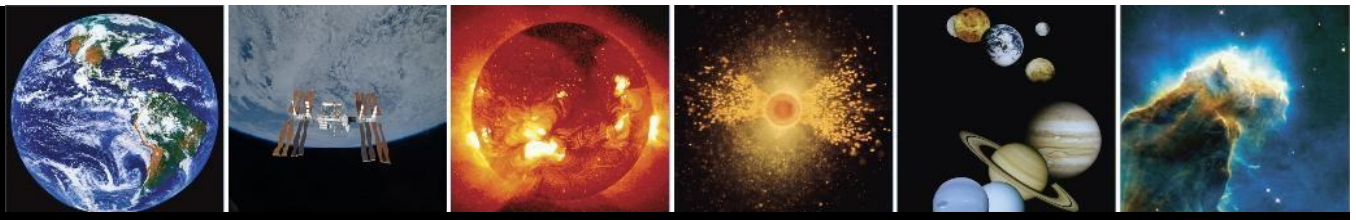
SPACE STUDIES BOARD NEWS



JULY-SEPTEMBER 2014

Inside This Issue

"The decadal surveys are a "gold standard" not only for the Space Studies Board, but also for the National Academy of Sciences as a whole. "

SSB Chair David Spergel

NATIONAL ACADEMY OF SCIENCES
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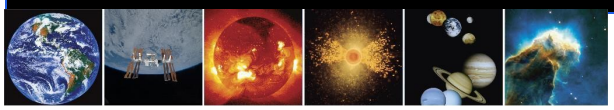
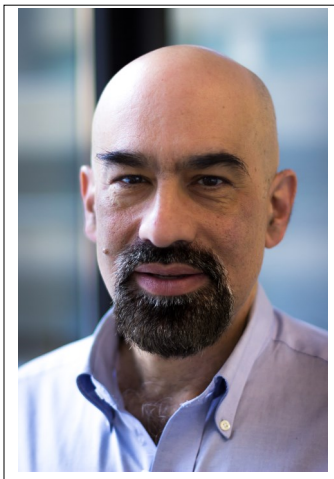
SPACE STUDIES BOARD NEWS



FROM THE CHAIR



The decadal surveys are a "gold standard" not only for the Space Studies Board, but also for the National Academy of Sciences as a whole. The surveys fulfill Abraham Lincoln's charge to the NAS that it provide independent, objective advice to the nation on matters related to science and technology. Congress, the White House, NASA, and other federal agencies value the surveys' role in providing long-term strategic direction for the space program. Therefore, one of the premier tasks, if not the most important task, for the Space Studies Board is to guide these surveys and to ensure that the survey recommendations meet the objectives the Academy and the government sets for each study.

Each decadal survey must wrestle with two related questions: "What are the most compelling and pressing scientific questions?" and "How can we address them?" By prioritizing science goals, space science missions, other research activities, and particular scientific measurements, decadal surveys address these deeply linked questions. "How do we do this best?" is the basis of the charge to the ongoing "Survey of Surveys" ad hoc NRC committee chaired by Alan Dressler. The committee has already met twice over the summer and is planning its final meeting for December. The committee is working to identify best practices and is exploring why each of the most recent decadal surveys took considerably different approaches to the formulation of their respective science and mission activities. Is there a best approach, or should each survey reflect community idiosyncrasies? How can we ensure a greater awareness of and consistency with the goals, motivations, and strategic planning activities of potential U.S. and non-U.S. partner agencies and organizations? Does the timing of decadal surveys relative to that of their internal and external environment (that is, announcements of opportunity, budget planning cycles, mission selections, and strategic planning activities by survey-sponsoring agencies and relevant non-sponsoring agencies and organizations) affect its impact? This study reviewing the conduct of the decadal surveys builds on the Space Studies Board November 2012 workshop on lessons learned in the decadal survey process—the report of which is available on the SSB's website. The questions this committee is considering are difficult questions, so we are fortunate that a strong and wise committee is contemplating them and will report in early Spring 2015.

As the study on decadal surveyscontinues, the Space Studies Board is also in the process of working with its standing Committee on Earth Science and Applications from Space to initiate a complex and particularly challenging decadal survey that will result in a prioritization of the national program of civil Earth observations from space. Since space observations provide insights into processes ranging from ocean science to the physics of the atmosphere, the community involved in the survey is remarkably broad and ranges over much of the natural sciences. Space observations are essential for deepening our understanding of the planet and providing immediate operational information. Given the rapid pace of human-induced change to the land surface, biosphere, atmosphere, and oceans, our observing system must monitor the rate of these changes and provide deeper insights into the complex and dynamical system—this is the challenge of Earth system science. As we develop the charge for the decadal survey committee, we will have to consider how best to prioritize science questions, measurements, and missions and how to insure that the report meets the diverse needs of both science and mission agencies, including NASA, NOAA, and the USGS.

