

SPACE SCIENCE WEEK

The National
Academies of

SCIENCES
ENGINEERING
MEDICINE



SPACE STUDIES BOARD

Spring 2022 Meeting of the Discipline Committees of the Space Studies Board
March 21-22, 2021

Virtual Meeting

Plenary Session

ALL TIMES IN US EASTERN DAYLIGHT TIME (UTC-4:00)

AGENDA

MONDAY, MARCH 21, 2022

Space Science Week Plenary Session, Day 1

Opening Session: Introductions and NASA, NSF, and NOAA Science Program Update

Livestream Link: <https://livestream.com/accounts/7036396/events/10214978>

1:30 PM	Welcome	Dr. Margy Kivelson SSB Chair
1:35 PM	Address by NASA Deputy Administrator (30-minute address)	Ms. Pamela Melroy NASA Deputy Administrator
2:05 PM	NASA Science Mission Directorate (SMD) Overview (60-minute presentation and 15-minute discussion)	Dr. Thomas Zurbuchen Associate Administrator, NASA-SMD
3:20 PM	Break (55-minute break)	
4:15 PM	Panel 1: NASA SMD Science Endeavors (7-minute presentation each and 25-minute discussion)	
	Moderator:	Dr. Margy Kivelson, SSB Chair
	Panelists:	Dr. Thomas Zurbuchen, Associate Administrator, NASA-SMD Dr. Karen St. Germain, Director, Earth Science Division, NASA-SMD Dr. Nicola Fox, Director, Heliophysics Division, NASA-SMD Dr. Lori Glaze, Director, Planetary Science Division, NASA-SMD Dr. Paul Hertz, Director, Astrophysics Division, NASA-SMD Dr. Craig Kundrot, Director, Biological and Physical Sciences Division, NASA-SMD

This agenda was last updated on 3/17/2022 11:23 AM

The National Academies of
SCIENCES • ENGINEERING • MEDICINE

5:15 PM **National Science Foundation (NSF) Science
Program Update**
(25-minute presentation)

**Dr. Debra Fischer, Director, Division of
Astronomical Sciences, NSF**

5:40 PM **National Oceanic and Atmospheric Administration (NOAA)
National Environmental Satellite, Data, and Information
Service (NESDIS) Program Update**
(25-minute presentation)

**Dr. Steve Volz, Assistant
Administrator, NOAA-NESDIS**

6:05 PM *Plenary Session Adjourns for the Day*

Keynote Talk Session

Livestream Link: <https://livestream.com/accounts/7036396/events/10214978>

7:00 PM **Opening Space Science Week Keynote Talk**
“The State of U.S. Science and Engineering 2022”
Dr. Julia Phillips
National Science Board

Keynote Abstract

Hear from Dr. Julia Phillips about a report from the National Science Board sent to the President and Congress. Hear about the global position of the U.S. science and engineering enterprise and how it has shifted due to rapid growth in Asia’s research investments and science and technology capabilities. The data shows that strengthening the U.S. science and engineering enterprise is critical to maintaining the U.S. position as a lead performer and collaborator of science and technology activities globally.

Keynote Speaker Bio

Julia M. Phillips is Director Emeritus and Retired Vice President and Chief Technology Officer, Sandia National Laboratories. Previous positions include Deputy Chief Technology Officer and Director, Laboratory Research & Strategy Partnerships and Director, Nuclear Weapons Science and Technology at Sandia. Her research has been in the areas of epitaxial metallic and insulating films on semiconductors, high-temperature superconducting, ferroelectric, and magnetic oxide thin films, and novel transparent conducting materials. Dr. Phillips currently serves as Home Secretary for the National Academy of Engineering and is past chair of the APS Division of Condensed Matter Physics and served as president of the Materials Research Society. She served as a member of the Working Group for the 2014 NNI (National Nanotechnology Initiative) Review under the President’s Council of Advisors on Science & Technology (PCAST). Dr. Phillips holds a Ph.D. in applied physics from Yale University and a B.S. in physics from the College of William and Mary.

