

THE GEORGE WASHINGTON UNIVERSITY THE ELLIOTT SCHOOL OF INTERNATIONAL AFFAIRS

SPACE POLICY INSTITUTE Spring 2009 Newsletter

Space Policy Institute Hosts a Symposium on Space and the Presidential Transition

One month following the November Presidential election, the Space Policy Institute hosted a major event under its new director, Dr. Scott Pace. As a result of generous support by Lockheed Martin and Boeing, this by invitation event hosted prominent speakers from the space policy community including former director of the National Security Space Office, Maj. Gen. James Armor (ret.), President and CEO of Aerospace Industries Association Marion Blakey, Jeffrey Bingham of the Senate Committee on Commerce, Science, and Transportation, John Higginbotham CEO of Integral Industries, and Dr. John M. Logsdon, Charles Lindbergh Chair at the National Air & Space Museum; presidential transition experts Stephen Hess of the Brookings Institution and Gail Lovelace from the General Services Administration; as well as Vint Cerf from Google and Deborah Wince-Smith from the Council on

Organics Experiment Aboard the International Space Station



The experiment *Organics* (research professor: Pascale Ehrenfreund), part of the EXPOSE-R facility for the International Space Station (ISS), was prepared for flight and delivered to DLR in August 2008. EXPOSE-R is a multi-user facility attached to an external platform at the outer hull of the service module of the ISS. EXPOSE-R accommodates 10 biological and biochemical experiments, which are mounted in three removable containers. EXPOSE-R allows



From left to right Paul Carliner, Leslee Gilbert, Jeffery Bingham, photo credit Oxana Minchenko.

Competitiveness. Conference attendees gathered for the day at the Jack Morton Auditorium on The George Washington University campus for presentations and discussions of the critical decisions and issues facing the new administration and Congress on the future of the space industry, R&D and innovation in the United States. the management of military and intelligence space programs and the future of U.S. human spaceflight beyond the space shuttle.♦

defined long-term and/or short-term exposure of experiments to solar UV under vacuum or controlled atmosphere. The Organics experiment investigates the evolution of polycylic aromatic hydrocarbons (PAHs) that are observed in galactic and extragalactic regions and that represent the most abundant carbonaceous molecules in space. EXPOSE-R was launched to the International Space Station ISS (Russian module) in November 2008. The first space walk to attach EXPOSE-R to the external URM-D unit of the ISS failed due to technical problems on December 23' 2008. Another EVA on March 10, 2009, was successful and activated EXPOSE-R and sample exposure. Space exposure is planned for a period of at least 12-18 months. Then the trays will be recovered by EVA again, brought into the RS-ISS, and returned to Earth by the manned SOYUZ return capsule in 2010. Ehrenfreund and team will use the results to determine constraints on the photochemistry and evolution of large organic molecules in space.

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The Adventures of Dr. Colleen Hartman:

Colleen Hartman conducted the hiahlv successful class "The Politics of Space and Earth Science" in which NASA, NOAA, Department of Interior (USGS), and DOD case studies she assembled were critiqued by Elliott School students. The prioritization of space and Earth science program, pondered daily in the media, the White House, and educational institutions without a clear resolution, was enthusiastically debated in her class. Dr. Hartman's course employed practical exercises and fresh case studies for students to master a broad understanding of current space and Earth science policy issues and, secondly, for students to take away a tool kit of strategic approaches to successfully advocate their ideas and negotiate within the Federal bureaucracy. Student responses to Dr. Hartman's class were ardently positive, including: "This course was by far the best Space Policy course I've taken ever," and "Great class and great professor."

Dr. Hartman also continues her research into space science, including a detailed analysis of recent NASA science mission successes and failures with the goal of modifying the current "early warning system" for program health. Her practical analysis will be useful to NASA's senior executives and to students of space policy at the Elliott School. Dr. Hartman has more recently begun a critique of the roles of NASA's space science program and project management, including how the roles at NASA's field centers differ from that played by NASA Headquarters. Dr. Hartman also saw the successful launch of the NOAA N Prime mission from Vandenberg Air Force Base in January 2009. As students of Dr. Hartman know well, the NOAA N Prime mission was a key case study in her class due to her intimate knowledge and participation in the many trials and tribulations of this now successful weather satellite. Dr. Hartman also advised the Public Broadcasting System (PBS) on upcoming programs on space science. Professor Hartman took Elliott School students on a tour of the Goddard Space Flight Center in Greenbelt, MD, so they could look at the world's largest clean room, Hubble Space Telescope hardware and training tools, the Triana mission hardware, heliophysics instruments, as well as talk to key engineers and scientists from the center.



