



DEPARTMENT OF DEFENSE
UNITED STATES SPACE COMMAND

MEMORANDUM FOR RECORD

February 11, 2025

FROM: USSPACECOM/J7

SUBJECT: United States Space Command 2025 Academic Research Focus Areas

1. United States Space Command (USSPACECOM) and various Military Education Institutions, facilitated by the Academic Engagement Enterprise (AEE) seeks to leverage the collective strength of our command relationships with all like-minded academic partners. Amid the evolving landscape of the space domain, it becomes imperative for our organizations to determine what the future looks like. With the convergence of civil, military, and commercial space sectors, there's a pressing need for visionary thinking to strengthen our national space capacity, expertise and technologies. The AEE serves as the foundation for the U.S. Space Command Pyramid of Partnerships and our teams look forward to engaging with all members over the course of 2025.

2. The primary goal of this Joint Education Initiative is to connect academic research efforts between command focus area stakeholders, champions, academic partners, and various Joint Education initiatives across the Department of Defense. These efforts will enhance and accelerate space applied research and innovation. To strengthen our collective relationships and encourage dialogue between USSPACECOM and AEE members, the below focus areas have been identified as broad categories of particular interest to the command:

a. Dynamic Space Operations. On-orbit refueling, On-orbit maintenance, Responsive launch, and In-domain logistics on orbit. Sustained Space Mobility for satellites operating in the geostationary orbit belt. Refueling requirements and rapid launch replacement capabilities. Champion: USSPACECOM/J4. Collaborative Partner: J3

b. Cyber. Reducing vulnerabilities in space operations to cyber-attacks, enhancing network security for both military and commercial systems, developing AI/ML enabled proactive defense capabilities, holistic cyber situational awareness, and standardizing cyber risk calculation methodology and taxonomy. Champion: USSPACECOM/J6. Collaborative Partners: J3/JCC

c. Artificial Intelligence and Machine Learning. Opportunities to optimize and synchronize operations in the space domain. Application of AI/ML in support of space domain awareness. Champion: USSPACECOM/J6. Collaborative Partners: J2/J7/J8

d. Artificial Intelligence. Ethical principles, Data decrees, Responsible Use and Management of AI in space operations. Champion: USSPACECOM/J6. Collaborative Partners: SJA, J2, J7, J8

e. Human Space Flight Support. Developing operational concepts for space vehicles/ambulances and design of medical equipment packages to support space search and rescue and personnel recovery operations while mitigating physiologic risks of microgravity environment. Champion: USSPACECOM/J080 Surgeon General

f. Radiation Exposure. Mitigating hazards of radiation exposure on humans engaged in spaceflight. Champion: USSPACECOM/J080 Surgeon General

g. Space Adaptation Sickness. Reducing the time of functional impairment and mitigating the effects on humans in microgravity. Champion: USSPACECOM/J080 Surgeon General

3. Throughout the year, USSPACECOM welcomes students and faculty to present their research to command senior leaders, champions and key stakeholders through direct communication, symposiums, webinars, and campus visits.

4. The point of contact for this action is Dr. Michael Madsen, USSPACECOM/J735 Branch Chief, 719-552-7540, michael.madsen.6@usspacecom.mil.



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