

Space Policy Institute

THE GEORGE WASHINGTON UNIVERSITY

Spring 2022 Newsletter

Spring Activities

The Space Policy Institute returned to in-person instruction in Fall 2021 and has continued this in Spring 2022. Some covid-related restrictions remain but we're almost "back to normal."



The Space Policy Institute hosted a Virtual Symposium on U.S. Space Diplomacy in Civil, Commercial and National Security Space Activities on February 23, 2022. Two distinguished panels discussed the latest diplomatic developments affecting space exploration, space commerce, and space security. Panelists discussed the UN Guidelines on the Long-term Sustainability of Space Activities, a new UN Open-Ended Working Group on outer space security, the Artemis Accords for space exploration and development, measures to reduce the growing risk from orbital debris, and how international cooperation might evolve after the end of the International Space Station program in 2030.



Seven panelists joined Space Policy Institute Director Scott Pace, top middle, and Elliott School

Dean Alyssa Ayres, middle right, for the virtual discussion. The panelists were State Department representatives Valda Vikmanis-Keller, director of the Office of Space Affairs, Bureau of Oceans and International Environmental Scientific Affairs; Eric Desautels, director of the Office of Emerging Security Challenges and Defense Policy, Bureau of Arms Control, Verification and Compliance, and Emily Pierce of the Office of the Legal Advisor. Elle Agnew of the Canadian Space Agency; Koji Aribayashi, Embassy of Japan S&T counsellor; Sylvie Espinasse of the European Space Agency's Washington, DC office; and Nicholas Maubert, counselor for Space (CNES) at the Embassy of France represented the international community of major U.S. allies and partners.

SPI Director **Scott Pace** shared perspectives on Japan-U.S. collaborations on the Artemis program and lunar exploration during a January 27, 2022 seminar hosted by JAXA, the Japanese space agency. The Japanese government recently revised the country's roadmap of the Basic Plan on Space Policy and stated its intention to land a Japanese astronaut on the Moon in the latter half of the 2020s. During the event, SHOJI Yoshikazu, Director, International Relations and Research Department, JAXA, presented the latest information on JAXA and its programs, including a look at the JFY2022 budget.

The Space Policy Institute welcomed several papers published by our non-resident and visiting scholars. **Deganit Paikowsky** of the Hebrew University of Jerusalem authored "Winning a seat at the table: Strategic routes by emerging powers to gain privileges in exclusive formal clubs" and was published in the *Journal Contemporary Security Policy*, May 18, 2022. Visiting Scholar **Makusu Tsuizaki** authored an article titled "Raising the flag on the Moon and Mars: future human space exploration in Japan" that was published in *The Space Review*, May 9, 2022.

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Faculty and Staff News

Research Professor Pascale Ehrenfreund, in her role as President of the International Astronautical Federation (IAF), organized the IAF Global Conference on Space for Emerging Countries (GLEC 2022) hosted by its member, Sideralis Foundation in Quito, Ecuador, in May 2022. The conference was organized with the goal to fostering and supporting the international relations that allow space-faring nations and space-developing nations to share practices and data about space activities and their concrete social benefits. The IAF also celebrated its 70th Anniversary during its Spring Meeting in Paris. In the spring semester, Prof. Ehrenfreund has given keynote talks at the 14th European Space Conference, the International Symposium on Outlook and Cooperation on "Near-Earth Orbit Human Space Flight in Beijing, the Third International Conference on the "Role of Space Technology and Applications for Socio-Economic Development" in Pakistan and the Aviation and Space Symposium in St. Gallen. She gave lectures at the ISU Executive Space Course Africa 2022, the University Leiden Space Law Masters, the Space Resources Professional Course in Luxembourg, and the ISU Space Studies Program 2022 in Oeiras, Portugal. Prof. Ehrenfreund serves as President of the International Space University.