"The Politics of Earth and Space Science" class inspects NASA flight hardware.

Professor Hartman is planning another trip to Goddard in the fall, which will be announced to all students.♦

Primi Piatti Dinner Series Hosts Young & Lyles with More to Come

The tradition of the Primi Piatti dinner series hosted by the Space Policy Institute continues through the generous support by the Aerospace Corporation, Boeing, Lockheed Martin, United Space Alliance, the U.S. GPS Industry Council, and Arianespace. In November, A. Thomas Young joined the group to present the findings from the congressionally mandated National Security Space Independent Assessment Panel The panel, chaired by Young and Report. comprised of senior space leaders, assessed the organization and management of the department for national security space and defined future actions to address a range of improvements. In March, the dinner series hosted Gen. Lester L. Lyles (USAF ret.) and discussed the National Academies project on "Rationale and Goals of the U.S. Civil Space Program." The report effort, chaired by Gen. Lyles, is tasked with identifying overarching civil space goals that are important for U.S. national interests. The study committee seeks to define a long-term future for U.S. civil space activities based on realistic expectations of future resources; that are realistic and credible scientifically, technically, and politically. Plans are being made for additional speakers throughout the spring.♦

On the Road...

First year M.A. candidate Stephanie Wan has been on the road quite a bit. Beginning in the summer of 2008, Stephanie joined four of her GW classmates for the International Space University (ISU) Summer Session in Barcelona Spain. In October 2008, she went to the Space Generation Congress as project co-lead for the Youth for Global Navigation Satellite System (YGNNS) and presented the ISU Team Project on the Google Lunar X PRIZE at the International Astronautical Congress (IAC) in Glasgow, Scotland. She was invited to speak about her YGNSS project at the third International Committee on GNSS (ICG) Group C Meeting: Information Working Dissemination, in Pasadena, California. In February 2009, she attended the UN Committee on the Peaceful Uses of Outer Space (UN COPUOS) Scientific and Technical subcommittee meeting in Vienna, Austria. There, she made a presentation about the need for GNSS education on behalf of the Space Generation Advisory Council (SGAC) YGNSS project, attended an ICG working group C meeting, and made a statement seeking observer member status on behalf of SGAC at the ICG prep meeting.

In February, second year M.A. candidate **Mariel** John presented a paper on "A Comparative Analysis of United States and European Union Space Security Policy Development" at the annual gathering in Strasbourg, France. The paper examines the similarities and differences in the development of space security policy in the United States and the European Union, and looks at possible future trends.

Meet with George Abbey - ✓ Jog with Astronaut - ✓ Staff Space Symposium - ✓

Contributions by Menachem Wecker

It is all in a day's work for research assistant and student Jenn Makins. Working part-time at SPI with Scott Pace, part-time as ESMD Education Associate at NASA HQ, and attending school fulltime makes a full day, but it also guarantees that life is anything but boring.

A second year candidate, Jenn recently finished her independent study paper titled "The Cost of Romanticized Ideals" which focused on the 1984 Space Flight Participant decision that led to the Teacher in Space Program. Research for the project took her to Houston, Texas for a sit down with former director of the Johnson Space Center George Abbey. Over a Diet Coke in his office at Rice University they chatted about the Teacher in Space Program, Christa McAuliffe, Barbara Morgan, and education in general. "It certainly was an extraordinary opportunity," says Makins.

The week after completing the Marine Corps Marathon, Jenn was planning to take it easy – that was before she got an invitation to go jogging with the woman who ran the Boston Marathon from outer space. As part of the team representing NASA at the 51st Girl Scout National Convention held in Indianapolis, Makins was asked to escort astronaut Sunita "Suni" Williams, a former Girl Scout.



Astronaut Suni Williams and Jenn Makins pose in front of a T-38 jet.

"Suni and I were just talking — getting to know each other on our way back from the airport, the marathon came up and next thing I knew we had plans to go running in the morning," Makins remembers. "I was so excited about being out with Suni. I don't usually talk while running, and I really wanted to keep pace with her. Eventually my lungs won the battle with my pride, and I had to ask to slow up." Makins smiles as she recounts that Suni followed her request with, "Good, if we keep this up I'm going to be tired. You said you were slow!"