David Spergel, Chair

The views expressed here do not necessarily reflect those of the SSB or the National Research Council.

Charles Bolden, NASA HQ speaks at the SSB and ASEB joint meeting in April 2014.
[PHOTO courtesy of Dwayne Day, ASEB Staff]

Follow us on Twitter

The SSB's sister Board, the Aeronautics and Space Engineering Board, also publishes a newsletter; visit <http://sites.nationalacademies.org/DEPS/ASEB/DEPS_046908> to subscribe or to view past newsletters. SSB's division, the Division on Engineering and Physical Sciences, also publishes a newsletter; visit <http://sites.nationalacademies.org/DEPS/DEPS_059299> to subscribe.

SSB MEMBERSHIP

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former CEO of Swales Aerospace

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Other News

Yvonne C. Brill Lecture Series Began September 30, 2014

Dr. Adam Seltzner, Jet Propulsion Laboratory Fellow, gave the inaugural Yvonne C. Brill Lecture, "Engineering the Mars Entry Descent and Landing (EDL) System" on Tuesday, September 30. Dr. Seltzner led the Mars Science Laboratory's Curiosity Rover EDL team and led development of the novel Sky Crane delivery system during the "7 Minutes of Terror" that successfully landed the Rover on Mars in 2012. The Yvonne C. Brill Lectureship in Aerospace Engineering has been established in the memory of Yvonne C. Brill, pioneering rocket scientist, AIAA Honorary Fellow, and NAE member. Yvonne Brill was a member of the SSB from 2008-2013.

Dr. Adam Seltzner. [PHOTO from NAE website]

Members of the Committee on Human Spaceflight participate in the panel on "Sustaining Human Space Exploration" at the September 16, 2014, Atlantic Council forum on "The Final Frontier: Renewing America's Space Program." The forum was held in Washington, DC, at the Knight Studio at the Newseum.

From l-r: Jeff Bingham (SSB member), Valerie Olson, Scott Pace, Hannah Kerner, Asif Siddiqi (Human Spacflight committee member), Mary Lynne Dittmar (Human Spaceflight committee member), and Jeff Foust.

[PHOTO courtesy of Michael Moloney, SSB staff.]

Elected to NAS

Former Board Member Fiona A. Harrison of the California Institute of Technology was elected to the National Academy of Sciences for Astronomy.

SSB ACTIVITIES

THE BOARD AND ITS STANDING COMMITTEES

The **Space Studies Board (SSB)** did not meet during this quarter, but the Executive Committee (XCOM) of the SSB met July 2-3, 2014, in Woods Hole, MA. XCOM members were briefed by the SSB standing committee chairs, representatives from the NASA Advisory Council Science Committee, the NASA Science Mission Directorate, Congress, and Office of Science and Technology Policy on what were the most pressing views and issues from each of their perspectives. This led to a discussion by all attendees about where the SSB and the standing committees might provide input or advice on those issues. The XCOM was also briefed on several ad hoc activities of the Board, including the recently released report from the Committee on Human Spaceflight , *Pathways to Exploration—Rationales and Approaches for a U.S. Program of Human Space Exploration* (briefed by committee co-chair Mitch Daniels); the ongoing study on Lessons Learned in Decadal Planning in Space Science (briefed by committee chair Alan Dressler); the ongoing workshop on Sharing the Adventure with the Student: Exploring the Intersections of NASA Space Science and Education (briefed by planning committee co-chair Phil Christensen); and the upcoming decadal survey in Earth science (briefed by CESAS chair Mark Abbott). The SSB's next full committee meeting will be held November 5-6 at the Beckman Center in Irvine, CA. Visit <www.nas.edu/ssb> to stay up to date on board, workshop, and study committee meetings and developments.

The **Committee on Astronomy and Astrophysics (CAA)** held a teleconference in July with National Science Foundation (NSF) Astronomy Division staff to discuss a proposed new policy to encourage proposers to limit the number of proposals they submit to the grants program. Marcia Rieke was appointed to the committee as co-chair. The committee's next in-person meeting will be held on November 3-4, in Irvine, CA. For more information about CAA, to learn about upcoming meetings, and download presentations from past meetings, please visit <http://sites.nationalacademies.org/BPA/BPA_04875>.

