Monday, March 23, 2020

Opening Session

8:10 am  Presentation of the Colors
Joint Armed Forces Honor Guard
from the Military District of Washington, DC

Singing of the National Anthem
Kimberly Gaskins
U.S. Nuclear Regulatory Commission

8:15 am  NCRP Welcome
Kathryn D. Held
President, NCRP

8:20 am  Introduction
Jacqueline P. Williams
University of Rochester Medical Center
Cary J. Zeitlin
NASA Johnson Space Center
Program Co-Chairs

Seventeenth Annual Warren K. Sinclair Keynote Address

8:30 am  Introduction of the Speaker
Kathryn D. Held

Space Radiation: Perspective From the Astronaut Office
Serena M. Auñón-Chancellor
NASA Johnson Space Center

Flight Environments & Combined Stressors

Cary J. Zeitlin & Mark Shavers, Session Co-Chairs

9:00 am  The NASA Space Radiation Laboratory Galactic Cosmic Ray Simulator
Lisa Simonsen
NASA Langley Research Center

9:20 am  Characterization & Prediction of the Aircraft Ionizing Radiation Environment
Christopher J. Mertens
NASA Langley Research Center

9:40 am  Aim High: Flight Altitude as a Unique Environment for Military Aircrew
Jason Cezeaux
U.S. Air Force School of Aerospace Medicine/Occupational and Environmental Health Analytical Services Division

10:00 am  It’s Not Just Radiation: Other Environmental Factors Affecting Space Flight Health Risks
Marianne B. Sowa
NASA Ames Research Center

10:20 am  Q&A

10:35 am  Break

Cancer Risks

Michael M. Weil & Jeri Anderson, Session Co-Chairs

10:55 am  Cancer Risk Assessment for Astronauts Participating in Deep Space Missions
Tony Slaba
NASA Langley Research Center

11:15 am  Space Radiation Cancer Biology - Individualizing Risk
Michael M. Weil
Colorado State University

11:35 am  Radiation Dose & Risks to Flight Crews: The European Perspective
Werner Rühm
German Research Center for Environmental Health, Munich
Summary

11:55 am  Cancer in U.S. Pilots & Flight Attendants: NIOSH Aircrew Studies  
Jeri Anderson  
National Institute for Occupational Safety & Health, Centers for Disease Control & Prevention

12:15 pm  Q&A

12:30 pm  Lunch

Noncancer Risks
Jacqueline P. Williams & Janice L. Huff, Session Co-Chairs

1:30 pm  Radiation in the Context of Human System Risks in Exploration Spaceflight  
Erik Antonsen  
NASA Johnson Space Center

1:50 pm  Long Term Effects of Space Radiation on Cognition  
Antiño R. Allen  
University of Arkansas for Medical Sciences

2:10 pm  Cosmic Radiation & Human Health: Evidence from Aircrews & Astronauts  
Robert J. Reynolds  
Mortality Research & Consulting, Inc.

2:30 pm  Effects of the Space Flight Environment on Bone Health  
Jeffrey Willey  
Wake Forest School of Medicine

2:50 pm  Q&A

3:05 pm  Break

Noncancer Risks (continued)
Gayle E. Woloschak & Zarana Patel, Session Co-Chairs

3:20 pm  Fight-or-Flight: Immune Status & Radiation Resilience  
Dörthe Schau  
University of California - Los Angeles

3:40 pm  Reproductive Hazards in Flight Crew: Radiation & Beyond  
Candice Johnson  
National Institute for Occupational Safety & Health, Centers for Disease Control & Prevention

4:00 pm  Cardiovascular Effects of Low-Dose Ionizing Radiation  
Marjan Boerma  
University of Arkansas for Medical Sciences

4:20 pm  Sleep, Circadian Rhythms, and Workload in Spaceflight  
Ajit Mulavara  
NASA Johnson Space Center

4:40 pm  Q&A

4:50 pm  Break

Forty-Fourth Lauriston S. Taylor Lecture on Radiation Protection & Measurements

5:00 pm  Introduction of the Lecturer  
Michael M. Weil  
Taking Up Space: The Path to Understanding Radiation Risks

Robert L. Ullrich

6:00 pm  Reception
Tuesday, March 24

8:15 am  NCRP Annual Business Meeting
9:15 am  Break

Fourth Thomas S. Tenforde Topical Lecture
9:30 am  Introduction of the Lecturer
          Donald A. Cool
          Collision or Cooperation? The Law, Ethics & Science of Personalized Risk Assessments for Space & Air Travel
          Paul A. Locke
          Johns Hopkins Bloomberg School of Public Health

Biomarkers & Countermeasures
Evagelia C. Laiakis & Michael D. Story, Session Co-Chairs

10:00 am  Hibernation & Radioprotection: Reduced Tissue Damage in Rats under Synthetic Torpor
          Marco Durante
          GSI Helmholtzzentrum für Schwerionenforschung, Darmstadt

10:20 am  A New Approach to Space Radiation Shielding
          Dan Fry
          NASA Johnson Space Center

10:40 am  Predicting the Effects in Space of Low Dose Chronic Exposure to GCR & Protons using the NASA Genelab
          Sylvain Costes
          NASA Ames Research Center

11:00 am  Protective Countermeasures in a Healthy Population: Challenges & Strategies for Mitigating the Health Risks of Flight
          Janice L. Huff
          MEI Technologies/NASA Johnson Space Center

11:20 am  Q&A for All Speakers

Conclusions

11:50 am  Flying High - Program Wrap-Up
          Jacqueline P. Williams & Cary J. Zeitlin
          Program Committee Co-Chairs

12:00 pm  NCRP Vision for the Future & PAC Activities
          Kathryn D. Held
          President, NCRP

12:30 pm  Adjourn

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