

GW Elliott School of
International Affairs
Space Policy Institute
FALL 2023 NEWSLETTER

The Space Policy Institute provides a collaborative environment where scholars, policy analysts, practitioners, and students work together on current and future space issues across the civil, commercial, and national security sectors.

FALL EVENTS

The Space Policy Institute held a vigorous schedule of events in the second half of 2023. We are grateful to our event partners for their collaboration and contributions to the space community.



September 12, 2023 – Our Fragile Space: Protecting the Near- Space Environment

The Space Policy Institute brought photographer and creative strategist Max Alexander's "Our Fragile Space" exhibition to the Elliott School of International Affairs. The exhibition's inaugural event included award-winning journalist and author Dr. Stuart Clark, with speakers Krystal Azelton, Director of Space Applications Programs at Secure World Foundation, and Dr. Scott Pace, Director of the Space Policy Institute.

September 15, 2023 – The State of Space Policy and Activities in Germany



The Space Policy Institute hosted Dr. Anna Christmann, who presented the newest German space strategy. Dr. Christmann is

the Coordinator for Aerospace Policy at the Federal Ministry for Economic Affairs and Climate Action and a member of the German Bundestag.

November 15 - 16, 2023 – Space Seminar: Transatlantic Cooperation on Space Technology and Policy in the Arctic



The Institute welcomed distinguished members of the US and Norwegian

space communities to a seminar on transatlantic cooperation in space technology and policy in the Arctic region. The two-day event offered a strategic outlook for the transatlantic partnership, including elements such as civil-military cooperation and dual-use technologies, access to space as a strategic asset, and space exploration. Panelists shared success stories of international collaboration between Norway and the United States, both bilaterally and multilaterally, under the North Atlantic Treaty Organization.

FACILITY & STAFF HIGHLIGHTS

Professor Dr. Henry R. Hertzfeld had a busy teaching and travel schedule this past Fall. In early September, he was in France participating in a Ph.D. dissertation jury on a topic related to space economic issues at the University of Strasbourg. In October, he attended the International Astronautical Congress in Baku, Azerbaijan, and chaired an economics technical session. He was also invited to serve as a judge in the semi-final rounds of the Manfred Lachs International Space Law Competition. In November, he



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delivered a talk at an international conference in Cusco, Peru, on U.S. legal and regulatory incentives to stimulate private sector space initiatives. At the request of the GWU Law School, Professor Hertzfeld also offered an additional section of his popular space law class this past Fall.

Professor Emeritus Dr. John M. Logsdon continues to be involved at the Space Policy Institute and in the space community. He serves on the Board of Directors of The Planetary Society and appeared in many electronic and print media this fall, including *Time*, *Scientific American*, *Newsweek*, and *Axios*.

Research Professor Dr. Pascale Ehrenfreund continues to serve as President of the Committee on Space Research (COSPAR). Dr. Ehrenfreund also serves on the Board of Directors of the Space Foundation, as a Co-Chair of the World Economic Forum's Global Future Council on Space, and as a board member of the Jet Propulsion Laboratory Advisory Council. Dr. Ehrenfreund was a keynote speaker, moderator, or panelist at numerous events in the Summer/Fall of 2023, including at the National Institute for Space Research (INPE) in Brazil, Space Challenges 2023 in Sofia, Bulgaria, Commercial Space Days in Luzern, Switzerland and the Space & Underwater Tourism Universal Summit in Marbella, Spain. Dr. Ehrenfreund attended and served as moderator and panel speaker at different sessions at the International Astronautical Congress in Baku, Azerbaijan. Furthermore, she contributed to the UN General Assembly's 78th Science Summit Panel on "Space & Sustainability Compacts." Dr.

Ehrenfreund attended the Annual Meeting of the Global Future Councils of the World Economic Forum in Dubai, UAE. As COSPAR Chair, Dr. Ehrenfreund contributed to the IPSPACE 2023 conference "A New Age of Space Exploration: Cooperation and Innovation" and moderated the session on space education. She also attended the annual COSPAR's Panel on Planetary Protection meeting at the United Nations in Vienna, Austria. Dr. Ehrenfreund co-authored multiple journal articles that were published or in review. Together with Dr. Hertzfeld, Dr. Ehrenfreund kicked off a new grant from the John Templeton Foundation entitled "Cooperation for the Future of Space Exploration" that will be executed in cooperation with the International Space University.

