



SPACE POLICY INSTITUTE FALL/WINTER 2013 NEWSLETTER

The Space Policy Institute Hosts Distinguished Speakers

The Space Policy Institute welcomed a number of notable experts who spoke to students and members of the local space policy community.



General William L. Shelton, Commander of Air Force Space Command, spoke to students and professionals on January 7th. His lecture, "Space and Cyberspace: Enduring Missions in a Changing World," described what the Air Force Space Command does for the nation, and how the command works with others to achieve its missions in space and cyberspace. A video of the talk is accessible on the Elliott School website.

George Washington University space policy students also heard from several guest speakers in their classes, including Mike Griffin, former NASA Administrator; Al Condes, NASA Deputy Associate Administrator for International and Interagency Relations; Richard Buenneke, Senior

Adviser for Space Policy at the State Department; Chris Shank, Policy Director for the House Science, Space, and Technology Committee; Chirag Parikh, Director of Space Policy at the National Security Council; and Charles Bolden, NASA Administrator (pictured below).



33rd International Electric Propulsion Conference

Led by GW Professor of Mechanical and Aerospace Engineering, Michael Keidar, the IEPC (October 6th – 10th) invited researchers from all over the world to submit papers for presentation. This year was the first time it was held on the GW campus. The conference received a record-breaking number of submissions despite the government shutdown. Presented papers can be found online at www.iepc2013.org.

SPI and NanoRacks Seminar & Reception on ISS Utilization

SPI, in cooperation with NanoRacks LLC, hosted a seminar and reception for members of the space community in honor of the cooperative achievements made possible by the

International Space Station. Mr. Michael Suffredini, NASA's ISS program manager, and Masahiko Sato, Director of JAXA's DC Office, spoke to attendees about ISS results made possible by commercial and international collaboration.

SPI Faculty at the International Astronautical Conference in Beijing

SPI Director Scott Pace, Professor Henry Hertzfeld, Professor Pascale Ehrenfreund, and Professor Emeritus John Logsdon all participated extensively at the IAC in Beijing this past September. In addition to paper presentations, SPI signed a joint statement with the Beijing Institute of Technology's Institute of Space Law (pictured below) on the need for cooperation and consultation on matters of international space law.



SPI Students

The Space Policy Institute welcomed six new Masters students this term, all of who were able to receive at least partial fellowships thanks to SPI's generous supporters.

Over the summer and fall the SPI's Masters students secured jobs and

internships in a variety of organizations, including NASA, OSTP, Futron Corporation, SAIC, and the Aerospace Industries Association.

The George Washington Space Society organized several events for SPI students and alumni this term, including two launch viewings at Wallops Island and a widely attended holiday gathering of the space community.



Trent Schindler, an MA candidate at SPI, was interviewed by Russia Today on international cooperation in space, the subject of his poster presentation at the January 9th International Academy of Astronautics Conference in Washington, D.C.

Brian Weeden, a PhD student and Secure World Foundation Technical Advisor, participated as Vice-Chair of the Space Security Council at the 2013 World Economic Forum Summit in Abu Dhabi.

SPI Faculty News

Professor Zoe Szajnfarber, based in the School of Engineering and Applied Science, had a busy summer and fall semester. Her research continues to study policy questions such as what drives technical innovation in complex government organizations and how

innovation can be encouraged more effectively. Her research is currently funded by grants from NASA and the National Science Foundation.

Research conducted over the summer included Isabel Bignon's (PhD student) investigation into scientists and engineers' task discretion and preference structures at Goddard Spaceflight Center. Alex Burg (PhD student) spent his summer at NASA's Jet Propulsion Laboratory researching the interdependencies between technology development and missions within planetary science in addition to his main research focusing on modeling organizational R&D processes. Ademir Vrolijk (MS student) studied centralized and decentralized space R&D management strategies and their applications within NASA and ESA. His current work with Prof Szajnfarter includes investigating NASA's Asteroid Grand Challenge and the responses received by NASA during the RFI period. Zach Pirtle (PhD student) continued his research on the role of technological innovation in enabling new capabilities and shaping political debate. Jason Crusan's (PhD student) research continued on the management and optimization of the technology capability acquisition methods and the use of open innovation as a sourcing mechanism.

Dr. Szajnfarter's lab welcomed two new PhD students this fall, Lt. Col. Amy Cox (USAF) and Samantha Marquart. Cox's work investigates the way ideas for new technologies and management solutions are solicited and implemented in the USAF.

Marquart's research is focused on understanding the long-term implications of restarting government space programs, with a particular focus on the implementation of the EELV program. Further details can be found at www.seas.gwu.edu/~zszajnf

Professor Henry Hertzfeld had a busy fall and travelled extensively. He was invited to be a Visiting Lecturer at several universities in China and lectured to students at law schools in Beijing at the Beijing Institute of Technology, Beihang University, and in Xi'an at the Northwest University of Politics and Law. In addition he delivered a paper on "Binding Arbitration as a Dispute Resolution Mechanism" at the IAC/IISL meetings that were held in Beijing in September. He also spoke on a space law panel in late October in Washington on Space Debris and Liability and as Co-Chair of the Space Law Committee for the American Branch of the International Law Association, participated in a panel discussion in New York.