Member appointments were completed for the **Committee on Biological and Physical Sciences in Space (CBPSS)** during this period, and plans were made for the first meeting of the committee which was held on October 7-8, 2014 in Washington, DC. The first meeting focused on presentations from and discussion with NASA regarding the content and plans for various research programs within NASA's Space Life and Physical Sciences Research and Applications Division. The next meeting is at the NRC's Space Science Week. Information about the committee and its membership can be found at http://sites.nationalacademies.org/SSB/SSB_145312.htm.

The **Committee on Earth Science and Applications from Space (CESAS)** met on September 17-19, 2014, at the NAS Building in Washington, DC. The committee's focus continues to be on preparations for the initiation in late winter/early spring 2015 of the 2nd NRC decadal survey in Earth observations and applications from space.

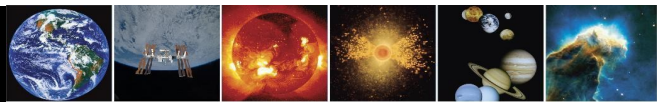
Open sessions on the first day of the meeting featured program updates from NASA's Earth Science Division (ESD) and NOAA's National Environmental Satellite, Data, and Information Service (NESDIS), which were provided by Jack Kaye, ESD Associate Director for Research, and Thomas Burns, NESDIS Deputy Assistant Administrator for Systems, respectively; a discussion with the recently appointed NOAA Chief Scientist, Rick Spinrad; a review of the NASA Applied Sciences Program by Lawrence Friedl, Director, ESD Applied Sciences Program; and a briefing by Peter Colohan from the OSTP on the recently released "National Plan for Civil Earth Observations."

The next decadal survey will be challenged by austere budgets and an ever-increasing demand for new and sustained environmental observations of the Earth from space. In part to jumpstart anticipated conversations among survey members (when appointed) with the community, the committee convened an all-day session on September 18 entitled, "The Potential Role of Small Satellites, CubeSats, Constellations, and Hosted Payloads in Designing the Future Earth Observing System Architecture." Agenda items included:

- Discussion with Bryant Cramer, former Associate Director of the USGS and former NASA ESD Deputy Director
- Discussion with Walter Scott, Digital Globe and Committee (via WebEx)
- Earth Science with Hosted Payloads and Small Sat Constellations, Lars Dyrud, Draper Laboratory
- Discussion with Bill Swartz, PI RAVAN, Johns Hopkins Applied Physics Laboratory
- Perspectives on SmallSats and CubeSats, Tom Sparn and Peter Pilewskie, University of Colorado/Laboratory for Atmospheric and Space Physics (LASP)
- Discussion with John Scherrer, Project Manager for CYGNSS, Southwest Research Institute
- Roundtable Discussions: Committee and Guests

The committee's next in-person meeting will take place as part of the NRC's Space Science Week, which is being held in Washington DC, at the NAS Building on March 31-April 2, 2015. Information about the meeting will be posted on the committee's website at <http://sites.nationalacademies.org/SSB/SSB_066587.htm>. The committee will also discuss planning for the decadal survey at a town hall meeting that will take place during the Fall AGU meeting in San Francisco on Wednesday, December 17, 2014, from 12:30 PM - 1:30 PM, in Moscone West, Room 2002.

The **Committee on Astrobiology and Planetary Sciences (CAPS)** met on September 3-4 at the Beckman Center in Irvine, CA. This meeting included joint sessions with the Planetary Science Subcommittee of the NASA Advisory Council. The committee heard a presentation from James Green representing NASA Headquarters, giving the Planetary Science Division status report. Representatives from NASA Headquarters provided program updates from the Mars Exploration Program, the Outer Planets Program,



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the Near-Earth Object Observation Program, the NASA Astrobiology Program, and the Mars 2020 Mission. The committee heard presentations from Clive Neal representing the Lunar Exploration Analysis Group, Lisa Pratt representing the Mars Exploration Program Analysis Group, Candice Hansen representing the Outer Planets Analysis Group, Nancy Chabot representing the Small Bodies Assessment Group, and Lori Glaze representing the Venus Exploration Analysis Group. The committee heard an update on the Juno mission from Scott Bolton and a presentation on Planetary Protection Issues from Eugene Levy. The committee also heard presentations on an Organic Contamination Study for the Mars 2020 mission from David Beaty and "Thoughts on Astrobiology, the NAI and Virtual Institutes" from Simon Worden. The committee will host its next meeting during the NRC's Space Science Week in Washington, DC at the NAS Building from March 31-April 2, 2015. Further information about CAPS, including future meetings, is available at http://sites.nationalacademies.org/SSB/SSB_067577.htm.

