



SPACE POLICY INSTITUTE

FALL-WINTER 2015/2016 NEWSLETTER

Events

September 9th: A Secure World Foundation workshop conducted with The Space Policy Institute discussed the meaning of self-defense in a space context. As a facet of space security, what actions qualify as self-defense in space is still unclear. Much more analysis of possible scenarios was needed before a definition could be reached that satisfied all parties with current and future interests in space protection and defense. The workshop findings can be found [here](#).

October 9th: Prof. Jack Burns, Vice President Emeritus at the University of Colorado, presented a distinguished lecture on "Exploring the Universe from the Moon." He explained how discoveries since Apollo have revitalized scientific interest in the Moon, discussing potential in the Moon itself, use of the Moon as a site for deep-space observation, and how lunar exploration could further space exploration as a whole. The slides from his talk can be viewed [here](#).

October 16th: The Space Policy Institute hosted an informal discussion wherein Dr. Philippe Brunet, European Commission Director for Space Policy, Copernicus, and Defense Industry described the plans of the European Union to become the leading European actor in space policy and programs. Attending the discussion were senior individuals from the Washington space policy community.



November 17th: Professor Scott Pace provided [testimony](#) to the House Subcommittees on Environment and Space regarding the opportunities and potential for commercial remote sensing, as well as potential obstacles or concerns that should be considered in crafting new space policies.

November 18th: The Space Policy Institute and the Space Foundation organized a networking and mentoring event between current and future space leaders. We hope that this event will be the first in a series, as both mentors and students considered it to be a great success.

November 20th: Visiting Scholar Nammi Choe presented a talk analyzing U.S. non-proliferation policies, particularly in relation to how they might affect the development of Korean space transportation vehicles.

December 2nd-4th: The Space Policy Institute worked with ExploreMars to host the "Affording Mars" workshops. As the name suggests, this series of discussions focused on reducing the costs associated with the challenges of



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Martian exploration.

December 18th: The George Washington Space Society Holiday Party concluded the year with a casual celebration of students, alumni and friends to discuss what 2016 might bring.

January 26th: A group of University of Tokyo students met with Dr. Scott Pace, Dr. Henry Hertzfeld, and Mr. Craig Dobson of NASA on January 27th to discuss a current regulatory and technical issues in space policy, particularly relating to Earth observation and orbital debris.



February 12th: Visiting Scholar Dr. Mazlan Othman, Former Director of UNOOSA, presented a talk on “Malaysia's Vision for Space and National Space Policy,” as well as some of the issues that have emerged in the process of development and implementation of the National Space Policy. She has made the presentation available [here](#).

SPI Affiliated Faculty News

Dr. Scott Pace spoke on [The Implications of U.S. Space Policy](#)

[Choices](#) at the California Institute of Technology on August 18 as part of their Keck Lecture Series. He later spoke at a meeting of the International Space Radio Monitoring Group on September 1 that was hosted by the Federal Communications Commission. In January 2016, he traveled to Japan to speak to the National Institute for Defense Studies and the University of Tokyo on the use of space systems for improving Maritime Domain Awareness in the East Pacific.

Dr. Pascale Ehrenfreund became Chair of the Executive Board of the German Aerospace Center (DLR). She is now responsible for a wide range of German space activities and research.

Prof. Henry Hertzfeld held a TED Talk regarding the legal theory for ownership in space and the future of space commercialization. His talk can be watched on YouTube [here](#). He co-chairs the American Branch of the International Law Association's Space Law Committee. He also continues to coach the GWU Law School's Moot Court Team. He contributed to the literature on space and the global economy at the recent International Astronautical Congress in Jerusalem, and participated in an FAA/AST panel on commercial space infrastructure. Supporting the development of space policy on the Hill, Prof. Hertzfeld provided input on the commercial space legislation that became H.R. 2262 “U.S. Commercial Space Launch Competitiveness Act”, dealing with space resource property rights.



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Students of **Prof. Michael Keidar** deployed a new micro-cathode arc thruster propulsion system to space last year, which could extend the lifetime of orbital CubeSats by providing the thrust necessary to combat Earth's drag. Later this year, they will be launching the CANYVAL-X virtual telescope technology demonstrator, which will attempt to fly two CubeSats in formation in a sun-synchronous orbit 435 miles apart. While focusing on helioscience for this test, the capabilities demonstrated would open up new possibilities for telescopes in service of all fields of space science.