Prof. Hertzfeld delivered a talk on the structure and history of U.S. space law at a colloquium on Space Law and Sovereignty in Bogota, Columbia in early November. Profs. Hertzfeld and Pace had an article, "International

Cooperation on Human Lunar Heritage,” published in the November 29th issue of Science Magazine.

Professor Pascale Ehrenfreund

continued to serve as a Science Team Member on the “MarcoPolo-R Asteroid Sample Return Mission” of the European Space Agency’s Cosmic Vision M3 program. Marco Polo-R will be one of five M3 missions that will be down-selected in January 2014. As chair of the Cosmic study: “Dynamics of Space Exploration Strategies and Future Outlook” under the auspices of the International Academy of Astronautics she edited a White Paper for the Head of Space Agency Summit in January 2014. She served as member of the National Research Council Committee on Human Spaceflight and attended meetings in Woods Hole and Washington DC. In September, Dr. Ehrenfreund attended the 64th Astronautical Congress in Beijing, China and chaired the session on “International Space Exploration Policies and Programmes.” She also presented a paper on “Responsible space exploration and use: balancing stakeholder interests”. In October she participated in the Austrian Science Talks in Los Angeles, organized in cooperation with the Office of Science and Technology of the Austrian Embassy in Washington DC. In November she attended the 1st COSPAR Symposium in Bangkok, Thailand and delivered a Plenary Lecture on “Astrobiology: origin and evolution of life in the Universe”. Dr. Ehrenfreund was elected into the Horizon2020 Space Advisory Group of the European Commission and started her term in November 2013. During

the fall Dr. Pascale Ehrenfreund published several peer-reviewed papers in Space Policy, Acta Astronautica and New Space.

Professor Emeritus John. Logsdon

is continuing research and writing for his next book, *“After Apollo? Richard Nixon and the U.S. Space Program.”* He also spoke at the National Archives on Nixon's space legacy in honor of the 100th anniversary of the birth of President Nixon, after being introduced by the U.S. Archivist. Dr. Logsdon's chapter, “Retiring the Space Shuttle: What Next?” was included in the AIAA book *Space Shuttle Legacy*. He was also honored with the Frank J. Malina Astronautics Medal from the International Astronautical Federation for his “outstanding contributions.”

Dr. Logsdon has been travelling extensively since the end of the last academic year. He spent two weeks in Strasbourg, France teaching at the International Space University's Space Studies Program, attended the International Astronautical Congress in Beijing, participated in a Colby College symposium on "Relating the History of Technology to Policy Choice," and one at MIT for the 20th anniversary of the first Hubble servicing mission.

SPI Hosts Visiting Scholars

The Space Policy Institute continued to host international scholars this past summer and fall. The scholars came from all over the globe to study and to conduct their own research. This fall, the Institute hosted Yasuhito Fukushima from the National Institute

of Defense Studies, Andrew Lee from the ISU, Li Shoping, Director of Space Law at Beijing Institute of Technology, and Tomokazu Ueta from the Japanese Ministry of Education (MEXT). Mr. Fukushima's work looked at the military value of space. Mr. Lee studied the legal and policy issues surrounding space debris. Dr. Shouping studied the legal issues of new commercial uses of outer space. Mr. Ueta is analyzing space policy affecting the competitiveness of space launchers in international markets.

Space Policy in the News

In the past several months you may have heard a member from the Space Policy Institute in the media. The Institute was cited extensively as an expert source in television, radio, and print media. SPI professors were seen on television, like C-SPAN; heard on radio, such as NPR in DC, KCRW in LA, The Space Show, TBS in S. Korea; seen on the Web at Space.com, Forbes, The Diplomat and others; read in magazines/periodicals like *New Scientist*, *Science*, *IEEE Spectrum*, *Quartz*, *National Geographic*, *Quest*, *Florida Today*, *Space News*, *Popular Mechanics*, *Washington Post*, *Associated Press*, *Der Spiegel*, *Le Pointe*, and *Global Times*.

News from the Director



This has been a busy fall semester, with numerous talks and international visitors. Along with other SPI faculty and students I

attended the IAC in Beijing, China in September. I also helped organize a space security conference in Tokyo in October that was held under the auspices of the Japanese Office of National Space Policy and the Prague Security Studies Institute. This conference focused on measures to improved space security through closer cooperation between Japan, the United States, and Europe. I provided a chapter on a geopolitical rational for space exploration in in a new book published by the George C. Marshall Institute, *America's Space Futures*.

I was selected by AIAA to give the Durand Lectureship in Public Policy at a conference in Washington, D.C. on January 13th – a special honor for me. I also moderated a panel of scientific and technical experts on the Asteroid Redirect Mission for House staffers on July 12th. I continue to be engaged in debates involving radio frequency spectrum and GPS policy issues, including serving as a special advisor to the Positioning, Navigation, and Timing Advisory Board. Separately, I am also serving on the NOAA Advisory Committee on Commercial Remote Sensing and am concerned with the health of the U.S. industrial base in remote sensing.

U.S. support for extending ISS operations to 2024 and a growing international consensus for extending human space exploration efforts to cis-lunar space are reasons for cautious optimism. This year will likely see additional opportunities to comment and provide analysis on the future of US space activities and international cooperation.

Please visit us on the web at:

www.gwu.edu/~spi

Alumni: we are looking to update our records. Please contact the Space Policy Institute if you have a new e-mail address.

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