The National AeroSpace Training And Research (NASTAR®) Center is a non-government state-of-the-art aerospace training, research and educational facility aimed at optimizing human performance in extreme environments.

Our research-oriented atmosphere provides researchers flexible and cost-effective access to unique motion devices and realistic test environments for a multitude of study areas.

**Research Areas:**
- Human Factors & Human-Systems Interaction
- Learning & Training Methodologies
- Stress, Cognition & Human Performance
- Sensory Physiology & Motion Perception

**Environments:**
- Acceleration (high G, sustained G)
- Multi-axes Orientation
- Altitude
- Pressure
- Vibration
- Thermal
- Night Vision
- Combined Environments

**Equipment:**
- Phoenix Centrifuge
- Gyrolab Multi-Axes (4DOF) Centrifuge
- Gyro IPT Hexapod (6DOF) Simulator
- Hypobaric (Altitude) Chamber
- Hyperbaric Chamber
- Fixed-wing and Rotary-wing Simulators
- General Aviation Trainer (GAT)
- Cockpit & Cabin Configuration Modules

**Services Include:**
- Test subjects, pilots, operations and medical staff, medical monitoring, custom fabrication services, and rapid Institutional Review Board (IRB)
CURRENT ONGOING AND COMPLETED RESEARCH:

1. Adaptation to Coriolis Inducing Head Movements in a Sustained-G Flight Simulator
2. Human Orientation Perception during Vehicle Roll Tilt in Hyper-Gravity
3. The Effect of Hyper Gravity on Manual Control Tasking Ability
4. Predicting Adaptation to Altered Gravity
5. Transference of Virtual Reality Based Sensorimotor Adaptation to Real World Motion Environments
6. Perception Modeling for Aircraft Accident Investigation
7. GL4000 Sustained-G Flight Simulator Pilot Assessment and Motion Fidelity Analysis
8. GL4000 Sustained-G Flight Simulator Upset Prevention and Recovery Training Investigation
9. Pilot Reactions to Unusual Aircraft Attitudes: A Physiological, Bio-Chemical and Psychology Assessment
10. Training effects on anxiety, arousal, and performance in simulated sub-orbital spaceflight
11. Optical Brain Monitoring using Functional Near Infrared (fNIR) Spectroscopy to Measure Cognitive Workload While Under G

PARTNERS INCLUDE: NASA, FAA, USARMY, USNAVY, MASSACHUSETTS INSTITUTE OF TECHNOLOGY (MIT), EMBRY RIDDLE AERONAUTICAL UNIVERSITY (ERAU), DREXEL UNIVERSITY, ST. PETER’S COLLEGE, ZERO-G CORPORATION, DAVID CLARK COMPANY, SOUTHWEST RESEARCH INSTITUTE (SWRI), SPECIAL AEROSPACE SERVICES (SAS), AND OTHERS