Assistant Professor Dr. Aaron Bateman published three articles, "Secret Partners: The National Reconnaissance Office and the Intelligence-Industrial-Academic Complex" in *Intelligence and National Security*, "Information Security in the Space Age: Britain's Skynet Satellite Communications Program and the Evolution of Modern Command and Control Networks," in the *Journal of Strategic Studies*, and "The Enduring Impact of Reagan's Strategic Defense Initiative" in *Arms Control Today*. He presented satellite communications and Anglo-American defense cooperation at the annual meeting of the Society for the History of Technology in Los Angeles and on the Strategic Defense Initiative and U.S. military strategy in the 1980s at the London School of Economics. Dr. Bateman received the American Institute of Aeronautics and Astronautics Outstanding History



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Manuscript Award for his dissertation, "A Space Renaissance: The Strategic Defense Initiative and the Arms Race." Finally, Dr. Bateman hosted members of the Norwegian Space Agency, Ministry of Foreign Affairs, and Ministry of Defense for a multi-day transatlantic space cooperation and security event.

Adjunct Professor Dr. Peter Hays presented on "Space and Nuclear Issues" to the Institute on Global Conflict and Cooperation and the 2023 Public Policy and Nuclear Threats Boot Camp in La Jolla, California.

Dr. Hays also served on the dissertation committee for Jakub Prazak, 13 September 2022, Charles University, Prague.

Dr. Hays led the effort to obtain the Secretary of the Air Force approval for the Department of the Air Force Policy Directive (DAFPD) 13-6, Space Policy, published on December 5, 2023. DAFPD 13-6 establishes overall Department of the Air Force space policy, implements DoD Directive 3100.10, Space Policy, and is consistent with the National Defense Strategy and U.S. national space policies. It replaced an Air Force Space Policy published in 2013 and incorporates essential changes in law, including the establishment of the United States Space Force (USSF), the establishment of the Office of the Assistant Secretary of the Air Force for Space Acquisition and Integration (SAF/SQ), and reestablishment of United States Space Command (USSPACECOM). It includes the new USSF mission statement on securing our Nation's interests in, from, and to space. It notes that the USSF will pursue these ends through campaigns and by

contributing to integrated deterrence in all domains. The Directive also includes the competitive endurance approach, noting that the United States seeks to avoid operational surprise from a potential adversary, deny the enemy's ability to gain first-mover advantages and develop responsible counter-space campaigns to deny the adversary's ability to leverage space-enabled targeting of our terrestrial forces. Finally, DAFPD 13-6 codifies that the Chief of Space Operations certifies space policy for the Secretary of the Air Force approval, serves as Force Design Architect for space systems of the Armed Forces, and is the DoD Space Requirements Integrator.

Adjunct Professor John "Patsy" Klein spoke on September 28, 2023, at the Elliott School about his latest book, *Fight for the Final Frontier: Irregular Warfare in Space*. The book represents a culmination of two years of research on the intersection of irregular warfare and space, and the study was facilitated through the support of the Space Policy Institute. As part of his outreach, Patsy has spoken to dozens of governmental organizations and commercial partners on the book's outcomes and policy recommendations. Also, he has been featured on multiple podcasts to discuss the topic, reaching a global audience. During October 1-3, 2023, Professor Klein instructed fourteen undergraduate students--hailing from Japan, Italy, Singapore, and across the United States--on space policy and future challenges as part of the 74th Student Conference on U.S. Affairs (SCUSA) held at the United States Military Academy at West Point. Lastly, Patsy continues to support the



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integration of commercial capabilities services into U.S. national security space wargames and associated planning events.

VISITING & NON-RESIDENT SCHOLAR NEWS

Visiting Scholar Bruno Martini arrived from the Brazilian Air Force University (UNIFA) in November 2023. Mr. Martini is researching the organization of space power and foundations in Brazil.

STUDENT NEWS

During the Fall 2023 semester, Space Policy Institute students worked and interned at multiple civil, national security, commercial, and nonprofit organizations, including NASA, the Federal Aviation Administration, the State Department, the Department of Defense, the Aerospace Corporation, BryceTech, SpinLaunch, the Atlantic Council, the Space Foundation, and more. Congratulations to Shiv Patel, who graduated at the end of the Fall 2023 semester. Shiv Patel is now the government affairs lead for SpinLaunch.

SPACE POLICY INSTITUTE NEWS

2023 Thacher Prize Winners Announced

Jul 5, 2023

Congratulations to the 2023 Thacher Prize winners for Outstanding Publication in Space Policy. Jonathan C. Clark won the first prize for his paper: "Small Businesses in Space: Updates to Space-Related Small Business Procurement." Celine Der Boghosian, Megan Thompson, and Victoria Woodburn shared second place for their co-written paper: "A New Era of Space Collaboration: Mitigating Barriers to

Cooperation Between Commercial and Government Space Actors." Shreya Lad won third prize for her paper: "SDI to Technological Sovereignty: The Evolution of Strategic Autonomy in Science and Technology Policy in France."

Study of the U.S. Institute (SUSI) on U.S. Foreign Policy Visits Space Policy Institute

Jul 25, 2023

On July 24, the 2023 cohort of the Study of the U.S. Institute (SUSI) on U.S. Foreign Policy visited the Space Policy Institute at the Elliott School of International Affairs. The cohort included 16 scholars from 16 different nationalities. SUSI is an exchange program sponsored by the U.S. Department of State.