The **Committee on Solar and Space Physics (CSSP)** met on October 7-8 at the NAS Building in Washington, DC. During the meeting, the committee received updates on programs at NASA's Heliophysics Division (HPD) and NSF's Division of Atmospheric and Geospace Sciences (GEO/AGS) from Jeffrey Newmark, Interim Director of HPD, and Richard Behnke, Geospace Section Head in GEO/AGS, respectively. An update on the NASA HPD roadmap, which is about to be released, was delivered by WebEx by Ed DeLuca, chair of the 2012 Heliophysics Roadmap Committee. Karel Schrijver, Lockheed Martin, provided the committee with a review of the COSPAR International Living With a Star (ILWS) Roadmap.

The committee also heard a series of presentations as part of its examination of the probability of high-impact space weather events:

- Extreme Space Weather: "Black Swan" or "Clear and Present Danger"?, Ron Turner, ANSER Corp.
- Space Weather from Explosions on the Sun: How Bad Could It Be?, Karel Schrijver, Lockheed Martin Advanced Technology Center
- On the Probability of Occurrence of Extreme Space Weather Events, Pete Riley, Predictive Science Inc. (by WebEx)
- Uncertainties in the Estimation of the Occurrence Rate of Rare Space Weather Events, Jeffrey Love, USGS
- Estimation of Hazardous Electric Fields Induced in the Earth's Lithosphere During Large Magnetic Storms, Jeffrey Love, USGS
- View from NASA, Lika Guhathakurta, Living With A Star Program Scientist
- Roundtable Discussions, All Participants

The CSSP is also pleased to announce the publication of a 32-page booklet that summarizes—at a level appropriate for a broad audience of students, policymakers, and the interested public—the 2013 decadal survey report, ***Solar and Space Physics: A Science for a Technological Society*** <http://www.nap.edu/catalog.php?record_id=13060>. **Hard copies** of this booklet, *Solar and Space Physics: A Science for a Technological Society: An Overview*, are available from the Space Studies Board; free PDFs may also be downloaded at <http://www.nap.edu/catalog.php?record_id=18974>. Further information about CSSP, including future meetings, is available at <http://sites.nationalacademies.org/SSB/ssb_052324>. The committee's next in-person meeting will take place as part of the NRC's Space Science Week, which is being held in Washington, DC, at the NAS Building on March 31-April 2, 2015.

STUDY COMMITTEES

The ad hoc **Committee on a Framework for Analyzing the Needs for Continuity of NASA-Sustained Remote Sensing Observations of the Earth from Space** did not meet in person during this quarter but held numerous WebEx teleconferences, all of which were aimed at completing its draft report. The committee expects its draft to enter external review in November 2014. The schedule for release to the public of an approved prepublication version of the final report is now anticipated no later than March 31, 2015. Additional information about the committee and its work is available at <http://sites.nationalacademies.org/SSB/CurrentProjects/SSB_084713>.

Various dissemination activities continued for the **Committee on Human Spaceflight** report, *Pathways to Exploration—Rationales and Approaches for a U.S. Program of Human Space Exploration*, during this period. These included talks given by NRC staff Alan Angleman and Michael Moloney at the International Astronautical Congress and participation by members Mary Lynne Dittmar and Asif Siddiqi at an Atlantic Council conference on renewing the space program. The prepublication report underwent editing during this period and the final report printed report was released in late October and distributed, bringing the official work of the committee to a close. Members of the committee received requests for talks and interviews throughout this period, and such requests are expected to continue as interest in the report remains high among a variety of communities.

With funding from NSF, the NRC is conducting a study that will recommend a strategy to optimize the U.S. optical and infrared system in the era of the Large Synoptic Survey Telescope. The committee on **A Strategy to Optimize the U.S. Optical and Infrared System in the Era of the Large Synoptic Survey Telescope** was appointed in July 2014 and is led by Debbie Elmegreen (Vassar College). Its first meeting was held on July 31-August 1, in Washington, DC. The committee recently requested white papers from the astronomy community to aid its work (August 27- October 8, 2014). The second meeting was held on October 12-13, in Irvine, CA, and the third meeting will be held on December 2-3, in Washington, DC. For more information about the committee, please visit <http://sites.nationalacademies.org/BPA/BPA_087934>.

