

## **Government Project Description**

Project Title	Tools for Virtual Environment Fidelity Design Guidance, Quality of Training Effectiveness Assessment (QTEA) Tool
Prime Contract Number	N00014-09-C-0598P00001, Phase II STTR
Government Agency	US Navy, Office of Naval Research, Office of Naval Research (ONR), One Liberty Center, 875 North Randolph Street, Suite 1425, Arlington, VA 22203-1995
Prime Contractor	Advanced Infoneering, Inc., 4 Wendram Bluff, NE, Iowa City, Iowa 52240, DUNS:625152140, CAGE: 4PF36
Subcontractor	Operator Performance Laboratory (OPL), University of Iowa, State of Iowa, 1801 South Riverside Drive, Building H, Iowa City, Iowa 52242

Work under this STTR focuses on the development and commercialization of a physiologically based training system that supports the goal of the USN and USMC to maintain and transform the technological and training edge in air warfare. The concept that we are developing under this STTR is called the Quality of Training Effectiveness Assessment (QTEA) tool. QTEA supports this goal by researching how the most current physiological and neurophysiological measures can be applied to measuring pilot performance in training environments. The results of this research aims to ensure that today's warfighter is ready for the challenges of tomorrow's battle through a more thorough understanding of the body, mind and reactions of pilots during simple and complex flight tasks.

As part of this research, the OPL designed a network centric flight simulation system that involves ground based and airborne simulators. One of these airborne simulators is OPL's AV-L-29 research aircraft with a tail number of N429GC that was equipped with a vide downlink capability under STA 0486-EX-ST-2009, call sign WE9XCL. This video downlink is required because the L-29 aircraft is too small to carry additional observers on board to witness the airborne side of the flights. This video downlink allows a group of subject matter experts to witness the performance of the QTEA technology from the ground, while the flight is underway.

This research requires periodical test flights on the order of a few hours per month for the duration of the research program. Additionally, there will be stakeholder demonstrations that require government sponsors to witness the QTEA technology while the L-29 is in flight.