

Space Policy Institute

THE GEORGE WASHINGTON UNIVERSITY

Spring 2023 Newsletter

Spring Events

The Space Policy Institute held a vigorous schedule of events in the first half of 2023, and we thank our event partners for their collaboration and contributions to the space community.



In January SPI and the Secure World Foundation (SWF) hosted a reception honoring the 8th meeting of the U.S.-India Civil Space Joint Working Group. Indian Space Research Organization (ISRO) Chairman S. Somanath offered welcoming remarks, with attendance by Indian and U.S. delegations, and a small number of members of the Washington, DC space community.

In February SPI and the United States Institute of Peace (USIP) presented "China and Strategic Stability in Space: Pathways to Peace in an Era of US-China Strategic Competition." SPI Director, Dr. Scott Pace, moderated the discussion, which featured Carla Freeman of USIP, Bruce MacDonald of Johns Hopkins SAIS, Nate Dailey of the MITRE Corporation, Bhavya Lal of NASA, and Victoria Samson of SWF.

SPI also collaborated with the Space Economy Evolution (SEE) Lab of SDA Bocconi School of Management to host "Space Exploration Investments: Turning Uncertainty into Measurable Risk and Benefits." The workshop examined the underlying complexities of space exploration to help determine if it is distinct from other investment sectors, and to aid in its evaluation. Dr. Pace provided opening

remarks, and moderators included SPI's Henry Hertzfeld, SEE's Clelia Iacomino, Mattia Pianorsi, and Simonetta Di Pippo, and SWF's Ian Christensen. The panels featured many leaders from within and outside of the space industry, and examined issues from these perspectives.

In March SPI hosted Dr. Bhavya Lal, NASA Associate Administrator for the NASA Office of Technology, Policy, and Strategy, who gave the 2023 Bromley Memorial Keynote Lecture. Dr. Lal discussed the policy challenges and opportunities that need to be addressed as we endeavor to go to the Moon and Mars, and discussed these with students from The George Washington University and the University of Ottawa.

SPI also partnered with the Universities Space Research Association (USRA) to host "Cis-Lunar Space: Research for Today, Training for Tomorrow", which analyzed accelerating activity in cislunar space and what it means for scientific advancements, research opportunities, and the future of the cislunar ecosystem. NASA Associate Administrator Robert Cabana provided the keynote address, and Dr. Pace served as the moderator. The first panel addressed cislunar technical challenges and opportunities, and featured leaders from NASA, the U.S. Department of Defense (DOD), and John Hopkins Applied Physics Laboratory. The second panel assessed cislunar commercial innovations and opportunities, with executives from Google, BWX Technologies, and Astrobotic.

In April SPI and the Institute for International Science and Technology Policy (IISTP) presented "Space and Cybersecurity." SPI's Dr. Aaron Bateman moderated the panel,

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which analyzed the nexus of these domains. Panelists included Gil Baram of Stanford University's Center for International Security and Cooperation, Melissa Griffith of Johns Hopkins University's Alperovitch Institute for Cybersecurity Studies, and Neil Sherwin-Peddie of BAE Systems Digital Intelligence.



SPI and the RAND Corporation hosted "The Strategic Defense Initiative in Retrospect" in April as well, which marked the 40th anniversary of the proposed system

with an extensive examination of the past, present, and future of missile defense. Assistant Secretary of State Mallory Stewart offered the keynote lecture, and the panels were moderated by SPI's Dr. Aaron Bateman and Dr. Scott Pace. Panelists included the former Director General of UK SDI Participation Organization, and experts from DOD, Fordham University, the Ronald Reagan Presidential Foundation, the Union of Concerned Scientists, RAND, the National Defense Industrial Association, Sciences Po Center for International Studies, the Middlebury Institute of International Studies at Monterey, Potomac Advocates, the United States Institute of Peace, and CSIS's Missile Defense Project.

In May, SPI co-sponsored "Space Security in an Era of Rising Competition" with the Delta Phi Epsilon Foreign Service Fraternity and the Otero Institute. The event focused on growing space security threats due to the rapid expansion of space technology and international competition. Opening remarks were offered by SPI's Dr. John Klein, and panelists included Kari Bingen of CSIS,

SPI's Dr. Aaron Bateman, and Dr. Brian Weeden of SWF.

SPI also presented "Japanese Space Policy in Transition" with Japanese Diet Member Motoko Mizuno. Ms. Mizuno is a member of the upper house of the Japanese Diet and a former JAXA official. Her remarks covered current Japanese space policy and activities, and challenges for JAXA as Japan expands the range and scope of its space activities.



