

## **255. WEARABLE BIOMEDICAL MONITORING EQUIPMENT FOR SPACEFLIGHT PARTICIPANTS**

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

- **AST RDAB POC:** Graham, Doug
- **AST RESEARCH AREA:** 3.1 Human Spaceflight - Physiology & Medicine
- **PRINCIPAL INVESTIGATOR:** Jennings, Richard
- **EXECUTION ENTITY:** UTMB
- **PERIOD OF PERFORMANCE:** Jan 3, 2011 - Jan 4, 2013
- **STATUS:** Ongoing

### **PROJECT DESCRIPTION**

#### **PURPOSE:**

**OBJECTIVES:** The overall objective of this project is to identify, set design requirements, and procure prototype biomedical monitoring equipment that can be incorporated into a wearable vest or harness to support the operational monitoring needs of space flight surgeons as well as the research interests of aerospace physiologists.

**GOALS:** • identify biomedical monitoring equipment that can be worn by passengers in a convenient and unobtrusive way so as not to interfere with flight experience. • review existing Off-the-shelf equipment. • survey flight surgeons, researchers, and space vehicle operators To determine Desired features and capabilities. • compared Desired Features and Capabilities With Existing Equipment to identify gaps. • identify new technologies needed and explore what existing technologies can be repackaged and incorporated into a wearable system.

### **STATEMENT OF WORK**

1. Identify and set design requirements of biomedical monitoring equipment that can be incorporated into a wearable vest or harness to support the operational monitoring needs of space flight surgeons as well as the research interests of aerospace physiologists.
2. Procure and assemble prototype hardware configurations.
3. Test prototype hardware configurations will be tested under expected G profiles in various operator's launch and landing systems using the centrifuge at the NASTAR Center.