



## SPACE POLICY INSTITUTE SPRING 2016 NEWSLETTER

### Events

March 8<sup>th</sup>: Professors John Logsdon and Scott Pace participated in a talk on Space Policy to the MIT Club of DC, part of a series on “The Technological Frontiers of Space.” A description of the event is available [online](#).

March 31<sup>st</sup>: Space Weather was the topic of the 2016 Universities Space Research Association symposium, held in conjunction with the Space Policy Institute. Speakers included representatives from the Office of Science and Technology Policy, the Department of Defense, Homeland Security, NASA, NOAA, the National Science Foundation, and universities. Panel discussions addressed research and partnership opportunities between the university and government space communities in better predicting space weather events and mitigating their effects. The New Jersey Institute of Technology released [an article](#) summarizing the event. The widely-attended event proved very informative, and the speakers have agreed to make their presentations available online via the SPI website.

April 8<sup>th</sup>: Dr. Scott Pace spoke as part of a panel on [Spectrum Protection: An Examination of the Policy and Practical Implications](#), hosted by the Secure World Foundation. Alongside him were Mr. Christopher Hegarty of MITRE Corporation, Mr. James Miller of NASA, and Ms. Jennifer Warren of Lockheed Martin. Dr. Pace's and Mr.

Miller's presentations are available through SWF, as well as an online video record of the discussion.

April 15<sup>th</sup>: Cptn. Hyejin An, of the Republic of Korea Air Force, made the case for a Korean Early Warning satellite system in light of recent developments in North Korea's threatening capabilities. The needs of the Republic of Korea were weighed against the capabilities offered by different systems. Cptn. An's presentation is available [online](#).

April 26-27<sup>th</sup>:

<http://summit.geobuiz.com/>

The Space Policy Institute co-sponsored and supported the organization of two industry conferences on application of geospatial technologies, known as “GeoBuiz”, in Bethesda, MD.



May 5<sup>th</sup>: The Space Policy Institute hosted a “[Space and Cyber Security](#)” talk lead by Gen. William Shelton (ret.), with Secure World Foundation and Orbital-ATK.

May 17-19<sup>th</sup>: The George Washington



## SPACE POLICY INSTITUTE SPRING 2016 NEWSLETTER

University hosted the [Humans to Mars Summit 2016](#) in conjunction with SPI. The highly successful event featured many informative speakers, including Dava Newman, Buzz Aldrin, Andy Weir, and Ellen Stofan among many others.



### SPI Affiliated Faculty News

**Prof. Henry Hertzfeld**, in addition to teaching the Space Law course, delivered a lecture at the Aerospace Corporation, El Segundo, CA titled: *Outer Space: A Global Commons & The New Commercial Space Act (H.R. 2262)*. He reviewed the relationship between the United States approach for private sector incentives for using space resources and for other on-orbit activities as they becomes a future reality and the important and difficult issues that are inherent in thinking about all of space as a “commons.”

**Prof. Michael Keidar** co-authored a newly-published journal paper: High Thrust-to-Power Ratio Micro-Cathode ArcThruster in AIP Advances. He also received the 2016 AIAA National Capital Section Engineer of the Year.

Articles regarding his work can be found in the [GW Hatchet](#) and on [Phys.Org](#).

**Prof. Emeritus John Logsdon** began intensive research for his next book, with the working title of *Ronald Reagan and the Space Frontier*. This study will follow earlier books by Professor Logsdon on the space decisions of Presidents Kennedy and Nixon. Target date for publication of the new study is the first half of 2018. He has also signed a contract with Penguin Classics to prepare a one volume collection of documents tracing the history of the U.S. human space flight program. This publication will draw heavily for the documents included in the seven-volume NASA series *Exploring the Unknown*, for which Logsdon served as general editor. The collection is titled *A Few Small Steps* and will also appear in 2018. Professor Logsdon continues his service as a member of the Board of Directors of The Planetary Society and the Academic Council of the International Space University in Strasbourg, France.

**Professor Zoe Szajnfarber's** SzajnLab had a very active spring semester. Three new projects of note in the Spring 2016 semester include: PhD student Ademir Vrolijk began work with the NASA Centennial Challenges, adding new scope to the group's existing NASA grant; PhD student Jason Crusan began conducting a series of open innovation



## SPACE POLICY INSTITUTE

### SPRING 2016 NEWSLETTER

field experiments as part of the group's large NSF INSPIRE grant; and Zoe Szajnfarder and fellow EMSE Professor, Erica Gralla, won a new NSF grant to begin work with JPL's Team X. PhD student Samantha Marquart Brainard (SPI Alumna) and Zoe Szajnfarder continue work with the University of Alabama in Huntsville Systems Engineering Consortium focusing on the impacts of government oversight on the acquisition of space systems. Outputs this semester include a presentation at the Council on Systems Engineering Research conference in March and an upcoming presentation at the Air Force Research Laboratory. Samantha Marquart Brainard also acted as the manager of the 2016 Space Generation Fusion Forum held in conjunction with the Space Foundation's 32nd Space Symposium in Colorado Springs, CO. In other conference news, Prof. Szajnfarder is the general chair of the International Engineering Systems Symposium (CESUN) conference to be held at GWU in late June.

**Prof. Pete Hays** presented the "Implications of Hostile Acts on Sustainability of Outer Space Activities" for the Third Prague Security Studies Institute (PSSI) Space Security Conference. "Advancing the Trilateral Europe-U.S.-Japan Space Security Partnership". He was also an invited participant at Space Security Index Working Group and Governance Group meetings, for the Institute of Air and Space Law at McGill

University, Montreal, and invited to serve as member of Advisory Board for Center for Strategic and International Studies Missile Defense Project. He has made several other presentations on space policy, space law, and space security to various bodies domestic and international.