The ad hoc **Committee on Survey of Surveys: Lessons Learned from the Decadal Survey Process** continues to develop its report for release in the second quarter of 2015. The committee met from August 25-27 at the NAS Building in Washington, DC. During the meeting, the committee received presentations regarding the

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perspectives on decadal surveys from various stakeholders. Tom Hammond presented the congressional perspective on decadal surveys, representing the House Science, Space and Technology Committee. James Ulvestad and Richard Behnke, both from NSF, provided NSF perspective on the decadal surveys. In addition, Mike Freilich, Paul Hertz, James Green, and Jeffrey Newmark presented NASA Science Mission Directorate perspectives on the surveys from the standpoint of Earth science, astrophysics, planetary sciences, and heliophysics, respectively. The committee heard a presentation on community perspectives of the decadal surveys from Joel Parriott from the American Astronomical Society. Ellen Stofan from NASA Headquarters also gave a presentation representing the Chief Scientist's perspective on decadal surveys. Finally, Steve Battel from Battel Engineering gave a presentation on perspectives on the CATE and Mission-Design Processes. The committee's next in person meeting will take place from December 8-10 in Irvine, CA. More information about the committee can be found at http://www8.nationalacademies.org/cp/projectview.aspx?key=49635.

The ad hoc **Committee on Sharing the Adventure with the Student: Exploring the Intersections of NASA Space Science and Education: A Workshop** held its planning meeting on September 12, 2014, at the Keck Center in Washington, DC. The committee heard from three presenters: Kristen Erickson discussed NASA SMD's education efforts, Joan Ferrini-Mundy from NSF presented the CoSTEM strategic plan, and Andrea Jones from Goddard Space Flight Center presented on the Lunar Workshops for Educators. The remainder of the meeting was in closed session and devoted to workshop planning. The workshop, "Sharing the Adventure with the Student", will be held on December 2-3 at the National Academy of Sciences Building in Washington, DC. The workshop will feature invited presentations and will be open to the public. Advance registration is requested. More information can be found at http://sites.nationalacademies.org/SSB/CurrentProjects/SSB_152563.htm.

OTHER ACTIVITIES

U.S. WILL HOST COSPAR 2018 IN PASADENA, CALIFORNIA

The Committee on Space Research (COSPAR) held its 40th Scientific Assembly in Moscow, Russia August 2-10, 2014. The proposal to hold the 42nd Scientific Assembly in Pasadena, CA in 2018 was presented during the Assembly and subsequently selected by the COSPAR council. This conference will be hosted by The California Institute of Technology in collaboration with the Jet Propulsion Laboratory and over 3,000 scientists are targeted to attend. Planning and organization for this assembly is currently underway. In addition, Lennard Fisk, former U.S. representative to COSPAR, was recently elected president of COSPAR of the International Council of Science (ICSU). Dr. Fisk is the first American to hold this position in the history of the organization.

COSPAR also published Volume 190 of *Space Research Today*, its quarterly bulletin, in August 2014. Looking forward, the 41st Scientific Assembly will be held in Istanbul, Turkey, on July 30-August 7, 2016.

OUTREACH

Space Studies Board in conjunction with DELS will exhibit at the AGU Fall meeting on December 15-19, 2014 in San Francisco, CA.

SSB STANDING COMMITTEES

Committee on Astronomy and Astrophysics (CAA)
(Joint with the Board on Physics and Astronomy)

Marcia Rieke, University of Arizona (Co-Chair)
Paul L. Schechter, MIT (Co-Chair)

Committee on Astrobiology and Planetary Science (CAPS)

Philip R. Christensen, Arizona State University (Co-Chair)
J. Gregory Ferry, Pennsylvania State University (Co-Chair)

Committee on Biological and Physical Sciences in Space (CBPSS)
(joint with the Aeronautics and Space Engineering Board)

Elizabeth Cantwell, Lawrence Livermore National Laboratory (Co-Chair)
Robert J. Ferl, University of Florida (Co-Chair)

Committee on Earth Science and Applications from Space (CESAS)

Mark R. Abbott, Oregon State University (Co-Chair)
Joyce E. Penner, University of Michigan (Co-Chair)

Committee on Solar and Space Physics (CSSP)

J. Todd Hoeksema, Stanford University (Co-Chair)
Mary K. Hudson, Dartmouth College (Co-Chair)

For more information, go to <http://sites.nationalacademies.org/SSB/ssb_052296>

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CHRISTINA O. SHIPMAN
Financial Officer (thru Oct. 31)

SANDRA WILSON
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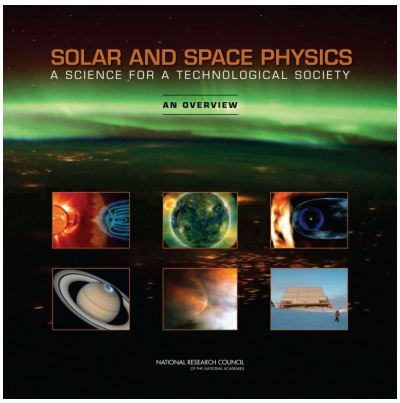
ANGELA DAPREMONT
Lloyd V. Berkner Space Policy Intern

JESSE D. LIVELY
Lloyd V. Berkner Space Policy Intern

MICHELLE THOMPSON
Lloyd V. Berkner Space Policy Intern

* Staff of other NRC boards who are shared with the SSB.