SPI and the International Institute for Science and Technology Policy hosted "Science and Technology Diplomacy in the Context of the United States' New Techno-

Industrial Strategy" in May. This was the second event in the GW seminar series on science diplomacy. Dr. Bateman gave opening remarks, and the keynote speech was provided by Seth Center, Deputy Special Envoy for Critical and Emerging Technology at the U.S. Department of State (DOS.) The panel was moderated by Dr. Pace and featured Jason Donovan of DOS, Florent Bernard of the EU Delegation, Koji Aribayashi of the Embassy of Japan, and Kim Montgomery of the American Association for the Advancement of Science.



In June, SPI collaborated with Aerospace's Center for Space Policy and Strategy for "Public-Private Synergy in the Space Sector: Risks and Rewards." Dr. Pace opened the

event, and former NASA Administrator

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Jim Bridenstine gave the keynote. SPI's Dr. Hertzfeld led the first discussion, which examined the successes and failures from past public-private collaboration efforts. The panel featured Patricia Cooper of Constellation Advisory, Brian Wessel and Moon Kim of NASA, and Diane Howard of the National Space Council. The second panel was moderated by Aerospace's Karen Jones, and discussed future strategies for public-private collaboration with insights from Tom Gillespie of In-Q-Tel, Chris Kunstadter of Axa – XL, Jen Ross of SCS Frontdoor, and Kevin Pomfret of Williams Mullen.

Faculty and Staff News

SPI Director, Dr. Scott Pace, was honored with the John F. Kennedy Astronautics Award by the American Astronautical Society in March, which recognizes individuals who have made an outstanding contribution by promoting the Nation's space programs for the exploration and utilization of outer space. Dr. Pace published multiple works as well, including "U.S. Space Policy and Theories of International Relations: The Case for Analytical Eclecticism" and "U.S. Space Policy Perspectives on Deterrence and Geopolitics," in the journal *Space Policy*, "Alternative Futures for Crewed Space Cooperation after the International Space Station" in the *Journal of Space Safety Engineering*, and "Space Policy and Security for Japan in the Next Decade" prepared for the Government of Japan. Forthcoming works include "U.S. National Security Interests in Space," a chapter in The Oxford Handbook of Space Security, and "International Governance of the Interplanetary Internet," prepared for the Interplanetary Network Special Interest Group of the Internet Engineering Task Force.

Dr. Pace was the keynote speaker, moderator, or panelist for many speaking

engagements this spring, including "Space Integrated Warfare Senior Leader Series" at the Johns Hopkins Applied Physics Lab, "The Washington Compact" at the Hague Institute for Global Justice, "Space Priorities for the New Congress" at the House Republican Roundtable for Space, Science, and Technology, "China and Strategic Instability in Space" at the U.S. Institute for Peace, "International Governance of an Interplanetary Internet" to the Interplanetary Network Special Interest Group, "Responsible and Sustainable Orbital Use" to the National Space Policy Secretariat Symposium on Ensuring the Safe and Sustainable Use of Outer Space in Tokyo, Japan, "China and International Space Activities" to the Constitutional Democratic Party Study Group of Japan, "Space Policy and International Developments" to the Nippon Electric Corporation, and "Space and Diplomacy" to The Secretary's Open Forum at the U.S. Department of State. He also gave remarks to the U.S. Telcom and Training Institute Workshop on Space, the Non-Proliferation Education Center, and Harvard Business School. Dr. Pace had numerous media appearances this spring, including *Time*, *The Japan Times*, *Republic of Korea Navy magazine*, *Korean Economic Institute Blog*, *Vox*, and *National Security Space Association*, among others.

Professor Henry R. Hertzfeld had an active first half of this year. In February he worked with Italy's Bocconi University and the Secure World Foundation, continuing our partnership with them on current space economic and legal topics. This year's event was held at SPI and was very well attended. The topic focused on financial aspects of space research and exploration and on the issues involved in both measuring the risks of space ventures and how those risks are translated into contracts and government activities. He also, as mentioned above, organized and

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moderated a panel at the June event SPI sponsored with the Aerospace Corporation on Public/Private Synergies. Professor Hertzfeld taught the space law class and was the faculty advisor to the GW team participating in the Manfred Lachs International Space Law Moot court competition. Although the team did not proceed to the North American finals this year, we were well represented in the competition. Finally, although work won't begin until this Fall, he is Co-PI with Dr. Ehrenfreund on a successful proposal to the Templeton Foundation (see note below).

