

## 182. HUMAN SYSTEM RISK MANAGEMENT APPROACH TO CST

### **PROJECT AT-A-GLANCE**

- **AST RDAB POC:** Graham, Doug
- **AST RESEARCH AREA:** 3.1 Human Spaceflight - Physiology & Medicine
- **PRINCIPAL INVESTIGATOR:** Vanderploeg, Jim
- **EXECUTION ENTITY:** UTMB
- **PERIOD OF PERFORMANCE:** Jan 3, 2011 - Jan 6, 2012
- **STATUS:** Ongoing

### **PROJECT DESCRIPTION**

**PURPOSE:** This research has significant relevance as an approach to assessing and managing risks related to human health and performance of the many commercial SFPs who represent a much wider range of health status and level of training than has historically been the case in government space programs.

**OBJECTIVES:** The objective of this research project is to investigate the feasibility of applying the work that has been done by NASA in assessing human system risks for mid- and long-duration spaceflight for highly trained astronauts to the risk assessment for relatively untrained commercial SFPs.

**GOALS:** Investigate the extension of Johnson Space Center's Human System Risk Management process for design reference missions of the commercial suborbital and orbital regimes.

### **STATEMENT OF WORK**

1. Identify and select a subset of the 90 human system risks for NASA's long duration space flights that are applicable to suborbital and short duration orbital space flights.
2. Assess and quantify the health and human performance risks for commercial space flight crew members and passengers.
3. Apply the Wyle Integrated Medical Model (IMM) to assess risk and designing medical systems for the constrained environment of space flight.
4. Modify and apply these tools and processes to assess and mitigate human system risk feeds back into the future preparation of space flight participants, flight crews, ground operations, and vehicle design to further reduce risks to human health and performance.