

Space Life Sciences & Systems

For questions, email:

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Life Sciences and Systems TC

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Economical, human exploration of deep space will demand robust space systems with effective solutions for mitigating human health risks. Cost-effective and integrated solutions for space systems could evolve from technologies and capabilities that currently support terrestrial markets and may leverage lessons learned from closed biomes. These advanced and robust systems need to be reliable, resilient and recoverable, and can include habitats, ECLSS, communications, medical/behavioral health accommodations, gravity simulation and more (see the topic list below). ASCEND seeks to bring together space researchers, habitat architects, and designers with visionary engineers and scientists addressing UN sustainability goals to advance the state of the art in service of space and terrestrial applications.

Topics of interest include, but are not limited to:

- » Autonomous Systems for Space Habitat Operations
- » Design, Analyses and Modeling & Simulation
- » Environmental Control & Life Support Systems (ECLSS)
- » Behavioral Health / Psychological Impacts
- » Clothing & Other Crew Amenities
- » Command Control and Communications
- » Ethics, Exploration & Eminent Domain, and Planetary Protection
- » Food Production and Storage
- » Human Centered Design
- » Human-Machine Integration
- » Integrated Power Systems
- » Long-term Mission Planning & Technology Roadmap Development
- » Lunar/Mars Surface Habitat Architectures
- » Medical Facilities and Services for Spaceflight
- » Microgravity / Reduced-Gravity Effects and Countermeasures
- » Microgravity/Partial Gravity Reproduction
- » Mobile Habitats
- » Orbital Platform Architectures
- » Radiation Protection
- » Robotic Systems
- » Safety and Risk Tolerance
- » Science / Experiment Payloads
- » Search and Rescue Operations
- » Space Habitats
- » Space Radiation Effects and Protection
- » Spacesuits