Agenda

Thursday, October 29

Welcome, Introductions and Opening Remarks

0830 The Honorable Edward P. Djerejian
Director, Rice University’s Baker Institute for Public Policy

George W.S. Abbey
Senior Fellow in Space Policy, Rice University’s Baker Institute for Public Policy

Bonnie J. Dunbar
John and Bea Slattery Chair, Department of Aerospace Engineering, Texas A&M University

Jeffrey Sutton
Director, Center for Space Medicine, Baylor College of Medicine

Opening Address
Introduction: George W.S. Abbey, Baker Institute

0855 Michael Fossum
Vice President and Chief Operating Officer, Texas A&M University at Galveston

Panel I — Lunar Exploration
Introduction: George W.S. Abbey, Baker Institute

0915 Moderator: Leroy Chiao, Astronaut

Panelists
Bonnie J. Dunbar, Astronaut
Fred Haise, Astronaut
Oleg Kotov, Cosmonaut
Michael Lembeck, University of Illinois
Kathy Lueders, NASA
James Pattarini, NASA
Harrison (Jack) Schmitt, Astronaut
William Shepherd, Astronaut

Topics
- Lunar exploration and international cooperation
- Private companies and their role in supporting lunar exploration

Discussion and Summation
Panel II — Maximizing Use of the International Space Station
Introduction: Jeffrey Sutton, BCM

1030 Co-Moderators: Chris Hadfield, Astronaut and Dan Burbank, Astronaut

Panelists
Michael Lopez-Alegria, Astronaut
Michael Barratt, Astronaut
Bonnie J. Dunbar, Astronaut
Elaine Fomina, IBMP
Oleg Kotov, Cosmonaut
Bill McArthur, Astronaut
Luca Parmitano, Astronaut
Julie Robinson, NASA
William Shepherd, Astronaut

Topics
• Sharing facilities and data Cooperative research
• Effective utilization and sharing of crew time
• Discussion and Summation

Panel III — Lifetime Surveillance
Introduction: Bonnie Dunbar, Astronaut

1145 Moderator: Michael Barratt, Astronaut

Panelists
Susan Bloomfield, TAMU
Bill Carpentier, NASA
Jacquelin Charvat, Wyle
Rebekah Reed, NASA
Brad Rhodes, NASA
Mary Van Baalen, NASA
Sergi Vaquer, ESA

Topics
• Information available concerning the short- and long-term medical consequences of long-duration exposure to space and subsequent re-adaptation to Earth’s environment
• Uncertainties in the projection of the risks of late effects from space radiation
• Sharing data
• Texas A&M RADAR Project-International Data Repository

Discussion and Summation
Friday, October 30

Panel IV — New Frontiers in Space Medicine – Session I
Introduction: Jeffrey Sutton, BCM

0830 Moderator: Serena Auñón-Chancellor, Astronaut

Panelists
Michael Barratt, Astronaut
Jeffrey Chancellor, Idaho State University
Jon Clark, BCM
Steve Laurie, Wyle
Kris Lehnhart, NASA
James Pattarini, NASA
Liz Warren, ISS National Lab

Topics
• Assuring safety for participants with medical deficits
• Recent findings on Spaceflight Associated Neuro-ocular (SANS) and Vascular considerations in long-duration spaceflight
• International fluid shift data
• Medical implications of the upcoming lunar missions
• Pandemic quarantine and contingency plans for Covid-19

Discussion and Summation

Panel IV — New Frontiers in Space Medicine – Session II
Introduction: Richard Jennings, UTMB

1030 Moderator: Michael Barratt, Astronaut

Panelists
Serena Auñón-Chancellor, Astronaut
Ludmila Burakova, IBMP
Grace Douglas, NASA
Joe Dervay, NASA
Kristin Fabre, BCM
Will Li, Angiogenesis Foundation
Maybritt Kuypers, ESA
Robert Mulcahy, NASA

Topics
• Effects related to mission duration
• Long duration space flight and challenges and nutrition
• Overview of NASA GeneLab project
• Contribution of ’omics studies to human research goals
• Enabling precision medicine for space crews
• Performing genomic experiments in the ISS laboratory
• Ethical issues in astronaut genomic studies
• Centrifuge study results

Discussion and Summation

Panel V — Human Spaceflight and Automation
Introduction: George W.S. Abbey, Baker Institute

1145 Moderator: Steve Robinson, Astronaut - UC Davis

Panelists
Dan Burbank, Astronaut
Trey Davis, NASA
Alvin Drew, Astronaut
Garrett Reisman, Astronaut
William Shepard, Astronaut
Aleksandra Stankovic, Harvard
James Wetherbee, Astronaut
Iya Whiteley, University College London

Topics

• Automated control criteria
• Requirements for human control
• Back-up control options
• Testing, verification and training

Discussion and Summation
Friday, November 6

Panel VI — Education and STEM Advances
Introduction: George W.S. Abbey, Baker Institute

0830 Co-Moderators: Bonnie J. Dunbar, Astronaut, and Karl Doetsch

Panelists
Chris Barber, International Space School Educational Trust (ISSET)
Alex Blackwood, International education business Partnership Network (IPN)
Ludmila Buravkova, IBMP
Linda Godwin, Astronaut
Francesco Fusco, Foundation for International Space Education
Michael Lembeck, University of Illinois
Stephen Robinson, Astronaut
Salizhan Sharipov, Cosmonaut
Andrew Turnage, Association of Space Explorers

Topics
• Stimulating interest in science and engineering education
• Benefits of an international educational program
• Benefits and opportunities for student exchange programs
• SpHERES

Discussion and Summation

Panel VII — Apollo 13: 50th Anniversary
Introduction: Richard Jennings, UTMB Galveston

1015 Moderator: Gerry Griffin, NASA

Panelists
Michael Berry, NASA
Bill Carpentier, NASA
Fred Haise, Astronaut
Joseph Kerwin, Astronaut
Jack Lousma, Astronaut
Glynn Lunney, NASA
Bill Moon, NASA
Bill Reeves, NASA
Bill Stovall, NASA
Topics

- Critical systems that were essential and utilized not as designed
- Lessons learned considering the ability to use both the Lunar Module and Command Modules systems that were operated in off nominal conditions
- Implications to spacecraft design considering the present plans to return to the moon

Discussion and Summation

Discussion Groups

The discussion groups provide an opportunity for all participants to collaborate with a group leader on an assigned topic. Each group will be tasked with developing a written report on their topic.

1130

**Group A**
Cooperative Research
Team Leader: Bill McArthur, Astronaut

**Group B**
Team Leader William Shepherd, Astronaut
Design considerations for lunar and space exploration spacecraft

**Group C**
Education
Team Leaders: Bonnie J. Dunbar, Astronaut and Karl Doetsch