

## ALEXANDER J. AND VALENTINA A. SEVERINSKY 125TH ANNIVERSARY COLLOQUIUM

### Rendezvous with Space: Engineering Education, Lessons from the Last 50 Years, and the Future



#### Dr. Bonnie J. Dunbar

TEES Eminent Research Professor, Aerospace Engineering  
Director, Aerospace Human Systems Laboratory (AHSL)  
Texas A&M University

**Friday, June 7 | 4:30 pm Reception | 5:00 pm Lecture**  
**1202 EGR - Glenn L. Martin Hall**

**About the Lecture:** Dr. Bonnie J. Dunbar will discuss perspectives on human space exploration, drawing from her early involvement in designing the Space Shuttle, to her five flights on the Space Shuttle and visit to the Russian Space Station, MIR, to the nation's return to the Moon and on to Mars. While we have learned much from the last 50 years of human space exploration, there are still engineering challenges ahead. What are they and how should we be mitigating them now: in University Research, in Low Earth Orbit (LEO), in Cis-Lunar Space Stations, and on the surface of the Moon? A significant component to the solutions for human space exploration is the education and supply of engineers. What are the challenges to recruiting our youth into engineering and how might the inspiration of space exploration help to recruit youth into all engineering disciplines? What lessons can we learn from history? What might the 21st Century look like?

**About the Speaker:** Dr. Dunbar is a retired NASA astronaut, engineer, and educator, currently with Texas A&M College of Engineering as a Texas A&M Engineering Experiment Station (TEES) Distinguished Research Professor in the Department of Aerospace Engineering. She has established a laboratory to engineer next generation "spacesuits" for the protection of humans in extreme environments: the Aerospace Human Systems Laboratory (AHSL). She is also conducting pathfinder research into the behaviors of fluid systems in partial gravity environments.

Dr. Dunbar was formerly with the University of Houston, where she was an M.D. Anderson Professor of Mechanical Engineering. Prior to this, she worked for The Rockwell International Space Division Company building Space Shuttle Columbia and then worked for 27 years at NASA, first as a flight controller; then as a mission specialist astronaut, where she flew five space shuttle flights, logging more than 50 days in space. She then served for 7 years as a member of the NASA Senior Executive Service (SES).

Dr. Dunbar is a member of the National Academy of Engineering and Royal Society of Edinburgh. She is a Fellow of the American Ceramic Society, the American Institute of Aeronautics and Astronautics, and the Royal Aeronautical Society. She has been awarded the NASA Space Flight Medal five times. Dr. Dunbar holds bachelor's and master's degrees in ceramic engineering from the University of Washington and a Ph.D. in mechanical/biomedical engineering from the University of Houston.