

29th IAA SYMPOSIUM ON SPACE POLICY, REGULATIONS AND ECONOMICS (E3)
Enterprise Risk Management (6)

Author: Dr. Jennifer Mindock
Wyle Labs/NASA-JSC, United States, jennifer.a.mindock@nasa.gov

Dr. Sarah Lumpkins
MEI/NASA-JSC, United States, sarah.b.lumpkins@nasa.gov

Dr. Wilma Anton
Wyle Labs/NASA-JSC, United States, wilma.anton@nasa.gov

Ms. Maria Havenhill
NASA-GRC, United States, mariatheresa.a.havenhill@nasa.gov

Dr. Mark Shelhamer
NASA-JSC, United States, mark.j.shelhamer@nasa.gov

Mr. Michael Canga
NASA, United States, michael.a.canga@nasa.gov

INTEGRATING SPACEFLIGHT HUMAN SYSTEM RISK RESEARCH

Abstract

NASA is working to increase the likelihoods of human health and performance success during exploration missions as well as subsequent crew long-term crew health. To manage the risks in achieving these goals, a system modeled after a Continuous Risk Management framework is in place. “Human System Risks” (Risks) have been identified and approximately 30 are being actively addressed by NASA’s Human Research Program (HRP). Research plans for each of HRP’s Risks have been developed and are being executed. Ties between the research efforts supporting each Risk have been identified; however, efforts to identify and benefit from these connections have been mostly ad hoc. There is growing recognition that solutions developed to address the full set of Risks covering medical, physiological, behavioral, vehicle, and organizational aspects of the exploration missions must be integrated across Risks and disciplines. We will discuss how a framework of factors influencing human health and performance in space is being applied as the backbone for bringing together sometimes disparate information relevant to the individual Risks. The resulting interrelated information is allowing us to identify and visualize connections between Risks and research efforts in a systematic and standardized way. We will discuss the applications of the visualizations and insights to research planning, solicitation, and decision-making processes.