NEW RELEASES

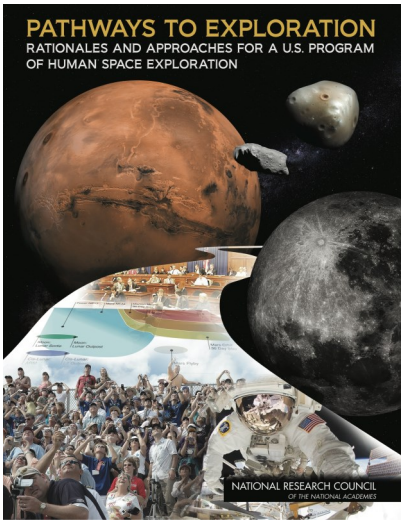


Solar and Space Physics: A Science for a Technological Society: An Overview (SSB)

Released 09/23/2014

In 2010, NASA and the National Science Foundation asked the National Research Council to assemble a committee of experts to develop an integrated national strategy that would guide agency investments in solar and space physics for the years 2013-2022. That strategy, the result of nearly 2 years of effort by the survey committee, which worked with more than 100 scientists and engineers on eight supporting study panels, is presented in the 2013 publication, *Solar and Space Physics: A Science for a Technological Society*. This booklet, designed to be accessible to a broader audience of policymakers and the interested public, summarizes the content of that report.The booklet is available at http://www.nap.edu/catalog.php?record_id=13060.

A Video Summary of Pathways to Exploration

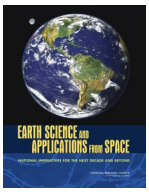


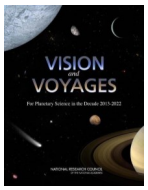
The report of the National Research Council *Pathways to Exploration: Rationales and Approaches for a U.S. Program of Human Space Exploration* describes the rationales for human spaceflight beyond low Earth orbit and develops recommendations that could guide the U.S. human spaceflight program in a sustainable manner. A video summary of the report is viewable at http://bit.ly/1vc9Mve.

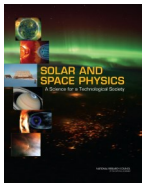
Impact of Decadal Surveys

Did you know?

- *Earth Science and Applications from Space: National Imperatives for the Next Decade and Beyond* (2007) has had over 11,000 total PDF downloads since January 16, 2007.
- *New Worlds, New Horizons in Astronomy and Astrophysics* (2010)has had over 17,000 total PDF downloads since August 13, 2010.
- *Vision and Voyages for Planetary Science in the Decade 2013-2022* (2011) has had over 7,000 total PDF downloads since March 7, 2011.
- *Recapturing a Future for Space Exploration: Life and Physical Sciences Research for a New Era* (2011) has had over 5,000 total PDF downloads since April 5, 2011.
- *Solar and Space Physics: A Science for a Technological Society* (2012) has had over 7,500 total PDF downloads since August 15, 2012.







Pathways to Exploration: Rationales and Approaches for a U.S. Program of Human Space Exploration

Download a free copy via the National Academies Press at

<http://www.nap.edu/catalog.php?record_id=18801>

COSPAR, the Committee on Space Research of the International Council for Science

On October 1, 2014, NAS President Ralph Cicerone was notified by COSPAR President Lennard Fisk that the U.S. bid to host the 2018 COSPAR Scientific Assembly was accepted by a sizable majority of the COSPAR Council. The vote was 32 in favor of the U.S. and 3 opposed. COSPAR was established by the International Council for Science (ICSU) in 1958 as an outgrowth of the International Geophysical Year to promote international scientific research in space. A major emphasis for COSPAR is to serve as a forum for the open exchange of results, information and opinions that affect scientific space research. The biannual Scientific Assemblies serve as the key mechanism. The last assembly to be held in the United States was in 2002 in Houston, Texas.

