



Title: Space Communications Engineer Position ID: 2026-0023	Type Position: Full Time Level: PL4	Annual Salary: \$138,600 - \$276,000
Primary Location: Home office anywhere in the U.S.	Travel Required: 10% CONUS and HI	
Alternate Location: N/A	Contact: Technical: taxberg@stephensonstellar.org (Thomas Axberg) Human Resource: bmoyer@stephensonstellar.org (Barb Moyer)	

Company Background: Stephenson Stellar Corporation (Stellar) is a nonprofit research and development organization focused on assuring our nation remains a global leader in the Space Domain. Our mission is to foster technological innovation and provide secure space-based solutions.

Stellar is an equal opportunity employer, and all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, age, disability status, protected veteran status, or any other characteristic protected by law.

Additional information at: www.stephensonstellar.org

Job Description: The Space Communications Engineer will conduct applied research and technical analysis focusing on improving, extending, and modernizing existing space communications architectures that support national security, civil, and commercial space missions. Rather than developing entirely new communications paradigms, this position emphasizes identifying practical enhancements to current operational systems through the application of emerging technologies, engineering innovations, and architectural improvements. The candidate will evaluate how new communications technologies, protocols, networking approaches, cybersecurity capabilities, and interoperability standards can be incorporated into existing operational environments to improve performance, resiliency, security, scalability, and mission effectiveness. Working within multidisciplinary research teams, the candidate will develop technical assessments, prototypes, demonstrations, and recommendations that help government sponsors and mission stakeholders evolve current communications capabilities while maintaining compatibility with existing operational systems and infrastructure.

Primary Responsibilities:

Applied Research and Technical Assessment

- Conduct applied research focused on improving existing space communications architectures and operational communications systems.
- Assess how emerging technologies can be integrated into current communications infrastructures with minimal operational disruption.
- Identify opportunities to improve performance, resiliency, interoperability, cybersecurity, and operational effectiveness.
- Evaluate technical risks, implementation challenges, and transition considerations associated with communications modernization efforts.
- Develop recommendations that support incremental capability enhancement and technology insertion.

Communications Architecture Analysis

- Analyze communications architectures supporting space-to-space, space-to-ground, and ground-to-ground operations.
- Evaluate systems-of-systems interactions among spacecraft, ground stations, mission operations centers, enterprise networks, cloud environments, and tactical users.
- Assess communications pathways supporting command and control, mission data transport, telemetry, tracking, and control (TT&C), and mission operations.
- Perform architecture studies, trade analyses, and technical evaluations supporting modernization initiatives.
- Develop recommendations for improving scalability, maintainability, and mission resilience.

Technology Integration Research

- Evaluate the application of advanced technologies to existing communications systems, including: software-defined radios, software-defined networking, cloud-enabled communications services, network automation technologies, and optical communications integration.
- Assess technical feasibility, operational impacts, and integration requirements.
- Support prototype development and demonstration activities that validate proposed enhancements.

Secure Communications and Cyber Resilience

- Research methods for strengthening cybersecurity and resilience within existing communications architectures.
- Evaluate encryption technologies, key management approaches, secure transport mechanisms, and protected communications capabilities.
- Analyze communications vulnerabilities and identify mitigation approaches.

Standards and Interoperability

- Evaluate compliance with and application of U.S., allied, and international communications standards.
- Assess interoperability challenges among DoD, commercial, civil, and coalition communications systems.
- Support development of interface specifications, architecture guidance, and technical recommendations.

Demonstration and Transition Support

- Construct lab prototypes exploring new and augmented space communication concepts and provide technical recommendations.
- Support laboratory evaluations, engineering demonstrations, and prototype assessments.
- Analyze test results and document findings for sponsors and stakeholders.
- Support technology insertion planning and modernization roadmaps.



Primary Responsibilities (continued):

Technical Communication

- Prepare technical reports, white papers, architecture assessments, and sponsor briefings.
- Present technical findings to government sponsors, engineering teams, and operational stakeholders.
- Contribute to proposal development and identification of future research opportunities.

Requirements

Clearance: Active U.S. Security Clearance required; TS/SCI preferred.

Citizenship: Candidate must be a United States citizen.

Education:

- Bachelor's Degree in Electrical Engineering, Computer Engineering, Systems Engineering, Aerospace Engineering, Computer Science, or a related technical discipline.
- Master's Degree preferred.

Required Experience:

- 8+ years of experience in space-related communications engineering, network engineering, systems engineering, and related technical disciplines.
- Experience supporting DoD, Intelligence Community, civil space, and commercial space communications programs.
- Experience evaluating, integrating, or modernizing operational communications systems.
- Experience conducting technical studies, architecture assessments, or engineering analyses.

Technical Expertise - Demonstrated knowledge in multiple areas including:

- Radio frequency (RF) systems and link budget analysis (EIRP, G/T, C/N, path loss, and rain fade).
- RF and optical frequency bands used across space and ground links (L, S, C, X, Ku, Ka, Q/V, and E-band).
- Experience with phased-array and electronically steered antennas, digital beamforming, and beam-hopping.
- Software-defined radio (SDR) and reconfigurable, software-defined payloads.
- FPGA, DSP, and RF System-on-Chip (RFSoc) signal processing for space and ground systems.
- Digitized RF transport and digital intermediate frequency (digital IF).
- Ground-station RF front ends (up/downconverters, LNAs, SSPAs/HPAs) and antenna tracking systems.
- Space vehicle, space to ground, and space-to-space communications architectures.
- Command and control communications.
- Ground communications infrastructure.
- Network architecture and engineering.
- Communications hardware and software integration.
- Encryption and communications security.
- Cybersecurity and mission assurance.
- Communications performance analysis.

Standards Knowledge - Experience with one or more of the following:

- CCSDS standards.
- IEEE networking and communications standards.
- NATO interoperability standards.
- DoD communications architectures and guidance.
- 3GPP Non-Terrestrial Networks (NTN) standards for satellite-based and direct-to-device connectivity.
- ITU Radio Regulations and spectrum coordination for satellite services.

Preferred Qualifications:

- Experience supporting U.S. Space Force, Space Systems Command, SDA, NASA, AFRL, NRL, or Intelligence Community communications programs.
- Experience with communications modernization initiatives.
- Experience with software-defined communications technologies.
- Experience with multi-level security environments and cross-domain communications.
- Experience supporting communications test and evaluation activities.
- Experience supporting commercial LEO and MEO satellite constellations and operators (e.g., SpaceX Starlink, OneWeb/Eutelsat, Amazon Kuiper, Telesat Lightspeed, SES/O3b, Iridium).
- Familiarity with space-to-space (inter-satellite) networking for proliferated constellations, including optical inter-satellite links (OISL)/laser crosslinks and RF crosslinks.



- Experience with direct-to-device / direct-to-cell architectures and 3GPP NTN, including satellite-hosted LTE eNodeB or 5G gNodeB interfaces (e.g., Starlink Direct to Cell, AST SpaceMobile, Lynk).
- Experience with adaptive link management for LEO (e.g., ALMM) and dynamic beam and resource management.
- Experience with Ground-Station-as-a-Service and virtualized ground segments (e.g., AWS Ground Station, Azure Orbital, KSAT).
- Experience with Delay/Disruption Tolerant Networking (DTN) for space-to-space and space-to-ground transport.