

Toward an Integrated Theory of Space-Cyber Power

Project Funded by the Air Force Office of Scientific Research (AFOSR) (2024-2027)

CALL FOR PAPERS

Colloquium to be held on November 7, 2025

The Colloquium Conveners welcome the submission of proposals for thematic papers to be presented at the Colloquium organized by Indiana University Bloomington's <u>Space Governance Lab</u>. The Colloquium is part of a three-year project funded by the Air Force Office of Scientific Research: <u>Toward an Integrated Theory of Space-Cyber Power</u>. The Colloquium will be held remotely, to accommodate participants from across the nation, on **November 7**, 2025. Abstracts are due by **June 1**, 2025, and draft papers by **October 10**, 2025.

Theme

The Colloquium will discuss the foundations for the missing theory of space-cyber power: what power means in the 21st century, in an era of combined space-cyber theaters and operations, and how the U.S., as a hegemonic power, can accumulate, project, and leverage space-cyber power for its defense and economic growth and to maintain and increase its influence.

In his seminal book *The Influence of Sea Power upon History* (1890), Mahan demonstrated how Great Britain's sea power paved the way for its emergence as the world's dominant military, political, and economic power, and articulated a theory of sea power. More recently, outer space and cyberspace emerged as operational military domains, as well as their nexus, as demonstrated during the war in Ukraine that has been dubbed "first space-cyber war." The emerging space-cyber nexus poses risks to shared critical infrastructure and presents vexing governance challenges. At the same time, it allows for the accumulation and projection of power and influence. Nevertheless, there has been no corresponding exploration like Mahan's on the utility and limits of space-cyber power in modern international affairs. Sea power doctrine is already established and mature. Current space and cyber power doctrines, on the other hand, are demonstrably embryonic, maybe even experimental. Meanwhile, a combined space-cyber warfare theatre emerges as a key battlefield shaping the global distribution of power in the twenty-first century.

A **theory of space-cyber power** may integrate the space and cyberspace domains into a single nexus. Moreover, it may integrate both military and commercial space-cyber capabilities as essential elements of power.

Securing access to the global commons has long been a hallmark of hegemonic power. The space-cyber nexus has emerged as a dynamic new frontier of international relations, vital for global connectivity and a critical source for economic and military power. Securing access to the 'sixth domain' is necessary both for the security of the United States as well as for international peace and security.



The Colloquium will lead to the publication of an edited volume for which we seek research that explicitly bridges the divide between academic research, real-world practice, and grand strategy, including articles that integrate prior academic findings with additional conceptual, empirical, and/or theoretical work to make strong contributions to informing and crafting an integrated theory of space-cyber power.

The Colloquium is transdisciplinary and welcomes thought-provoking and exploratory papers from any relevant discipline including, but not limited to, strategic studies, international relations, and commons governance, as well as other political science/social science disciplines, employing the classic theories or modern, cutting-edge ones. contributions from active and retired defense personnel are also encouraged.

Papers may discuss any issue that broadly falls under 'foundations for a theory of space-cyber power', including, but not limited to, the following topics:

Theories of Power

- o The Evolution of Air, Sea, and Land Power and its Application to Space Cyber Power
- o Conceptualizing Cross-Domain and Hybrid Conflicts
- o The Concept of Power in the 21st. Century and Elements of Space-Cyber Power

Securing Space

- o Space Cybersecurity and its Discontents
- o Supply Chain Security in Space
- o Power Projection Implications of Space-Based Internet Access
- o Space as Critical Infrastructure
- o Comparison of Leading Space Powers' Defense Space Strategy

Law, Ethics, and the Future of the Final Frontier

- o Applicability of International Space and Cybersecurity Law
- o Ethics of Space Security
- o Role of Private Actors and Corporate Governance in Space Security

The Space-Cyber Nexus: Strategy and Security in the 21st. Century

- o Grand Strategy between Hegemony and Multipolarity
- o Toward an Integrated Theory of Space-Cyber Power

Context - the Project

Indiana University's <u>Space Governance Lab</u> launched a 3-year research project funded by the Air Force Office of Scientific Research (AFOSR) (2024-2027): <u>Toward an Integrated Theory of Space-Cyber Power</u>.

The project will convene a diverse epistemic community of scholars and experts, brokers of power, experienced statesmen, and military professionals to discuss and lay the foundations for a theory of space-cyber power. Through a series of focused workshops, wargames, and tabletop exercises, held under the Chatham rule, and the Colloquium, participants will engender commonly defined concepts, challenge prevailing conceptions, and seek to illuminate factors in metaphorical blind spots. The project was officially launched by Workshop1: Launch! held in Washington D.C. on March 7, 2025.

The Colloquium will be the second event as part of the project. The project will culminate with a report to be submitted to the U.S. Air Force and Space Force and a published edited volume.

Indiana University's Space Governance Lab has already made pioneering research contributions in identifying, signaling, and studying the space-cyber nexus¹ and with the introduction of the nation's first academic courses on <u>space cybersecurity</u> and space-cyber governance. This project builds and adds on this previous work.

Format

The edited volume will include <u>chapters</u> (6,000-8,000 words, including references) and <u>essays</u> (1,000-2,000 words, including references). Abstracts will need to indicate if they are intended to be developed into a chapter or an essay.

The number of participants at the Colloquium will be limited. The authors of the selected abstracts will be required to submit a <u>draft chapter (5,000-8,000 words)</u> or a <u>draft essay (1,000-2,000 words)</u> one month before the event, by **October 10, 2025**. All draft chapters and essays will be circulated to all the Colloquium participants. The participants will be expected to read all papers, and each will also serve as a designated commentator/discussant for one paper. At the Colloquium, each paper will be the subject of a rigorous discussion and brainstorming, starting with the presentation of the paper and comments by the designated commentator, after which the floor will be opened for comments and discussion by all participants.

This format is designed to stimulate in-depth discussions, and to provide authors with valuable expert feedback.

The authors of a select few of the chapters and essays discussed at the Colloquium will have the opportunity to publish them as part of the special edited volume to be submitted as a final report to the U.S. Air Force and U.S. Space Force as well as to policymakers in D.C. and published as edited volume. These authors will be invited to submit a revised version of their paper after the Colloquium. Further details will be provided at the occasion of the Colloquium.

Submission of abstracts

<u>Abstracts (maximum 300 words)</u>, along with a short biography (one paragraph), should be submitted no later than **June 1, 2025** via <u>this link</u>. Results will be announced on **June 10, 2025**. You may direct any inquiries to <u>eytepper@iu.edu</u>.

Colloquium organizers

- o Scott Shackelford, Indiana University Bloomington
- o Eytan Tepper, Indiana University Bloomington
- o Rob Templeman, Indiana University Bloomington

¹ see, notably, Eytan Tepper, Scott J. Shackelford, James B. Romano, and Sergei Dmitriachev, <u>The Sixth Warfighting Domain? Governing The Space-Cyber Nexus</u>, 59(1) Georgia Law Review, 51 (2024); and Eytan Tepper, <u>The First Space-Cyber War and the Need for New Regimes and Policies</u>, CIGI Policy Brief No. 173, (May 16, 2022).