MULTILATERAL COORDINATION OF ANALOG STUDIES

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To explain recent multilateral efforts to coordinate analog studies to permit comparisons across them regardless of the venue.

- **Standardization**
  - Bed rest international guidelines
  - Isolation and Confinement Analogs
  - ISS 1-year missions
A study group of the International Academy of Astronautics (IAA) was formed in 2009 to standardize the 60-day, 6° head-down tilt bed rest platform

- establish consistency across bed rest studies worldwide
- allow for increased data sharing and collaboration internationally
- Standard conditions and standard measures included
GUIDELINES FOR STANDARDIZATION OF BED REST STUDIES

- **Standard Conditions**
  - Subject selection
  - Study integration
  - Clinical support
  - Dietary standards
  - Biological sample handling
  - Study management
  - Data management

- **Standard Measures**
  - Sensorimotor
  - Cardiovascular
  - Exercise/Muscle
  - Bone
  - Nutrition
  - Hematology
  - Immunology
  - Psychology

- Awaiting final approval by the IAA

- Drafting a publication to summarize the standardization guidelines for easy access by the scientific community.
ISOLATION AND CONFINEMENT ANALOG STANDARD MEASURES

- **HERA**
  - Behavioral health measures
    - Stress
    - Affect
    - Morale
    - Well-being
    - Expectations
  - Physiological measures
    - Immune function
    - Oxidative stress and damage
    - Cortisol
    - Catecholamines
    - Blood pressure

- **HANA**
  - Plans for development of international standardization
NASA HRP is planning for a battery of standard measures to be used on subsequent 1-Year Missions on the ISS.

Use of standard measures will allow for ease of planning the testing schedule.

Solicitations to analyze the collected measures will allow HRP to answer multiple research questions and make comparisons back to ground-based analog studies.
THANK YOU FOR YOUR ATTENTION