

# **COSPAR Meeting on Refining Planetary Protection Requirements for Human Missions to Mars**

## **Part 1: Virtual Meeting on Technology & Operations**

### **Scope**

This meeting is part of the ongoing series to align previously identified knowledge gaps in planetary protection with mission opportunities in the timeframe between now and the first crewed flight to the Martian surface. The meeting report will feed into subsequent COSPAR reporting on potential opportunities to address knowledge gaps in the areas of: i) Microbial and human health monitoring; ii) Technology and operations for contamination control, and; iii) Natural transport of contamination on Mars.

The first day of the virtual meeting will present relevant highlights and updates in planetary protection and spaceflight programs, and an overview of workshop process and findings to date. The second day of the virtual meeting will focus on spacecraft hardware and operations technologies, with particular emphasis on the interface between hardware performance and contamination control/planetary protection issues.

This may be the first in a series of virtual meetings and/or we may have an in-person two-day meeting to be held on TBD dates in Fall 2020. These will have a particular focus on measurements and approaches needed for addressing knowledge gaps in planetary protection and contamination control for spacecraft hardware and operations.

### **Virtual meeting joining details for both days.**

Webex – <http://nasa.webex.com>

WebEx Meeting Number: 905 047 626

WebEx Passcode: May19-20Virtu@l

Telecon Number: +1 800-779-1642 (US and International)

Telecon Passcode: 7531858

### **Day 1 (19 May)**

(All times US Eastern Daylight-saving Time)

#### **Workshop Objectives and Planetary Protection Overview**

- 9:00 - 9:05 Welcome and objectives of the workshop – Bette Siegel (NASA)
- 9:05 - 9:25 Policy updates and NASA response to PPIRB – Lisa Pratt (NASA)
- 9:25 - 9:55 Development of COSPAR human requirements for missions beyond Earth orbit – Andy Spry (SETI)
- 9:55 - 10:10 Mission Opportunities to Address Planetary Protection Knowledge Gaps in ISS, Lunar surface and ground analogs – Gerhard Kminek (ESA)
- 10:10 - 10:40 Moon to Mars Overview – Michelle Rucker (NASA JSC)

10:40 - 11:10 Mars Surface Science Update – Jen Eigenbrode (NASA GSFC)

11:10 - 11:40 Surface Operations: What Humans will do on Mars? – Steve Hoffman (NASA JSC)

11:40 - 12:10 Astronaut training and tool development – Loredana Bessone (ESA)

12:10 - 12:30 Q&A and Discussion

12:30 Close of Day 1.

## **Day 2 (20 May)**

(All times US Eastern Daylight-saving Time)

### **Current Potential Mission Design Elements**

9:00 - 9:05 Welcome and Introduction – Bette Siegel (NASA)

9:05 - 9:50 An Antarctic Model for Human Planetary Surface Exploration – Stan Love (NASA JSC)

9:50 - 12:30 Spacecraft Hardware Performance and Operations: An extended briefing on spacecraft elements, as applicable to planetary protection concerns at Mars:

9:55 - 10:45 Environmental Control & Life Support Systems (ECLSS) – Jim Broyan (NASA JSC)

10:45 - 11:20 Exploration Extravehicular Activity– Natalie Mary (NASA JSC)

11:20 - 11:55 Space X Surface operations plans – Paul Wooster (SpaceX)

11:55 - 12:30 Sample acquisition & drilling – Kris Zacny (Honeybee Robotics)

12:30- 12:50 Q&A and Discussion

12:50- 1:00 Information on next meeting and paths forward

1:00 Adjourn meeting

-