

SATELLITE x GovMilSpace Tech Seminar – Proposal Guidelines

Those applying to participate in our new Tech Seminar program can submit a proposal for either a **25-minute Presentation** or a **Poster Presentation**.

The **25-Minute Presentation** format includes 15 minutes of presentation time, followed by 10 minutes of Q&A with the audience. Proposals must include the name of the speaker, the title of the presentation, an abstract of the presentation, and a list of support materials (slides, physical handouts, etc.) required for the presentation. A 25-minute Presentation may include 1 or 2 speakers.

The **Poster Presentations** will occur simultaneously during the Poster Presentations Session time slot in a free-form format. Poster authors should use the following guidelines:

- The poster must cover the content as proposed in the submission abstract
- Authors are responsible for printing, displaying, and taking down the poster.
- Authors are to remain with their poster during the entire session to present it and answer questions to interested attendees.
- The poster's dimensions shall not exceed 3' x 5' or 5' x 3'
- Posters must provide legible figures/text to be read at a distance of six feet.
- Posters should use a serif type font (e.g., Times) for reading the main text, and a non-serif font (e.g., Arial or Helvetica) for headers and figure labels.
- Paragraph and figure captions should be a minimum of 24-point font (0.9 cm height) and headers at least a 36-point font (1.2 cm height).
- The title should be placed prominently at the top of the poster board
- Posters should include a background section, methods, results, and conclusions.
- Posters should display the authors' names and contact information, allowing viewers to request more information if needed.

All proposals will be reviewed by our Tech Seminar Advisory Committee and SATELLITE x GovMilSpace conference staff. If your presentation is based on a research paper, please state this in your application. Research papers are not required to participate. We encourage those with papers to share them with our attendees.

Suggested Topics for Presentations

For this year's Tech Seminar program, we are seeking presentations that fall under the following categories:

Optical Space-Based Communications:

- Next-generation optical ground stations and transportable sites ground to space and space to ground.
- Adaptive optics and beam-control techniques for free-space optical links
- Coherent optical waveforms, high-order modulation, and interoperable standards
- Radiation-tolerant photonic materials and high-efficiency laser components
- Global site-selection methods and hybrid RF/optical mesh networking concepts
- Inter-orbital shell communications

Digital IF Interoperability:

- Digitized IF transport frameworks for software-defined infrastructures
- Wideband software-defined modems and high-speed RF-to-digital converters
- Digital pre-distortion (DPD) for high-power amplifiers
- Antenna diversity and gateway resilience experiments or strategies

AI:

- Sovereign, Secure, AI-Augmented Space Communication Networks
- AI applications in both space and ground based systems

5G NTN:

- 5G NTN modems, ASICs
- Regenerative vs transparent 5G NTN payload architectures
- Comparative performance and cost studies: NTN vs LEO HTS vs legacy MSS
- Seamless roaming and timing/sync interoperability between space and terrestrial 5G

Virtualization:

- Cloud-based virtualization of waveform processing (containerized SDR stacks)
- Edge/on-orbit virtualization frameworks for smart, reconfigurable payloads
- Orchestration

Platforms:

- Modular spacecraft buses and high-speed data backplanes for plug-and-play payloads
- Satellite subsystems (innovations in propulsion, power, sensors, etc. subsystems)
- Agile Multi-Orbit Interoperability and Space/Terrestrial 3GPP based Integration

- Reconfigurable power/thermal interfaces and autonomous payload resource management
- On-board compute solutions
- Digital Payloads with Software-Defined Real-time Reconfiguration

Applications:

- Precise user geolocation via SATCOM multilateration
- Resilient space-based positioning, navigation, and timing (PNT) services
- Advanced imagery & sensing capabilities
- Higher frequency band applications and technology (Q/V, E, etc.)
- Resilient Multivendor SATCOM Services and Ground for Contested Environments

Other topics:

- Launch and propulsion technologies.
- Cybersecurity Solutions
- Space Situational Awareness