



SPACE POLICY INSTITUTE

FALL 2009 & WINTER 2010 NEWSLETTER

Space Policy Institute Hosts a Symposium Assessing the Options of the Augustine Committee

Just weeks after the release of the summary report from the Review of U.S. Human Space Flight Plans Committee (better known as the Augustine Committee), the Space Policy Institute hosted a symposium on assessing the options from the committee's findings led by Institute director Dr. Scott Pace. The event featured prominent speakers from the Space Policy community including former General Lester Lyles, who served on the Augustine Committee; Mr. A. Thomas Young, former executive vice president of Lockheed Martin; Dr. Douglas Stanley, faculty in residence at Georgia Tech; Mr. JT Jezerski, legislative director for Rep. Pete Olson; Dr. Paul Spudis, senior scientist at the Lunar and Planetary Institute; Dr. Tom Jones, former astronaut and planetary scientist; Dr. John Logsdon, Professor Emeritus at the Space Policy Institute; Dr. Alain Dupas, Director of Strategic Studies at the Paris-based Collège de Polytechnique; Mr. Brett Alexander, president of the Commercial Space Federation; Mr. Eric Sterner, consultant at the George Marshall Institute; Mr. Robert Read, senior industrial analyst with the Office of the Deputy Under Secretary of Defense for Industrial Policy; and John Karas, president and general manager of human spaceflight at Lockheed Martin. Symposium attendees gathered at the Elliott School for International Relations' City View room to discuss how the Augustine Committee's findings may impact the future of space exploration, commerce, science, and security. Full presentations can be found on the 'events' page at the SPI website. ♦

Dr. Pascale Ehrenfreund Simulates Human Exploration of Mars

Pascale Ehrenfreund participated in Crew 77 at the Mars Desert Research Station (MDRS) in

Utah in February 2009. The MDRS project was initiated by the Mars Society in 2000 and consists of a habitat complex optimized for a 6-person crew and includes a greenhouse and astronomical observatory. The goal of this field sponsored by ESA, NASA and the international lunar exploration working group (ILEWG) was to demonstrate instrument capabilities in support of current and future planetary missions, to validate a procedure for Martian surface in-situ and return science, and to study human performance aspects. As part of the NASA/ESA Crew 77, P. Ehrenfreund served as Executive officer, health officer and crew scientist. MDRS represents an ideal basis to simulate aspects of robotic and human exploration in support of future missions to planetary bodies.



Dr. Pascale Ehrenfreund is seen here testing for Carbonates as part of the Mars Desert Research Station.

During the campaign Crew 77 tested X-ray diffraction and Raman instruments, and assessed habitat and operations in contribution to studies performed by space agencies, ILEWG and the Committee of Space Research (COSPAR) panel for exploration PEX. Special emphasis was given to sample collection in the geologically rich vicinity of MDRS and subsequent analysis of organic molecules and microorganisms in the soil to simulate the search for life with field instrumentation. Furthermore Crew 77 performed full simulations leaving the habitat only in space suits and following a dry food diet. Surveys of habitat infrastructure, security, crew psychology and food studies have been elaborated during these

two weeks in order to assess human performance. ♦

Dr. Colleen Hartman Advances Space Science at SPI

Professor Colleen Hartman continued her program of inviting prominent members of the space community to GWU. Most recently, the JPL Center Director, Dr. Charles Elachi enchanted students with a far-reaching lecture on NASA/JPL plans for unlocking mysteries of the universe ranging from recent melting of the Earth's polar ice caps to the possibility of life on other planets.



Dr. Charles Elachi,
Director of the Jet
Propulsion Lab at NASA
spoke before an audience
of students, faculty and
professionals at SPI

Professor Hartman's most recent work entitled *Projections for future funding of NASA and NASA science activities: Reassessing the Obama FY 2010 budget request* will be published in February, 2010. Dr. Hartman also served on the organizing committee of the successful **Women in Astronomy and Space Science** conference, which focused on meeting the challenges of an increasingly diverse workforce in the global world of today, held at the University of Maryland. More than 200 participants heard Dr. Hartman's address and panel, as well as talks by Congresswoman Donna Edwards and a special conversation at the White House between participants and Ms. Tina Tchen, head of the Obama administration's Women's Council. Dr. Hartman also continues

to advise NASA Headquarters on issues relating to science. She is a member of the Mars Architecture and Review Team (MART) and was selected to co-chair the new International Mars Architecture and Review Team (I-MART) along with Dr. Noel Hinners, now an independent consultant and retired from Lockheed Martin Corporation. The I-MART will include an international team of experts to review all Mars program plans at NASA and at ESA and provide reports to NASA Headquarters. ♦

Dr. Scott Pace Testifies on Capitol Hill

Dr. Scott Pace recently testified before both the U.S. House of Representatives Committee on Science and Technology and the U.S. Senate Committee on Commerce, Science, and Transportation. Before the committees, Dr. Pace highlighted the increasingly international efforts taking place in space and theorized what kind of future the U.S. could have in space within this new context.