Research Professor Henry Hertzfeld had a very productive and busy spring semester. He taught both the space law and space economics courses. He is also faculty advisor to the GW team that competed in the North American rounds of the Manfred Lachs International Space Law Moot Court competition. Our GW team once again this year won the competition and will compete against the winners of teams from other parts of the world in September at the IAC in Paris. Jonathan Clark won best oralist and with his teammate, Even Matsuda, also had a very high scoring memorial. Prof. Hertzfeld delivered two lectures on space law to a class at the International Space University in early February, moderated an expert panel on issues regarding the Registration Convention in late March, and in April gave an invited talk on U.S. law

and space resources in Paris, France at a CNES/University of Paris-Saclay sponsored colloquium. A paper, *The Changing Direction of Innovation in the Space Industry*, that he wrote last year with the able assistance of SPI graduate students Ben Staats and George Leaua was released and published in February as a working paper by the World Intellectual Property Organization. Finally, he continued to be active in the IAF, chairing the Economics Technical Committee, chairing the audit committee for the International Institute of Space Law (IISL) and serving as a member of NOAA ACCRES (Advisory Committee on Commercial Remote Sensing).

Adjunct Professor Pete Hayes served as a reviewer of an "Assessment of Partnership Options for a Small Satellite System for Collecting Scientific Quality Oceanic and Coastal Data" prepared by the Intelligence Community Studies Board of the National Academies of Sciences, Engineering and Medicine. He also gave several presentations in the Spring, including "Options for Strengthening Cross Domain Deterrence" at The Global Space Competition: Security, Markets and Sanctions Conference, Prague Security Studies Institute, 20 June 2022, Prague; "The Space Force in Context" to the Nonproliferation Policy Education Center Space Policy course, 13 May 2022; and "The Effect of High-Altitude Nuclear Detonations on Satellites" to the Nonproliferation Policy Education Center wargame working group, 10 May 2022, online.

Adjunct Professor John. J. Klein completed instruction of his undergraduate course "Space in International Affairs." During the semester, students researched and presented their findings on a cross-section of international space programs, along with writing papers about whether and how the United States should cooperate with China in space. Prof. Klein continued his support for several national security space wargaming events. Also, he is wrapping up his next book, *Small Space Wars: Irregular Warfare and Competition in the Space Domain*, with forthcoming publication by the Naval Institute Press in 2023.

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Assistant Professor Aaron Bateman - I am thrilled to be joining both the Space Policy Institute and the History Department at George Washington, and I wanted to take this opportunity to briefly introduce myself to SPI students and affiliates. I recently received my PhD in the history of science and technology from Johns Hopkins University where I focused my research on the impact of U.S. military space strategy on Western alliance dynamics and superpower relations. Prior to graduate school, I served as a U.S. Air Force intelligence officer with assignments at the National Security Agency and the Pentagon. I have led teams doing global technical intelligence collection operations that included targeting terrorist organizations, nuclear proliferation, and advanced space and missile efforts. I also served as an Air Force liaison to the National Geospatial Intelligence Agency (NGA) and the National Reconnaissance Office (NRO). I will be teaching courses centered on the history of science and technology, intelligence, and spaceflight. My work leans heavily on declassified U.S., Western European, and Soviet documents concerning military and intelligence space programs and policy during the Cold War. I am an advocate of "applied history," and seek to use lessons from the Cold War to inform current debates and decisions concerning space policy. My office is located in the SPI suite, so please feel free to stop by anytime!

Professor Emeritus John M. Logsdon continues his involvement with the Space Policy Institute and promotes SPI in media and public speaking.

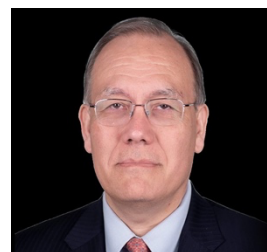
Student News

We would first like to congratulate our May graduates: Benjamin Staats, Matej Siget, Christopher Kiernan Jr., Elisia Hamm, Ryan Fielder, Chiara Edson, Stephanie Delpozzo, Timothy Carroll, Caitlin Buchanan, Logan Brown, Brendan Bordelon, and Amanda Arena who have graduated with their M.A. in International Science and Technology Policy with a space concentration!