2018 is an especially important year for COSPAR and space science. It marks the 60th anniversary of the founding of COSPAR and the first major scientific discovery in space when the U.S. Explorer 1 satellite provided the initial evidence for the existence of the Van Allen radiation belts. The bid to hold COSPAR in the United States was presented at the Moscow Assembly in August 2014 by Gregg Vane of Caltech/NASA Jet Propulsion Laboratory. He will serve as the chair of the Local Organizing Committee. Caltech professor and director of the Caltech Keck Institute for Space Science, Thomas Prince, will serve on as the chair of the International Scientific Program Committee. The assembly will be held in Pasadena, CA, July 14-21, 2018, at the Pasadena Convention Center.

Sharing the Adventure with the Student: Exploring the Intersection of NASA Space Science and Education – A Workshop

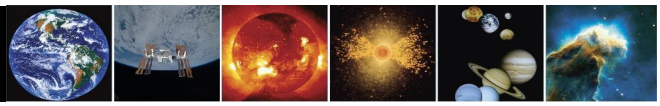
December 2-3, 2014
National Academy of Sciences
Washington, DC

Please consider attending this NRC workshop, which will focus on how NASA Science Mission Directorate (SMD) assets can be harnessed for educational purposes. The workshop will bring together education specialists, education staff from NASA and other agencies, space and Earth scientists and engineers, and science content generators. The workshop participants and attendees will be encouraged to consider such questions as:

- Where is the intersection between what NASA space science can provide for education and what education providers want and need from the NASA science community? What can NASA do to better understand educators' and education providers' needs?
- What are the common goals? How are the goals of educators and NASA scientists different? How can these differences be bridged?
- How is it determined if a program has been successful? Do scientists and education experts agree on what constitutes success? How well does the SMD process of development, trial, evaluation, and performance measurement support an "evidence-based" approach?
- What are institutional arrangements that provide effective platforms for successful cooperation or collaborations? What are the barriers, if any, to meeting the common goals?
- How should success of NASA education efforts be defined and measured? How can NASA determine whether its education efforts are having a measurable long-term effect on student achievement and involvement in science?

The workshop will include presentations by NASA leadership, state science education leaders, and education leadership, and examples of NASA SMD science education efforts will be displayed.

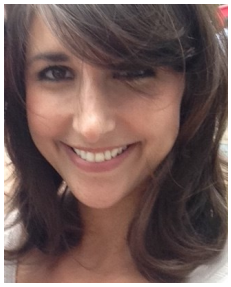
For Registration and More Information Visit http://bit.ly/SSBEduWkshp.



Staff News

Anesia Wilks was promoted to senior program assistant. Ms. Wilks joined us as a program assistant last fall. She brings experience working in the National Academies conference management office as well as other administrative positions in the DC metropolitan area. She will be working on the Framework for Analyzing the Needs for Continuity of NASA Sustained Remote Sensing Observations from Space Committee and the Committee on Solar and Space Physics. Ms. Wilks has a B.A. in psychology, magna cum laude, from Trinity University in Washington, DC.

Christina Shipman is retiring after more than 30 years of service at the National Academies. She served as the financial officer for the Space Studies Board and the Aeronautics and Space Engineering Board. Ms. Shipman had been phasing into retirement for the past year. She came to work at the SSB on a fulltime basis in January 2005, having worked with both the SSB and the NRC Executive Office immediately prior to that. She was also the financial officer for the Commission on Physical Sciences, Mathematics, and Applications for many years. She attended Mercer University and majored in sociology.



Katie Daud joined us as a research associate for the Space Studies Board and the Aeronautics and Space Engineering Board. She comes to the SSB from the Smithsonian National Air and Space Museum's Center for Earth and Planetary Studies where she was a planetary scientist. A triple major at Bloomsburg University, Ms. Daud received a B.S. in planetary science and Earth science, and a B.A. in political science. Ms. Daud is no stranger to the National Academies, having been a Lloyd V. Berkner Space Policy Intern in 2011.

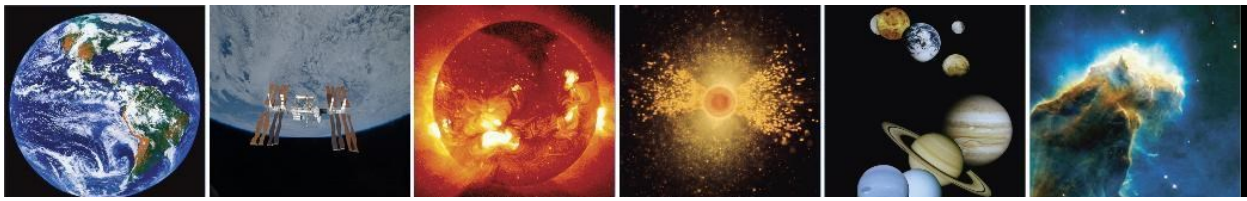
In September, the SSB was joined by three new Lloyd V. Berkner Space Policy Interns: Angela Dapremont, Jesse Lively, and Michelle Thompson