"It is not just our machines or even our DNA that travel into space but our values as well. What values do we want to see be the norm in human activities beyond low Earth orbit? The international norms for human space activity will be shaped by those who are there, not by those who stay behind. If we want to see a human future in space that reflects our values then we must be part of that effort."



Witness panel before the Senate Committee on
Science and Commerce: (From Left to Right): Mr.
Marty Hauser, Mr. J.P. Stevens, Dr. Scott Pace, Dr.
Kai-Uwe Schrogl, and Dr. Ray A. Williamson

Dr. Pace's full remarks can be found on the 'events' page at the SPI website. ♦

George Washington Space Society Hosts Expert Panel Discussion on Small Satellites

The George Washington Space Society brought together a diverse panel in November to discuss the past, present, and future of small satellites. The Society assembled representatives from government and industry to provide an overview on the potential cutting edge technologies, lower costs, and innovative science of small satellites. The panel featured Mr. Liam Sarsfield, formerly the deputy chief engineer at NASA; Mr. Frank Bauer, Chief Engineer at NASA's Exploration Systems Mission Directorate; Dr. Therese Jorgensen, program manager of CubeSats at the National Science Foundation; and Mr. Jeffrey Manber, managing director of NanoRacks Inc. Slides from the presentations can be found on the 'events' page at the SPI website. ♦

Dr. John Logsdon Returns to SPI after Year with Air and Space Museum

Professor Emeritus John M. Logsdon completed his one-year stint as Charles Lindbergh Chair in Aerospace History at the National Air and Space Museum at the end of August and returned to the Space Policy Institute. He continues to work on his book on "John F. Kennedy and the American Space Program," which will be completed early in 2010. Dr. Logsdon worked closely with Simona di Pippo, European Space Agency Director for Human Space Flight, Microgravity, and Exploration as she twice visited the Institute in October to offer a one-credit course on "European Issues and International Space Cooperation." This course provided 13 SPI students a unique opportunity to interact with a currently serving senior official of a non-U.S. space agency. Throughout the fall Dr. Logsdon was kept busy commenting to various media outlets on the implications of the report of the "Review of U.S. Human Spaceflight Plans " Committee. On December 11, he was part of a panel discussion at MIT that also

included the Committee's chair, Norm Augustine. Dr. Logsdon traveled in October to Daejeon, Korea for the International Astronautical Congress and in November to Strasbourg, France to lecture to the master's degree students of the International Space University. ♦



Students working with ESA Director of Human Spaceflight Simona di Pippo in the "European Issues and International Space Cooperation" course

SPI Attends the International Astronautical Congress

The Space Policy Institute had a sizeable presence at the 60th International Astronautical Congress (IAC) in Daejeon, Korea. The conference took place the week of October 12th with the theme centering on "Space for Sustainable Peace and Progress." Topics ranged from space-based Earth observation networks for climate change monitoring to international cooperation for human and robotic space exploration beyond LEO. Several faculty members from the Space Policy Institute attended, including Dr. Scott Pace, Dr. John Logsdon, Dr. Pascale Ehrenfreund, and Dr. Henry Hertzfeld. Dr. Pace was elected as an Academician to the International Academy of Astronautics. SPI graduate students Stephanie Wan and Megan Ansdell attended as well as recent graduates Jenn Makins and Mariel Johns.



Current M.A. Candidate Stephanie Wan with Chinese Taikonaut Zhai Zhigang

First year graduate student Megan Ansdell presented a paper at the 52nd IISL International Colloquium on the Law of Outer Space. The paper highlighted her experience as a non-lawyer competing in the 2009 Manfred Lachs Space Law Moot Court Competition, which is an annual event hosted by the IISL.

Second year graduate student Stephanie Wan attended the Space Generation Congress (SGC) and IAC, congresses held back to back in Daejeon. At SGC, she moderated the Agency session, sponsored by NASA, and focused on using global navigation satellite system applications for transportation infrastructure development in developing nations. At the IAC, she presented "Space Cooperation in the Asia-Pacific: The Story (or Stories) of APSCO and APRSAF," a paper she coauthored on comparing the similarities and differences between the Asia Pacific Space Cooperation Organization and the Asia Pacific Regional Space Agency Forum. ♦

First Joint Symposium with European Space Policy Institute

Transatlantic space relations took center stage in November as the European Space Policy Institute (ESPI) introduced itself to the Washington community through a joint symposium with the Space Policy Institute (SPI). The symposium was hosted at SPI by director Dr. Scott Pace and ESPI director Dr. Kai-Uwe Schrogl. A delegation of researchers from ESPI

provided an overview of their current research and a keynote address was offered by Richard Buenneke, deputy director of space policy at the U.S. State Department. Dr. Scott Pace concluded the event with a presentation on international data sharing with lessons learned from the NORAD partnership between the United States and Canada. Remarks and presentation slides from the symposium can be found on the 'events' page of the SPI website. ♦



