

# NASA Human Research Program Investigators' Workshop

## *A New Dawn: Enabling Human Space Exploration*

In conjunction with  
**Space Radiation Investigators' Workshop**

### Monday, January 23

7:00 a.m. Pre-function (1<sup>st</sup> floor)  
**8:00 a.m. Grand Ballroom**  
 8:05 a.m.  
 8:10 a.m.  
 8:20 a.m.

9:00 a.m.  
 9:30 a.m. Grand Foyer (2<sup>nd</sup> Floor)  
 9:45 a.m.  
 10:20 a.m.  
 10:30 a.m. Galleon I

Hilton Crystal Ballroom  
 Grand Ballroom  
 Galleon II & III

**12:00 p.m. Exhibit Hall B**  
 1:00 p.m. Galleon II & III

Galleon I  
 Grand Ballroom  
 2:30 p.m. Grand Foyer (2<sup>nd</sup> Floor)  
 3:00 p.m. Galleon II & III

Yacht  
 Galleon I  
 Grand Ballroom

4:30 p.m. Exhibit Hall A  
 6:00 p.m.

### General Session (8:00 a.m. – 10:20 a.m.)

General Registration/Check-in  
*Greetings from the International Space Station* – P Whitson  
*Welcome* – J Charles  
*Remarks from HQ* – C Kundrot  
**Plenary: First Crewed Deep Space Missions since 1972**  
 – P Troutman and J Crusan

**Plenary: Twins and One Year Mission** – J Charles  
**COFFEE BREAK**

**Plenary: International Plenary - Partner Agencies**  
**BREAK**

Exploration Medical Capability: Element Overview & Goals

Occupant Protection and Dynamic Loads

One Year Mission Results

The 28th Annual Space Radiation IWS: Welcome and Special Topics

### LUNCH

In-Flight Central Nervous System 1: Keeping things separate, cleaning house, and remembering that every rat and person is special

Exploration Medical Capability Systems Engineering

Extravehicular Activity Physiology

### COFFEE BREAK

In-Flight Central Nervous System 2: Paying attention, late nights, and using memory banks with fewer branches

Advanced Food Technology

Exploration Medical Capability Operational Research

HRP Chief Scientist's Office: Conducting Research to Enable Deep Space Exploration

Poster Session A; Cash Bar Reception

### Adjourn

### Tuesday, January 24

7:00 a.m. Pre-function (1<sup>st</sup> floor)  
**8:00 a.m. Grand Ballroom**

9:30 a.m. Grand Foyer (2<sup>nd</sup> floor)  
 9:45 a.m. Yacht

Galleon I

General Registration/Check-in

**Plenary: Results from ISS Research** – J Stuster, D Dinges, S Thaxton

### COFFEE BREAK

Exploration Exercise Device Development and Supporting Analyses

Exploration Medical Capability Information Resources: Integrated Medical Model

	Hilton Crystal Ballroom Grand Ballroom Galleon II & III	Human Exploration Research Analog Panel Immunology and Microbiology In-Flight Central Nervous System 3: Accumulating bad connections and what they're made of
11:15 a.m. 12:00 p.m.	Exhibit Hall B <b>Grand Ballroom</b>	<b>Obtain LUNCH</b> <b>Lunch Plenary:</b> <i>Transforming Medical Research and Care with Data, Analytics and Technology</i> - L Chin
1:00 p.m.	Galleon II & III Yacht	Approaches to Human Health Risk Assessment Biomechanical and Musculoskeletal Computational Modeling
	Hilton Crystal Ballroom Galleon I Grand Ballroom	Brain and Behavior Changes under Spaceflight Stressors Exploration Medical Capability Information Resources Spaceflight-Induced Cardiovascular Health Risk Assessment
2:30 p.m. 3:00 p.m.	Grand Foyer (2nd floor) Galleon I Hilton Crystal Ballroom	<b>COFFEE BREAK</b> Exploration Medical Capability Closed Session I Markers for Individualizing Countermeasures in Exploration
	Grand Ballroom Galleon II & III Yacht	Sensorimotor Flight and Ground Studies Simulating the Space Environment – The Good, the Bad, and the Ugly Visual Impairment and Intracranial Pressure Computational Modeling
4:30 p.m. 6:00 p.m.	Exhibit Hall A	Poster Session B; Cash Bar Reception <b>Adjourn</b>