TUESDAY, MARCH 22, 2022

Space Science Week Plenary Session, Day 2

OPEN SESSION

Livestream Link: <https://livestream.com/accounts/7036396/events/10214997>

11:30 AM **Welcome** **Dr. Margy Kivelson**
SSB Chair

Updates from National Space Agencies and Research Institutions from Around the World

11:35 AM **European Space Agency (ESA) Program Science Highlights** **Dr. Günther Hasinger**
(10-minute presentation and 5-minutes discussion) **Director of Science, ESA**

11:50 AM **Japanese Aerospace Exploration Agency (JAXA) Science Highlights** **Dr. Masaki Fujimoto**
(10-minute presentation and 5-minutes discussion) **Deputy Director General, JAXA**

12:05 PM **Break**
(15-minute break)

12:20 PM **Chinese National Space Science Center (NSSC) Science Highlights** **Dr. Chi Wang, Director-General, NSSC**
(10-minute presentation and 5-minutes discussion) **Chinese Academy of Sciences**

12:35 PM **Panel 2: New Investigations in Space Science**
(6-minute presentation each and 16-minutes discussion)
Moderator: **Dr. Colleen Hartman, SSB Director**
Panelists: **Dr. Dipankar Banerjee, Indian Institute of Astrophysics [Aditya-L1]**
 Dr. Eli Waxman, Leader, ULTRASAT, Weizmann Institute of Science, Israel [ULTRASAT]
 Dr. Chae Kyung Sim, Senior Researcher, Space Science Division, Korea Astronomy
 and Space Science Institute [KPLO]
 Dr. Adenilson da Silva, Chief, Division of Space Systems, National Institute for Space
 Research, Brazil (INPE) [Amazônia-1]

1:15 PM **Break**
(55-minute break)

2:10 PM **Reflections of the COSPAR President** **Dr. Len Fisk, President**
(20-minute presentation and 15-minute discussion) **Committee on Space Research (COSPAR)**

2:45 PM Panel 3: Space Situational Awareness, Orbital Debris Mitigation, and Hazards in the Commons

(5-minute presentation each and 25-minute discussion)

Moderator: *Dr. Colleen Hartman, SSB Director*

Panelists: *Dr. J.-C. Liou, Chief Scientist for Orbital Debris, NASA*

**Dr. Riccardo Bevilacqua, Professor, Aerospace Engineering, Embry-Riddle
Aeronautical University**

Dr. John Crassidis, Samuel P. Capen Chair Professor, Department of Mechanical and Aerospace Engineering, University at Buffalo

Dr. Holger Krag, Head of the Space Safety Programme Office, European Space Agency

3:30 PM Break

(60-minute break)

4:30 PM **Orbital Debris and the Deterrence Dilemma**

(20-minute presentation and 10-minutes discussion)

Dr. Gregory Miller, Professor, Military and Security Studies

Air Command and Staff College

5:00 PM NASA Human Space Operations Presentation

(20-minute presentation and 10-minutes discussion)

Ms. Kathy Lueders, Associate Administrator

Space Operations Mission Directorate, NASA

5:45 PM Closing Remarks

Dr. Marqy Kivelson

SSB Chair

5:50 PM *Plenary Session Adjourns*

Public Lecture Session

Livestream Link: <https://livestream.com/accounts/7036396/events/10214997>

6:30 PM Keynote Space Science Week Public Lecture

The *Curiosity* to Explore and the *Perseverance* to Rove: A Decade of Discoveries on Mars

Dr. Amy Williams

Assistant Professor, Department of Geological Sciences, University of Florida

Public Lecture Abstract

The exploration of Mars has taken us from 'Follow the Water' with the Spirit and Opportunity rovers, to 'Follow the Carbon' with the Curiosity rover. We now accept the challenge to 'Follow the Life' with the grand search for ancient life on Mars through the Perseverance rover mission and the Mars Sample Return program. This lecture will explore the foundational discoveries and ongoing exploration of Mars with NASA's Curiosity and Perseverance rovers.

Speaker Bio

Dr. Amy Williams is an astrobiologist and assistant professor of Earth and Planetary Sciences at the University of Florida. Her research focuses on the interaction between microbial life, the geochemical environment, and the rock record on Earth, and how to recognize habitable environments and potentially preserved microbial life on Mars. She has been a member of the NASA Mars Curiosity rover mission since 2009 and has recently joined the cohort of MSL Participating Scientists. She works with the SAM instrument as a lead for SAM's TMAH wet chemistry experiment, designed to detect specific recalcitrant organic molecules in Mars' sediments. She is also a Participating Scientist with the NASA Mars Perseverance rover science team, where she is a Long Term Planner for the mission. She has previously been a NASA Earth and Space Science Fellow, a NASA postdoctoral research associate, and a member of the 2023-2032 Planetary Science and Astrobiology Decadal Survey. She received nominations for the 2017 Maryland Academy of Sciences Outstanding Young Scientist Award, the 2021 UF College of Liberal Arts and Sciences Faculty Mentor of the Year Award, and the 2022 UF Excellence Award for Assistant Professors. She received a University of Florida Research Promotion Initiative Award in 2021.