**Spatial Disorientation**

- The Spatial Disorientation Problem
- In-House and Collaborative SD Research
- Spatial Disorientation Trainer Night Vision Device Upgrade

**The Spatial Disorientation (SD) Problem**
Spatial Disorientation (SD) remains a leading cause of catastrophic flight mishaps across DoD in all manned platforms. Between 1980 & 2008, SD was causal in 28.6% of Naval Aviation Class A Mishaps. The Naval Safety Center cites SD as the number one Aeromedical causal factor in Aviation Class A* mishaps between 1991-2011.

*Class A Mishap: $2 Million in material property damage, fatality or permanent total disability.

**In-House and Collaborative SD Research**
Existing flight simulator training programs do not adequately teach pilots how to recognize & recover from SD. Current research efforts are focused on the development and validation of seven SD simulator training scenarios and collaborations with the Army, Air Force, and the University of Iowa on improved SD models, SD in Rotary Wing DVE, and in-flight HMD evaluation.

**Spatial Disorientation (SD) Trainer Night Vision Device (NVD) Upgrade**
The purpose of this effort is to reduce mishaps & improve cockpit performance by creating training scenarios that will prevent SD under NVD flight conditions. NAVAIR sponsored.

**Investigators**
- LCDR Dustin Huber, PhD
- Dr. Henry Williams
- Dr. Michael Reddix

**Vision:**
By working with military, government, academic and industry partners, we will develop innovative solutions for the aeromedical and environmental health threats faced by our Navy and Marine Corps.