Angela Dapremont recently graduated from the College of Charleston with a B.S. in geology and a minor in French and francophone studies. Ms. Dapremont developed an interest in the merging of science and policy as a result of participating in meetings with congressional aides about science education and funding during her final year of undergraduate study. She has conducted research in the field of planetary geology at NASA Johnson Space Center and NASA Goddard Space Flight Center. As an SSB autumn intern, she has had the opportunity to utilize her research skills and has accomplished her goal of gaining insight into the formulation and implementation of space policy. She hopes to continue to working in science policy and use her experiences as a guide for the next steps in her research career.

Jesse D. Lively is working towards his juris doctor and masters degree at American University, Washington College of Law/ School of International Service. He has a B.A. in political science from Florida State University. Mr. Lively joined us part time while pursuing his degree and working as a local navigator at Legal Zoom in Washington, DC.

Michelle Thompson is a Ph.D. student in Planetary Sciences at the University of Arizona's Lunar and Planetary Laboratory. Her research is focused on understanding the effects of space weathering on airless body surfaces. Ms. Thompson uses transmission electron microscopy to study microstructural and microchemical signatures of space weathering in lunar and asteroidal surface samples returned from the NASA Apollo missions and the JAXA Hayabusa mission. She has received several awards for her presentations at scientific conferences and was recently awarded a NASA Earth and Space Science Fellowship for her research. She serves on several committees as a student in Tucson, including as a representative for the graduate students to the faculty, coordinator for visiting colloquium speakers, and organizer of non-academic career seminars for the students in her department. She has been keenly interested in science policy since beginning graduate school and is very excited for the opportunity to work with the SSB. She looks forward to bringing her experiences at the SSB with her while pursuing a career in planetary science.

[Photos courtesy of SSB Staff]



SSB Calendar

October

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December

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January

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October 7-8	Committee on Solar and Space Physics	Washington, DC
October 7-8	Committee on Biological and Physical Sciences in Space	Washington, DC
November 3-4	Committee on Astronomy and Astrophysics	Irvine, CA
November 5-6	SSB Fall 2014 Meeting	Irvine, CA
December 2-3	Sharing the Adventure with the Student Workshop	

Future Meetings of the SSB or its Standing Committees

NRC Space Science Week, March 31-April 2, 2015, Washington, DC

SSB Spring 2015 Meeting – April 22-23, 2015, Washington, DC

SSB Fall 2015 Meeting –November 3-4, 2015, Irvine, CA

SSB Spring 2016 Meeting – April 26-27, 2016, Washington, DC

More information on the SSB and ASEB Board meetings is at

<http://sites.nationalacademies.org/SSB/SSB_054577 > (SSB) and

<http://sites.nationalacademies.org/DEPS/ASEB/DEPS_058923> (ASEB)

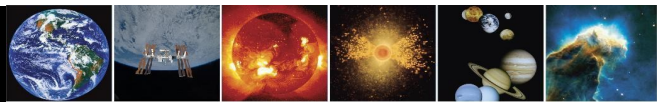
Our meeting facilities

National Academy of Sciences Building
2101 Constitution Ave NW
Washington, DC

Keck Center of the National Academies
500 Fifth St NW,
Washington, DC

Arnold and Mabel Beckman Center of the National Academies
100 Academy Drive
Irvine, CA

J. Erik Jonsson Conference Center
314 Quissett Ave
Woods Hole, MA



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- ☐ Solar and Space Physics: A Science for a Technological Society (2013) Book and CD
- ☐ NASA's Strategic Direction and the Need for a National Consensus (2012)
- ☐ The Effects of Solar Variability on Earth's Climate: A Workshop Report (2012)
- ☐ Vision an Voyages for Planetary Science (2012) Booklet
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- ☐ Assessment of Planetary Protection Requirements for Spacecraft Missions to Icy Solar System Bodies (2012)
- ☐ Assessment of a Plan for U.S. Participation in Euclid CD Only
- ☐ Technical Evaluation of the NASA Model for Cancer Risk to Astronauts Due to Space Radiation
- ☐ Report of the Panel on Implementing Recommendations from the New Worlds, New Horizons Decadal Survey (2012)
- ☐ Sharing the Adventure with the Public—The Value of Excitement: Summary of a Workshop (2011)
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