Professor Emeritus Dr. John M. Logsdon continues to be involved at SPI and in the space community. He serves on the Board of Directors of The Planetary Society. He made many electronic and print media appearances this spring, including *Time*, *Scientific American*, *Newsweek*, and *Axios*, among others.

Research Professor Pascale Ehrenfreund continues to serve as President of the Committee on Space Research (COSPAR), and as President of the International Space University. She 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. In her role as COSPAR President she was organizer and moderator at the 60th Session of the Scientific and Technical Subcommittee of UN COPOUS in February 2023 of the COSPAR-UN Symposium "Space-Observation Contributions Supporting Climate Action".

She was a keynote speaker, moderator, or panelist at numerous events this spring, including the IAF Spring Meeting in Paris, the Space Symposium in Colorado Springs, the Global Space Conference on Climate Change in Norway, the Emerging Space conference 2023 in Slovakia, SPACETIDE 2023 in Japan, and the China Commercial Aerospace Forum. Dr.

Ehrenfreund was listed among Stanford University's World Ranking Top 2% Scientists for 2022-2023, and she co-authored multiple journal articles that are published or in review.

She was awarded – together with Dr. Henry Hertzfeld – a grant from the John Templeton Foundation entitled: "Cooperation for the Future of Space Exploration" that will be executed in cooperation between the International Space University and GWU/SPI. The activities and deliverables of this project include academic research, international conferences hosted at GWU, workshops, publications, and working group activities as well as student projects.

Assistant Professor Aaron Bateman had multiple speaking engagements this spring, including "Anglo-American Defense and Intelligence Cooperation in Space" at University College London, "Trust but Verify: Satellite Reconnaissance, Secrecy, and Arms Control Verification" at the University of Oslo Nuclear Group, "International Cooperation and Transatlantic Perspectives" at the Norwegian Space Agency, "U.S. National Security Space Policy: Lessons from the Cold War" at the Norwegian Defense University College, "The Evolution of U.S. Space Strategy during and after the Cold War" at Institut d'Etudes de Stratégie et de Défense in Lyon, France, "Missile Defense at 40" at the Center for Strategic and International Studies in Washington, DC, and an organizer, moderator, and panelist for many of SPI's spring events.

Dr. Bateman is finalizing his first book with MIT Press "Weapons in Space: Politics, Technology, and the Rise and Fall of the Strategic Defense Initiative", which will be published in 2024. His book chapter "The Evolution of U.S. Space Weapons during the Cold War" was included in "Technological Innovation and the Spread of Globalization in the Cold War", and he authored multiple peer

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reviewed publications as well, including “Trust but Verify: Satellite Reconnaissance, Secrecy, and Cold War Arms Control” in *the Journal of Strategic Studies*, “The Prospects for United States–China Space Cooperation are Limited” in *The Bulletin of Atomic Scientists*, and “Secret Partners: The National Reconnaissance Office and the Intelligence-Industrial-Academic Complex” in the *Journal of Intelligence & National Security*.

Dr. Bateman made many media appearances as well, including interviews for the Royal United Services Institute’s *War in Space* podcast, and *The Economist Podcast*.

Adjunct Professor Dr. Peter Hays presented “Space and Nuclear Issues” to the Public Policy and Nuclear Threats (PPNT) Boot Camp at the Institute on Global Conflict and Cooperation. The PPNT prepares participants with the knowledge and tools needed to contribute to the debate on future U.S. nuclear policy, and features lectures, discussions, and debates from distinguished researchers, academics, policy officials, and operational specialists.

Adjunct Professor John “Patsy” Klein took part in planning sessions for U.S. Space Force’s Schriever Wargame, a multinational event that first began in 2001. The wargame involves multiple military and civilian agencies and is designed to analyze critical space issues, identify solutions to common challenges, and advance space support doctrines. He also participated in planning for the National Reconnaissance Office’s Thor’s Hammer wargame.

Dr. Klein had multiple engagements as a featured speaker or panelist this spring, including “Ukraine and Space” at the Center for Space Policy and Strategy, “Outcompeting China in Space” at U.S. Strategic Command’s Strategic Multilayer Assessment, “Space Situational Awareness Roundtable” at the

Atlantic Council, “Space Sustainability Services: The Satellite Industry’s Emerging Green Sector” at SATELLITE 2023 Conference, and “Corbett in Orbit: A Maritime Inspired Space Strategy” at the U.S. Naval War College’s Corbett 100 Conference. He was interviewed for Air University’s *Spacepower* podcast about space strategy and deterrence, and had multiple media mentions, including the *BBC*, *Breaking Defense*, and *SpaceNews*.

