

63nd IAC Cluster Forum

Improving the Quality of Life on Earth – Societal impacts of Human Space Flight

Wednesday, October 3, 2012, 10:15-15:00

Sponsored by Wyle in conjunction with the NASA Human Health and Performance Directorate, and the German Aerospace Center DLR.

This Cluster Forum will immediately follow the plenary on the same topic to be held Wednesday, 3 October, from 9am to 10am.

PROGRAM

10:00 **Transition from Plenary to Cluster Forum**

10:15 **Welcome**

- Elizabeth E. Richard, Senior Strategist, Wyle (Moderator)
- Johann-Dietrich Wörner, Chairman of the Executive Board, German Aerospace Center DLR
- William H. Gerstenmaier, Associate Administrator, Human Exploration and Operations Mission Directorate, NASA

10:30 **Innovations with Earth and Space Benefits**

Speakers:

- William H. Gerstenmaier, Associate Administrator, Human Exploration and Operations Mission Directorate, NASA
 - *“NASA innovations that benefit life on Earth”*
- Rupert Gerzer, Director, Institute of Aerospace Medicine, German Aerospace Center DLR
 - *“:envihab – the new research facility for human spaceflight and terrestrial applications at DLR”*
- Simon N. Evetts, Medical Projects and Technology Lead, Wyle GmbH
 - UK Space Biomedicine: national and global collaboration
- Jeffrey R. Davis, Director, Human Health and Performance, NASA
 - *“Human health and performance innovations with Earth/space benefits to quality of life”*
- Patrik Sundblad, MD, PhD, Human Research Coordinator (ESA)
 - *“ISS Research for Humanitarian/Terrestrial Benefit”*

- 11:50 Break to Obtain Lunch from Buffet**
- 12:00 Lunch and Keynote**
*** Light lunch provided by Wyle*
- Leland D. Melvin, Astronaut and Associate Administrator for Education, NASA
“Innovation in STEM to Inspire the Next Generation of Explorers”
- 12:30 Q&A**
- 12:45 Panel: Benefits to Earth from Space Agencies Around the World**
- Chiaki Mukai, M.D., PhD, Astronaut and Vice Director for Human Space Systems and Utilization Mission Directorate Japan Aerospace Exploration Agency (JAXA)
 - Volker Damann, MD, Head, Crew Medical Support Office, European Astronaut Department, European Space Agency (ESA)
 - Jeffrey R. Davis, Director, Human Health and Performance (NASA)
 - Patrik Sundblad, MD, PhD, Human Research Coordinator (ESA)
 - Gerd Gruppe, PhD, Member of the DLR Executive Board responsible for the German Space Administration (DLR)
 - Carissa Vidlak, Lead, NHHPC Social Responsibility (Wyle)
 - Igor B. Ushakov, MD, PhD, Director, IBMP, Russian Academy of Sciences (*invited*)
- 14:15 Q&A and Interactive Session with Audience**
- 14:50 Concluding Statements**
- Elizabeth E. Richard, Senior Strategist, Wyle
- 15:00 Adjourn**

Keynote Speaker - Biography



Leland D. Melvin, NASA associate administrator for education, is responsible for the development and implementation of the agency's education programs that strengthen student involvement and public awareness about its scientific goals and missions. In this role, he leads the agency in inspiring interest in science, technology, engineering and mathematics, or STEM, through NASA's unique mission, workforce, facilities, research and innovations.

As associate administrator for education, Melvin chairs the Education Coordinating Committee, or ECC, an agency-wide collaborative structure that maximizes NASA's ability to manage and implement its education portfolio. The ECC works to ensure that the agency's education investments are focused on supporting the nation's education efforts to develop the skilled workforce necessary to achieve NASA's goals and objectives.

Melvin currently serves on the White House National Science and Technology Council's Committee on Science, Technology, Engineering and Mathematics Education, or CoSTEM. CoSTEM coordinates the STEM education activities and programs for all federal agencies, encourages the teaching of innovation and entrepreneurship as part of STEM education, reviews STEM education activities and programs to ensure they are not duplicative within the Federal government and develops and implements a five-year STEM education strategy for all federal agencies. He is the United States representative on the International Space Education Board, or ISEB, a global collaboration in space education between NASA, the Canadian Space Agency, the European Space Agency, the Japan Aerospace Exploration Agency and the Centre National d'Études Spatiales. The ISEB shares best practices and unites efforts to foster interest in space, science and technology among the student community.

Melvin began his NASA career in 1989 as an aerospace research engineer at the agency's Langley Research Center in Hampton, Va. He entered NASA's astronaut corps in 1998 and served as a mission specialist operating the robotic arm on two space shuttle missions to the International Space Station: STS-122 in 2008 and STS-129 in 2009.

Melvin earned a Bachelor of Science degree in chemistry from the University of Richmond, where he also excelled as a wide receiver for the Spiders' football team. He became a National Collegiate Athletic Association Division I Academic All American and University of Richmond Athletic Hall of Fame Inductee. He was then drafted into the National Football League, or NFL, by the Detroit Lions in 1986 and also spent time with the Dallas Cowboys and the Toronto Argonauts. After injuries sidelined his football career, he returned to academia and earned his Master of Science degree in materials science engineering from the University of Virginia in Charlottesville. He holds honorary doctorates from Centre College, St Paul's College and Campbellsville University.