### Wednesday, January 25

7:00 a.m.	Pre-function (1 <sup>st</sup> floor)	General Registration/Check-in
8:00 a.m.	Galleon I	Exploration Medical Capability Technology Development
	Galleon II & III Hilton Crystal Ballroom Yacht	Exploration Monitoring Tools I Physics I Radiation Effects on Affairs of the Heart I
	Grand Ballroom Spinnaker	Visual Impairment and Intracranial Pressure Update EVA Forum
9:30 a.m.	Grand Foyer (2 <sup>nd</sup> floor)	<b>COFFEE BREAK</b>
9:45 a.m.	Galleon I Galleon II & III Hilton Crystal Ballroom Yacht	Exploration Medical Capability Collaborators Exploration Monitoring Tools II Physics II Radiation Effects on Affairs of the Heart II
	Grand Ballroom	Spaceflight and the Brain
11:15 a.m. 11:30 a.m. 12:00 p.m.	Exhibit Hall B Clipper <b>Grand Ballroom</b>	<b>Obtain LUNCH</b> NSBRI Career Development & Outreach Luncheon <b>Lunch Plenary:</b> <i>Measures in Human-Robot Interaction (HRI) for Disaster Robotics</i> – R Murphy
1:00 p.m.	Galleon II & III  Galleon I  Yacht	Communication - The Omics of Sports & Space: How Genomics is Transforming Both Fields Exploration Mediwireless handheld Capability Technology Development: Imaging Technologies Space Radiation Carcinogenesis I

	Grand Ballroom	Visual Impairment and Intracranial Pressure Analogs and Countermeasures
2:30 p.m.	Hilton Crystal Ballroom	NSRL Annual Review (closed)
3:00 p.m.	Grand Foyer (2nd floor)	<b>COFFEE BREAK</b>
	Galleon II & III	Characterizing Behavioral Changes in Isolation and Confinement
	Grand Ballroom	Monitoring Ocular and Brain Changes to Understand Visual Impairment and Intracranial Pressure
	Yacht	Space Radiation Carcinogenesis II
4:30 p.m.	Hilton Crystal Ballroom	NSRL Annual Review (closed)
<b>5:00 p.m.</b>	<b>Pre-function (1st floor)</b>	<b>BREAK</b>
<b>6:45 p.m.</b>	<b>Grand Ballroom</b>	<b>Cash Bar Happy Hour</b>
		<b>2017 HRP Awards Banquet</b>
		<i>HRP Awards – W Paloski</i>
		<i>Dr. David Watson Poster Competition Awards – G Scott</i>
		<i>NSBRI Pioneer Award – J Sutton</i>
		<b>Keynote: <i>The Sports Gene: Inside the Science of Extraordinary Athletic Performance</i></b>
		David Epstein; <i>Author of New York Times Bestseller, The Sports Gene</i>
9:00 p.m.		<b>Adjourn</b>

#### Thursday, January 26

7:00 a.m.	Pre-function (1 <sup>st</sup> floor)	General Registration/Check-in
8:00 a.m.	Yacht	Exercise - Bedrest and International Space Station
	Galleon I	Exploration Medical Capability Closed Session II
	Galleon II & III	Space Radiation Carcinogenesis III
	Hilton Crystal Ballroom	Team, Training, and Performance Metrics
	Grand Ballroom	Twins I
9:30 a.m.	Grand Foyer (2 <sup>nd</sup> floor)	<b>COFFEE BREAK</b>
9:45 a.m.	Yacht	Exercise Countermeasures and Technology
	Galleon I	How to Conduct A Better Flight Study
	Galleon II & III	Inter-Agency Approaches to Radioprotection
	Hilton Crystal Ballroom	Tools and Methods for Habitability
	Grand Ballroom	Twins II
11:15 a.m.	Exhibit Hall B	<b>Obtain LUNCH</b>
<b>12:00 p.m.</b>	<b>Grand Ballroom</b>	<b>Lunch Plenary: <i>The Hubble Space Telescope: 26 Years of Incredible Cosmic Discovery</i> – J Wiseman</b>
1:00 p.m.	Galleon I	Analogs – The Next Best Thing to Being There
	Hilton Crystal Ballroom	Countermeasures for Exploration
	Yacht	How We Do Business
	Galleon II & III	Inter-Agency Discussion on Space Radiation
	Grand Ballroom	Preserving Skeletal Health of Astronauts During Long-Duration Spaceflight
2:30 p.m.	Grand Foyer (2nd floor)	<b>COFFEE BREAK</b>
<b>3:00 p.m.</b>	<b>Grand Ballroom</b>	<b>Plenary: <i>Astronaut Panel</i> – K Rubins, M Barratt</b>
4:30 p.m.		<i>Closing Comments</i> – J Charles