**Dr. Kris Lehnhardt** was recently featured in an article for the GW School of Medicine and Health Sciences biannual magazine entitled "[Medicine Beyond The Horizon](#)". He is preparing to head to Haifa, Israel for three weeks this summer, where he will be once again chairing the Human Performance in Space Department at the International Space University Space Studies Program. Dr. Lehnhardt recently presented at the 2016 Aerospace Medical Association conference on "Medical Clearance Recommendations for Commercial Human Spaceflight Operations: Past, Present, and Future."

#### SPI Student News

Nathan Boll gave the [commencement address](#), at the University of Montana Western Saturday, May 7th. He is an alumnus of the University, which expects to set a record for number of degrees awarded at the institution this year.

Zack Hester's article [NASA's Lessons Learned in Long-Duration Spaceflight: The Shuttle-Mir Program](#) was published in Quest Vol. 23, No. 1, 2016.



## SPACE POLICY INSTITUTE SPRING 2016 NEWSLETTER

Ryan Green's paper "Improving the Capital Budgeting Process for Federal Investments in Space" was a finalist for the American Association for Budget and Program Analysis's 2016 Marykathryn Kubat award.

### SPI Hosts Visiting Scholars

HyeJin An

*Airforce, Republic of Korea*

*(November 2015 - April 2016)*

*Research Topic: Plan for Establishing a Korea Early Warning Satellite*

Keiichi Tabuchi

*Research Promotion Bureau, Japan*

*(March 2016 - April 2017)*

*Research Topic: Political Trends of Space Development and Utilization*

Olga Stelmakh

*McGill Institute of Air and Space Law, Canada*

*(March 2016 - May 2016)*

*Research Topic: Non-US Satellite Registration Practices and Procedures*

### News from the Director

We have successfully renewed the Space Policy Institute's charter with the university for 2016 through 2021.

I have continued to work on a wide range of U.S. civil, commercial, and national security space policies. Internationally, I have focused on space cooperation with Japan. I met this past year with senior Japanese

Diet Members, members of the Japanese Ministry of Foreign Affairs, and the Cabinet Office for space policy, among others. I was also part of a Mansfield Foundation effort, termed the Japan Space Forum, to recommend specific measures to improve U.S.-Japan space cooperation in light of regional security and economic challenges. On this topic, I had a peer-reviewed article on "Space Cooperation Among Order-Building Powers" in the May 2016 issue of *Space Policy*.

With former NSC space staffer Peter Marquez, we co-chair the space policy group for the John Hay Initiative, a group of foreign affairs experts who publish a monthly newsletter on international relations. For this group, I have written on the U.S. use of Russian rocket engines, the Russian space program, U.S. civil space leadership, and the prospects for an international space code of conduct. Most recently, *Foreign Affairs* published my article "Regulating Outer Space: Making Space Commerce a Priority," in its May 2016 issue.

Under contract through GW, I am working with NASA on technical and policy issues related to the Global Positioning System. A continuing challenge has been regulatory protection of the radio frequency spectrum used by GPS from interference by commercial communication sources. In addition, I have been supporting efforts to update the GPS performance standard



## SPACE POLICY INSTITUTE SPRING 2016 NEWSLETTER

for navigation and positions services provided to spacecraft and serve as a senior advisor to a federal advisory committee for space-based positioning, navigation, and timing. I am also a member of a National Research Council committee on space protection and defense that just completed a study of “space resilience” in response to a congressional mandate.

I continue to serve as a private sector advisor to the US delegation in UN meetings of the Committee on the Peaceful Uses of Outer Space (COPUOS) in Vienna, Austria. Meeting topics focused on the development of guidelines for the long-term sustainability of space activities (e.g., mitigating the risk of orbital debris).

I gave numerous invited talks and participated in a wide variety of symposium and conferences in the United States and overseas. Presentations in the United States were made to NASA, the U.S. Department of State, Federal Communications Commission, Aerospace Corporation, Institute for Defense Analysis, Raytheon, Secure World Foundation, Mansfield Foundation, the MIT Club of Washington, and the California Institute of Technology.

### SPI in the News

On the Web, you can find SPI mentions with *Bloomberg*, *The Rival*, *Phys.org*, *The Verge*, *Buzzfeed*, *NBCNews.com*, and *Vice News*. Our professors and

students appeared in magazines such as *National Geographic*, *Scientific American*, *Popular Science*, *Wired*, *Satellite Today*, *Nature*, *U.S. News and World Report*. SPI also can be found in U.S. periodicals like the *Associated Press*, *USA Today*, *Politico*, *Washington Post*, *Houston Chronicle*, *Wall Street Journal*, *Orlando Sentinel*, and *U.S. News and World Report*, as well as the foreign prints *RIA Novosti*, *McLean's*, *The Guardian*, *AFP*, *ChosunBiz*, and *Moscow Times*. Although we didn't make it on to television, SPI came up in a radio broadcast on *CBS LA*,

Prof. Logsdon was quoted in publications such as *The Washington Post*, appearing on National Public Radio programs and Chinese television, and filmed an interview with the National Geographic's ambitious series *Mars*, which will air beginning in November 2016.

### Special Thanks to SPI Sponsors

Aerojet Rocketdyne  
Aerospace Corporation  
Arianespace  
Ball Aerospace  
Boeing  
Harris  
Innovative Analytics and Training  
Intelsat General  
Lockheed Martin  
Mike International  
Mitsubishi Corporation  
OrbitalATK  
Raytheon  
United Launch Alliance  
Universities Space Research Association