During the Fall 2021 and Spring 2022 semesters, space policy students held jobs and internships in many different government agencies and private companies. These included Intelsat, Amazon's Project Kuiper, NASA, The Aerospace Corporation, SpaceX, In-Q-Tel, Smithsonian National Air & Space Museum, Booz Allen Hamilton, SpinLaunch and the House Committee for Science, Space, and Technology, among others.

We would also like to congratulate graduate students Laura Ratliff, Diana Jack and Benjamin Staats for being awarded with the Thatcher Prize for Outstanding Publication in Space Policy. Laura was awarded first prize for her paper "Space Debris Reentry: Inadvertent Geoengineering?" which was presented at the AbSciCon conference in Atlanta, Georgia. Diana Jack and Benjamin Staats were selected as runner ups with respective papers on "Safeguarding US-Japanese Space Partnerships: Export Control for Launch Vehicles" and "Identifying and Mitigating the Inherent Security Risks and Potential Threats of Emerging Rendezvous and Proximity Operations: A Proposed Operational Construct"

Message From the Director



Professor Dr. Scott Pace

It was great to continue in-person classes (albeit masked) in the Spring. We did not give up all our remote teaching tools as sometimes students testing positive would participate while in quarantine.

After a global search, SPI was thrilled to welcome Aaron Bateman as a new assistant professor. Aaron is a historian with a strong policy focus I hope you get a chance to meet this impressive young scholar soon at SPI and other space events around town.

U.S. Senator John Hickenlooper (D-CO) Chair of the Subcommittee on Space and Science convened a hearing on "NASA Accountability and Oversight,"

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February 9, 2022. This hearing examined NASA's multi-directorate approach to Artemis, International Space Station transition and low Earth orbit commercialization, commercial Earth observation data buys, and other collaboration models were addressed. In addition to myself, other panelist were Mr. James Free, Associate Administrator, NASA Exploration Systems Development Mission Directorate; Mr. James Reuter, Associate Administrator, NASA Space Technology Mission Directorate; Dr. Thomas Zurbuchen, Associate Administrator, NASA Science Mission Directorate and Mr. W. William Russell, Director, Government Accountability Office Contracting & National Security Acquisitions Team.



I wrote a short op-ed for *The Hill*, published April 29, 2022 entitled the "US needs more than one way to get to the moon — will Congress support competition?" The main point was to argue that the United States needs more than one way to get humans to the lunar surface. I completed a paper on likely patterns of international human spaceflight cooperation after the end of the International Space Station. I plan to make a presentation on this topic at the September 2022 meeting of the International Astronautical Congress in Paris.

My personal engagements and presentations continued to be extensive. Events included talks to classes at Istanbul University, the Harvard Business School, and an executive education program for congressional staff by the National

Proliferation Education Center. I spoke to several NGOs and government agencies, such as the Prague Security Studies Institute, the Foreign Policy Association, the Congressional Program on US-Japan Relations and the Indo-Pacific NASA Goddard Spaceflight Center, and the Interplanetary Network Special Interest Group, which is led by veterans of the Internet Engineering Task Force, such as Vint Cerf. I also advised the NASA-hosted Positioning, Navigation, and Timing (PNT) advisory board on GPS spectrum and resilience issues. Finally, at the invitation of the State Department, I participated in a U.S.-Viet Nam Workshop on space, in space talks hosted by Embassy Tokyo, and I will be a private sector advisor to the U.S. delegation at the plenary meeting of the UN Committee on the Peaceful Uses of Outer Space in June 2022, in Vienna.

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Contact Us

The Space Policy Institute
1957 E St NW, Suite 403
Washington, D.C. 20052

spi@gwu.edu
(202) 994-2146
<https://spi.elliott.gwu.edu/>