From left to right: Nina-Louisa Remuß of ESPI, Richard Buenneke of the U.S. State Department, Dr. Kai-Uwe Schrogl, Director of ESPI, and Dr. Wolfgang Rathgeber of ESPI

SPI Hosts Visiting Scholars

The Space Policy Institute hosted another set of international scholars for independent study this past summer and fall. The scholars focused their research on national security space issues and came from diverse corners of the globe. This summer the institute hosted Sethu Menon of France. This fall, Jo Gilbert from the Griffin Asia Institute of Australia joined the institute as well as Mischa Hansel from the University of Cologne in Germany. ♦

NASA Administrator Bolden comes to SPI



From left to right, SPI Director Dr. Scott Pace, NASA Administrator Gen. Charles Bolden, GW President Dr. Steven Knapp, and Elliott School Dean Dr. Michael Brown. Photo courtesy of Jessica McConnell.

On December 3rd, Gen. Charlie Bolden visited campus in continuation of a tradition that reaches back many years and many 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. ♦

Space Situational Awareness Event hosted with Secure World Foundation

In June, SPI and the Secure World Foundation teamed up to host an event on the state of Space Situation Awareness with special emphasis on lessons learned from the North American Aerospace Defense Command (NORAD). The event featured discussion on NORAD as an organizational example on space data sharing with highlights from historical documents and interviews with officials involved in NORAD's past and present. The discussion was based on reactions to a draft research paper on lessons from NORAD in the context of future space data sharing. The space

community was invited to the discussion to provide prospective on how NORAD's lesson could be applied in Space Situational Awareness. Findings from the discussion will be included in the final report from the Secure World Foundation. ♦

Dr. Henry Hertzfeld Leads Discussions on Space Law & Economics

Dr. Henry Hertzfeld has kept busy throughout the summer and fall with numerous speaking engagements around the U.S. and the world. In July he spoke on Space Globalization at the Aerospace Corporation, El Segundo, CA. Later in the summer Professor Hertzfeld was Chairman of the Policy and Law Department for two weeks at the International Space University's summer session in Mountain View, CA. At the Chicago American Bar Association Conference on Air and Space Law in late September, he spoke on the topic of Challenges and Conflicts in Aerospace and Export Controls. During October, Professor Hertzfeld attended the International Astronautics Conference in Daejeon, South Korea and was Co-Chairman of the session on Launch Vehicle Regulations where he also delivered a paper. Just prior to that meeting he lectured at STEPI (Science, Technology, Economic Policy Institute) in Seoul. In November he lectured on risk and liability issues as part of the ISU's new Executive MBA program and also gave a talk to a workshop at the International Institute of Space Commerce Workshop held in November on the Isle of Man. This coming June, the Space Policy Institute at GW will host a two-week module specifically devoted to space law and policy as part of the ISU Executive MBA program.

In addition, Professor Hertzfeld continues to work on a NASA Grant studying the ways the commercial sector is increasingly using space applications. This study is focused on measuring the economic influence of space on both the U.S. and world economy and on the growing importance of space in the critical infrastructure of economic activity. He has also recently completed a paper on NASA productivity and published a new revision of a study guide and casebook in managerial economics. ♦

News from the Director:



The academic year got off to a good start with enrollment of a strong group of ten new graduate students. I invite you to check out our updated web site to see the diverse backgrounds each of them brings to the Institute. The on-going transitions in both civil, commercial and national security space sectors have created several opportunities to speak on a myriad of topics at places like the Marshall Institute on "Innovation in Aerospace," the TechAmerica and Marshall Institute Event "Day without Space," the Sea-Space Symposium, the Eisenhower Center's National Space Forum, the Position Navigation and Timing Presidential Advisory Board, a Johns Hopkins Applied Physics Lab Colloquium and a State Department Symposium on work before the UN Conference on Disarmament. I served on the U.S. Delegation to the June 2009 annual meeting of the UN Committee on the Peaceful Uses of Outer Space and while in Vienna, I was part of an international panel discussion on space cooperation at the University of Vienna. I'm also currently serving on a National Research Council committee on "Impediments to Interagency Cooperation on Space and Earth Science Missions." In the coming months, I expect there will be more opportunities as the Obama Administrations budget proposals for NASA, NOAA, and the Defense Department are released.

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 CNN Radio, KCBS, or SIRIUS XM; seen one of us on KCBS, or international stations such as NHK-Japan or Czech Television or read a quote in the *Associated Press*, *Boston Globe*, *The New York Times*, *Wall Street Journal*, *London Times*, *Houston Chronicle*, *Daily Finance*, *Aviation Week*, *New Scientist*, or *Popular Mechanics*. We have also had scholarly articles and book reviews in *Space*

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:

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