Prof. Emeritus John Logsdon's foremost effort this year was in conducting research for his book on civilian space policy during the Reagan Administration. He found time to give a talk on his Nixon-era space policy book "After Apollo" at the Goddard Space Flight Center, though. He also continued his work with the International Space University Academic Council and the Planetary Society Board of Directors participating in meetings in Strasbourg, France and New York City, New York respectively.

Prof. Pete Hays recently made presentations on space policy to both the Japanese Ministry of Defense and the Ministry of Foreign Affairs Executive Programs in February 2016. He also moderated a panel on "Space and National Security: The U.S.

Perspective" at the USAF Academy last year. He has made additional presentations on space security in Tokyo and Washington, D. C., and participated in the Secure World Foundation workshop on space self-defense.

Dr. Kris Lehnhardt is now teaching the fifth iteration of his graduate course "Introduction to Human Health in Space". He has recently been an invited speaker at SpaceVision (the national Students for the Exploration and Development of Space conference) and the Office of Science and Technology Policy at The White House. He will reprise his role this upcoming year as the Chair of the Human Performance in Space Department at the International Space University, where he has been appointed as an Adjunct Professor.

SPI Research Associates Timothy Hammond and Holly Birdsall of Duke University have continued researching microgravity biology. Despite setbacks caused by the June 28 SpaceX CRS-7 loss they have submitted three manuscripts to life science journals based on work already accomplished.

SPI Student News

Zack Hester wrote the article "[NASA's Lessons Learned in Long-Duration Spaceflight: The Shuttle-Mir Program](#)," which was published by Quest in Volume 23 #1.

Katrina Laygo ISTP '14 completed



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Navy Office Candidate School and Naval Intelligence School and is currently assigned to a naval base in Hawaii.



Dr. Scott Pace, former Visiting Scholar Deganit Paikowsky, and SPI alumni Laura Delgado, Jordan Sotudeh, Raphael Perrino, and Nikolai Joseph attended the October 2015 IAC in Jerusalem, Israel.



SPI Alum Mia Brown wrote an article titled [Launch Dilemma: The role of the commercial sector in America's space program](#) that was published by the

Brookings Institution. She considers the value of reusability in a launch vehicle and how RLVs might influence future space development.

NASA Administrator Bolden spoke to the Fall 2015 U.S. Space Policy Class in December 2015.



SPI Hosts Visiting Scholars

We hosted a number of visiting scholars on a wide variety of topics:

Nammi Choe
Korean Aerospace Research Institute,
Republic of Korea (January 2015 –
December 2015)
Research Topic: *U.S. Non-Proliferation
Policy towards Asian Space Activities*

Arnaud Saint-Martin
Versailles Saint-Quentin-en-Yvelines
University (Sept 2015)
Research Topic: *Social History of the
Copernicus Program*

HyeJin An
Airforce, Republic of Korea
(November 2015 - April 2016)
Research Topic: *Plan for Establishing a
Korea Early Warning Satellite*



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Mazlan Othman
Academy of Sciences, Malaysia
(November 2015 – February 2016)
Research Topic: *Lessons for Science,
Technology, and Innovation Policy
Initiatives in Malaysia and the United
States*

SPI in the News

In the past several months you may have read comments by a member of the Space Policy Institute on the Web for Bloomberg, The Rival, Phys.org, The Verge, BuzzFeed, NBCNews.com, and Vice News; on in magazines such as the National Geographic, Scientific American, Popular Science, Wired, and Satellite Today, in print for the Associated Press, USA Today, Politico, the Washington Post, Houston Chronicle, Wall Street Journal, and Orlando Sentinel, or foreign print outlets such as RIA Novosti, McLean's, The Guardian, AFP, and ChosunBiz.

News from the Director



Since the end of the last academic year, I have been busy with a number of advisory boards and committees. These have included a special study for the National Research Council Committee and Space Protection and Defense, serving as a private sector advisor to the U.S. delegation for the UN Committee on the Peaceful Uses of Outer Space, the NOAA Advisory Committee on

Commercial Remote Sensing, the Position Navigation and Timing Advisory Board, the GPS Independent Assessment Team, and serving as the space co-chair for the John Hay Initiative, an independent foreign policy advisory group.

One special event of note was the presentation of a flown U.S. flag from the first Orion flight test (EFT-1) to



Dean David Dolling for his leadership of the GW School of Engineering and Applied Science.

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