

IWS 2015 Abstract

MANAGING RESEARCH IN A RISK WORLD

W. Anton ¹, M. Havenhill²

¹Wyle Science, Technology and Engineering Group, 1290 Hercules, Houston, TX 77058

²NASA Glenn Research Center, 21000 Brookpark Rd, Cleveland, OH 44135

The Office of Chief Medical Officer (OCHMO) owns all human health and performance risks managed by the Human System Risk Board (HSRB). While the HSRB manages the risks, the Human Research Program (HRP) manages the research portion of the overall risk mitigation strategy for these risks.

The HSRB manages risks according to a process that identifies and analyzes risks, plans risk mitigation and tracks and reviews the implementation of these strategies according to its decisions pertaining to the OCHMO risk posture. HRP manages risk research work using an architecture that describes evidence-based risks, gaps in our knowledge about characterizing or mitigating the risk, and the tasks needed to produce deliverables to fill the gaps and reduce the risk. A planning schedule reflecting expected research milestones is developed, and as deliverables and new evidence are generated, research progress is tracked via the Path to Risk Reduction (PRR) that reflects a risk's research plan for a design reference mission.

HRP's risk research process closely interfaces with the HSRB risk management process. As research progresses, new deliverables and evidence are used by the HSRB in conjunction with other operational and non-research evidence to inform decisions pertaining to the likelihood and consequence of the risk and risk posture. Those decisions in turn guide forward work for research as it contributes to overall risk mitigation strategies. As HRP tracks its research work, it aligns its priorities by assessing the effectiveness of its contributions and maintaining specific core competencies that would be invaluable for future work for exploration missions.