Williams and Makins attended the Girl Scout convention as part of a larger NASA team in an effort to get girls excited about NASA. After graduation, Makins plans to return to teaching at The Parish Episcopal School in Dallas, TX.

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Hertzfeld's Happenings

Henry Hertzfeld presented a paper on the reform of U.S. export controls in early September 2008 in Vienna, Austria at the European Space Policy Institute. This paper argues that export controls laws in the United States are far more complicated than ITAR alone and that the current political culture leans far more to a continuation of the current system than it does to true fundamental reform of the system, regardless of the possible harm it may do to parts of the space enterprise. He also participated in a meeting of experts in space economics at the OECD in Paris in late September and represented the Space Policy Institute in various capacities at the IAC in Glasgow. In October Prof. Hertzfeld was a member of a panel discussing future issues in space law at the International Lawyers Association annual meeting in New York. In his research, he has been working on a study for NASA on evaluating and comparing elements of productivity and inflation in the government and commercial satellite manufacturing, and has worked with a team from MIT and the Aerospace Corporation on a study of human safety regulations for sub-orbital vehicles for the FAA. Dr. Hertzfeld is also actively engaged with the International Space University developing a curriculum for their new executive space MBA program.

Partnered Events:

The Space Policy Institute partnered with several organizations to host events advancing topics such as satellite data sharing, space deterrence and operationally responsive space. The **TerraSARX** event held in conjunction with the Embassy of the Federal Republic of Germany focused on Trans-Atlantic Issues in Earth Observations. A special policy dinner was hosted on the issues and prospects for Operationally Responsive Space (ORS). The featured speaker was Dr. Peter Wegner, director of the ORS Office. His office is engaged in a variety of efforts to enable the more rapid development and deployment of critical space assets. During the recent presidential election, the Obama campaign cited ORS as an approach to using "smaller, more nimble space assets to make U.S. systems more robust and less vulnerable." More recently, the Space

Deterrence Workshop was held at The George Washington University and sponsored by the Secure World Foundation, the National Space Studies Center, and the Naval Postgraduate School. This two-day event featured presentations addressing the policy issues related to space deterrence, cyber deterrence, China, and the future course of United States space deterrence.♦

NASA Administrator Visits Campus



Dr. Griffin appears with GW President Steven Knapp. An avid space enthusiast, President Knapp dropped by for a quick hello with the administrator. Photo courtesy of Rita Yurow.

On December 11th Dr. Michael Griffin visited campus as part of a tradition that spans many years and NASA administrators. Guest speakers from the various offices that are responsible for the different aspects of space policy such as State, OSTP, NSC, the Pentagon, in addition to NASA, visit campus and are valued by graduate students as part of their unique experience at the Space Policy Institute. Each fall the United States space policy course customarily concludes with an evening with the NASA administrator. ♦

News from the Director:

My first academic year as director of the Space Policy Institute has been both challenging and rewarding. Challenging in terms of



teaching several courses for the first time to bright students and sustaining the work of an institute, which is highly regarded in Washington and international space circles. I've had the opportunity to speak on diverse topics across national security, civil, and commercial space sectors at places such as the National Defense University, the Embassy of Canada, the Heritage Foundation, and Capitol Hill. I've been honored to be part of efforts by the Committee for U.S. Space Leadership and the Center for the Study of the Presidency to ensure that space policy decisions are part of the new administration's approach to national security, international relations and the economy especially in R&D innovation. In the coming months, I hope to pursue work in areas such as global navigation satellite systems, space acquisition reform, and international space cooperation, notably in Asia.♦

Extra! Extra! Space Policy Institute in the News

In the past few months you may have heard a member of the Space Policy Institute on the radio on NPR or Wisconsin Public Radio; seen one of us on television on Voice of America or China Central Television or read a quote in *AP*, *Newsweek, the Washington Post, Christian Science Monitor, Bloomberg, Space Lifestyles, Hong Kong Tattler, Popular Science, Popular Mechanics, Orlando Sentinel, New Statesman, Flight International, Denver Business Journal, San Jose Mercury News, Huntsville Times, Space News, Pittsburg Tribune, Houston Chronicle, Publico, Asia Times Online, Epoch Times,* or the Boston University Daily Free *Press.*◆ 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 at:

Space Policy Institute Elliott School of International Affairs 1957 E Street NW, Ste. 403 Washington, DC 20052 202.994.7292 spi@gwu.edu

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