Visiting & Non-Resident Scholar News

Dr. Bruno Reynaud de Sousa, Fulbright Visiting Scholar at the Space Policy Institute, hosted “U.S. Foreign Policy and Outer Space” at SPI for the Study of the U.S. Institute (SUSI) on U.S. Foreign Policy 2023 cohort. U.S. Embassies manage the selection, visas, and travel for program participants, and sixteen nations were represented.

SPI Visiting Scholar, **Commander Jaehong Chun**, was published in the Republic of Korea Navy Magazine regarding his experiences at SPI.

SPI Visiting Scholar **Junji Miyazawa** was published in *The Space Review* blog. His article “A Review of Japan’s Space Policy After the H3 Launch Vehicle Failure” explored the setbacks Japan experienced from the launch failure, analyzed some of the contributing causes, and proposed a mechanism for ensuring a better balance of costs and risks among stakeholders.

SPI Non-resident Scholar **Dr. Deganit Paikowsky** was published in *Foreign Policy* in March. Her article “The Space Race’s Shifting Center of Gravity” offered expert analysis on the past and future of space exploration and examined the evolution of what it means to be a space power. In May she was a featured speaker at the Prague Security Studies Institute. Her lecture “The New Space Race and Models of Space Competition”, argued that the future will not be won by superior

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technological advancements, but by those whose economic, legal, social, and political institutions are most innovative, attractive, and favored to other spacefaring nations and entities.

SPI Non-Resident Scholar **Kimitake Nakamura**'s new book, "*Norm Formation in Space Law*", was published in May, which analyzes the characteristics of creating the basic structures of space law, with special consideration of interest adjustment. His work considers the history of these developments, and extrapolates these lessons to examine contemporary issues.

SPI Non-Resident Scholar **Dean Cheng**'s article "The Potential End of China's 'Period of Strategic Opportunity,' and What It Means Militarily" was published by *Breaking Defense*. He had numerous media appearances and mentions this spring, including *Reuters*, NPR's *Morning Edition*, *DW News*, *Voice of America*, *Axios*, and *Task & Purpose*.

Student News

We are very proud of our space policy students Alyse Beauchemin, Celine Der Boghosian, Katherine Neal, Laura Ratliff, Frank Spellman, Megan Thompson, and Victoria Woodburn, who graduated this past May with their M.A. in International Science and Technology Policy. We wish them the best of luck in their future endeavors!

SPI Students worked and interned at multiple civil, national security, commercial, and nonprofit organizations during the fall 2022 semester, including NASA, the Federal Aviation Administration, the State Department, Department of Defense, the Intelligence Community, the Aerospace Corporation, BryceTech, Amazon Web Services, SpinLaunch, Intelsat, the Atlantic Council, the Space Foundation, and more.

We would also like to congratulate the winners of the 2023 Thatcher Prize for Outstanding Publication in Space Policy. Jonathan C. Clark won first prize for his paper "Small Businesses in Space: Updates to Space-Related Small Business Procurement", which was also published in the *Public Contract Law Journal*. 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."

Message From the Director



We continue to benefit from a steady stream of dedicated students interested in science and technology policy and space policy in particular. I continue to be "triple hatted" as

the director of the Space Policy Institute, the director of the International Institute for Science and Technology Policy and the director for the master's program in International Science and Technology Policy. Thus I've had an opportunity to learn about several new subjects such as data governance, artificial intelligence, and energy policy in support of faculty colleagues and students outside the space field. Like many other graduate programs in international affairs, there has been a marked decline in applicants as the world recovers from the pandemic. These declines seem to be concentrated in the more general international affairs programs

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while specialized programs like ours and security studies have had smaller declines.

This March I was able to spend a week in Tokyo meeting with a wide range of Japanese government, industry, and academic people concerned with Japanese space policy. Japan continues to be a strong partner in the Artemis program and is becoming an increasingly important player in space security. In June, I was honored to be included as a private sector advisor to the U.S. delegation as the plenary meeting of the UN Committee on the Peaceful Uses of Outer Space in Vienna. The meeting saw some contentious exchanges over megaconstellations and the governance of space resources. And finally, I've have been working with Internet and space communications experts from several countries on the architecture and governance of a Solar System-wide internet. We hope to have a report on governance recommendations out by September.

We're looking forward to an exciting and busy spring 2023 and hope to see you at SPI events or in the Washington, DC area. Whether preparing future leaders for the realities of working in the space sector, providing a collaborative environment for scholars to pursue new ideas, or equipping today's professionals with the knowledge to tackle current S&T policy issues, we are committed to developing minds to undertake those challenges. We are grateful to our partners, sponsors, and the space community for the opportunity to shape a positive future in space.

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