Student/Alumni Article Published in War on the Rocks

Aug 8, 2023

Current and former SPI students published in *War on the Rocks*. Congratulations to Zeke Clayson, Frank Spellman, Shiv Patel, and Dan Shen on the publication of their commentary, "Space Mission Authorization: Enabling the Final Frontier."

SPI Director Scott Pace Discusses Lunar Exploration on Planetary Radio

Aug 8, 2023

SPI Director Scott Pace was interviewed on Planetary Radio, a podcast by the Planetary Society's Planetary Radio. SPI Director Scott Pace spoke about the strategic value of the Artemis Accords and how lunar missions can drive greater space development.



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SPI Visiting Scholar, Akira Saito, Published in The Space Review

Sep 12, 2023

SPI Visiting Scholar Akira Saito was published in *The Space Review*. Akira Saito's article "Key Issues for the Japanese Government Regarding Exploration and Development of Space Resources" focused on the potential use of lunar ice as a propellant.

SPI Director Dr. Scott Pace's Letter Featured by Issues in Science and Technology

Sep 20, 2023

Issues in Science and Technology featured a letter by Dr. Scott Pace. Dr. Pace's letter responded to the recently published "Why Space Debris Flies Through Regulatory Gaps," which discusses the challenges and complexities of regulating space debris, the overlapping authorities of various U.S. agencies, and the evolving efforts to address space debris threats as commercial space activities grow.

SPI Director, Dr. Scott Pace, Co-Authors Report on Solar System Internet Architecture and Governance

Sep 27, 2023

Dr. Scott Pace co-authored a report for the Interplanetary Networking Special Interest Group (IPNSIG) of the Internet Society (ISOC) with an esteemed group of scholars and leaders, including Dr. Vinton Cerf of Google and Dr. Jim Green of NASA.

SPI Director, Dr. Scott Pace, Discusses the Future of GPS on In-Q-Tel Podcast

Dec 14, 2023

Dr. Scott Pace was invited to In-Q-Tel's *IQT Explains* series on November 21st, 2023, to discuss the future of the U.S. Global Positioning System (GPS) alongside Steve Poizner, CEO of oneNav. The discussion highlighted the importance of GPS for both civilian and military capabilities and its challenges in keeping up with competing foreign systems.

SPI Students Awarded 2023 Fellowships from Amazon Web Services

Dec 14, 2023

Elizabeth Anderson, Jessica Denham, Adam Stegal, and Eleanor Creasey received ISTP fellowship awards for the 2023-2024 academic year. SPI congratulates each awardee and thanks Amazon Web Services for their generous support.

SPI Students Awarded 2023 Fellowships from AXIOM Space

Dec 14, 2023

Elif Yüksel and Sydney Wisnosky received ISTP fellowship awards for the 2023-2024 academic year. SPI congratulates each awardee and thanks Axiom Space for their generous support.

SPI Students Awarded 2023 Fellowships from GPS Innovation Alliance

Dec 14, 2023

Rachita Puri and Ryan Puleo received ISTP fellowship awards for the 2023-2024 academic year. SPI congratulates each awardee and thanks the GPS Innovation Alliance for their generous support.



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MESSAGE FROM OUR DIRECTOR, DR. SCOTT PACE



I had two articles published in the academic journal *Space Policy*. One was on the use of analytic eclecticism for space-related

international relations theory. The second was a U.S. perspective on deterrence and geopolitics in space. An article on international human spaceflight cooperation was published in the *Journal of Space Safety Engineering*, and I gave a paper on “Global Space Futures – 2050” at the 74th International Astronautics Federation Congress in Baku, Azerbaijan. Finally, as part of a team effort, I contributed to a special report by the Internet Society on “Solar System Internet Architecture and Governance.”

I am currently working on a chapter for a book on national security space issues. The focus of the chapter will be military rules of engagement in the space domain, and in particular the role of international law.

For the year, I gave 22 invited presentations to a wide variety of industry, government, academic, and non-profit associations. These included a side event at the June 2023 plenary meeting of the UN Committee on the Peaceful Uses of Outer Space, a side event at the October 2023 International Telecommunications Union World Radiocommunications Conference, remarks at the National Defense University, the National Reconnaissance Office, the State

Department, the U.S. Institute for Peace, and a study group of the Japanese Diet.

National Space Council staff kindly hosted a meeting and tour with graduate space policy students at the Eisenhower Executive Office Building. This was a student event highlight for the Fall semester.

SUPPORTERS

Our efforts would not be possible without the generosity of our sponsors. We sincerely appreciate the continued support of the following partners:

- The Aerospace Corporation
- Boeing
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- GPS Innovation Alliance
- Jacobs Engineering
- Lockheed Martin
- Maxar
- Northrop Grumman
- Sierra Space
- University Space Research Association (USRA)
- Voyager Space

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