li>1. Project Management (CM, reviews, staffing, schedule and budget)</li> <li>2. Systems Engineering (technical budgets, subsystems, compliance matrix)</li> <li>3. I&amp;T Plan (level of detail, relevant testing)</li> </ul> | <ul style="list-style-type: none"> <li>1. Day-in-the-life Testing (hardware on the loop, simulation environments, TVAC)</li> <li>2. Ground system (government vs. commercial ground stations, ground system software, I&amp;T GSE vs. Flight MOC/GS)</li> <li>3. Data Processing System (housekeeping vs. experimental data, post-processing, science products, technology demonstration data products)</li> </ul> |
| <b>April 22</b><br>Phase E and F Operations, Sustainment and Closeout    | <ul style="list-style-type: none"> <li>1. Operations Management (budget, schedule, staffing)</li> <li>2. Engineering (data trending, commissioning)</li> <li>3. Data Processing (collection, validation, storage, and dissemination)</li> </ul>                      | <ul style="list-style-type: none"> <li>1. Extended Operations (funding process, licensing)</li> <li>2. On-orbit Anomalies (diagnostics, patching software, troubleshooting)</li> <li>3. Closure, Optimizing Impact, Assessing Outcomes (scientific and technical publications, technology and knowledge transfer, next steps, lessons learned reporting)</li> </ul>  |

**NASA-Only\* Session**

**May 6, 2021**

**8:30AM – 10:30AM PDT (2 hours)**

**\*This session includes JPL**

*Schedule is pending*