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2014-06-09

**FX: The Early Days / Research and
Experimentation for Local and International
Emergency and First Responders (RELIEF)**

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FX: The Early Days

The Naval Postgraduate School (NPS) Field Experimentation (FX) Program was initiated in 2002 by the NPS Dean of Research, Distinguished Professor Dr. Dave Netzer (http://faculty.nps.edu/vitae/cgi-bin/vita.cgi?p=display_vita&id=1023567648) to: (1) provide an opportunity for NPS faculty and students to demonstrate and evaluate new technologies related to their research in an operational field environment, and (2) provide the operational community the opportunity to utilize and experiment with these technologies. In coordination with the Associate Provost for Academic Affairs, Ms. Julie Filizetti, a proposal for field research was submitted to US Representative Samuel Farr's (California 20th District) office. Dubbed CDTEMS (Center for Defense Technology and Education for the Military Services), this funding accounted for 22% (\$6.34M) of NPS FX support from fiscal years 2002 to 2010.

The first experiments in FY02 focused on the use of unmanned aerial vehicles (UAVs) to improve Naval Special Warfare (NSW) forces downed pilot rescue capabilities. These field experiments were led by Defense Analysis (DA) Master's student LT Joseph (Josh) C. Butner, USN, and documented in his thesis titled *Experimental Analysis of Integration of Tactical Unmanned Aerial Vehicles and Naval Special Warfare Operations Forces* (<http://www.dtic.mil/dtic/tr/fulltext/u2/a409922.pdf>). Josh's thesis advisers were Dr. Dave Netzer and Dr. Phil Depoy, Director of the NPS Wayne E. Meyer Institute of Systems Engineering. This initial thesis focused on two parts: First, it created a diverse network of academic researchers, military students, industry, and government participants capable of evaluating emerging technologies in an operational yet analytical environment that could be repeated by follow-on students and researchers. Second, it focused on the analysis of the integration of small UAS during a specific NSW downed pilot mission scenario.

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STAN TNT RELIEF JIFX

Research and Experimentation for Local and International Emergency and First Responders (RELIEF)

In 2007, NPS and USSOCOM began examining dual-use capabilities for homeland security, stabilization, reconstruction, and Humanitarian Assistance / Disaster Relief (HADR). These new mission sets were integrated into the TNT field experiments starting with TNT 07-3. In 2009 (TNT 09-2), Dr. Linton Wells II, then the Transformation Chair for the Center for Technology and National Security Policy (CTNSP) at National Defense University (NDU (<http://www.ndu.edu/>)) integrated NDU's humanitarian research into the TNT experiment venue. Dr. Wells also coordinated (STAR-TIDES (<http://star-tides.net/>)), short for Sustainable Technologies Accelerated Research-Transportable Infrastructures for Development and Emergency Support. As TNT began to integrate HADR missions and other federal agencies saw value in this focus area (i.e. OSD, Homeland Defense (HD

(<http://policy.defense.gov/OUSDPOffices/ASDforHomelandDefenseAmericasSecurityAffa/DefenseCriticalInfrastructureProgram/Roles.aspx>)), Department of Homeland Security (DHS (<http://www.dhs.gov/>)), Federal Emergency Management Agency (FEMA (<http://www.fema.gov/>)), a new research thread was formalized and termed RELIEF (Research and Experimentation for Local and International Emergency and First Responders).

RELIEF was created to address the most complex challenges identified by those most directly engaged in disaster relief. RELIEF brought together humanitarian practitioners, technology developers, federal civilians, and active duty military personnel together for hands-on collaboration. Successful events focused on crowd sourcing video techniques with Civil Air Patrol (CAP) and FEMA incident support teams; products from those events were immediately put to action in the nation's response to Hurricane Sandy. Since 2009, thirteen RELIEF focused events were conducted in a multi-institutional field setting, providing a semi-structured learning environment capable of promoting collaboration and relationship building across an increasingly diverse governmental and civilian response network.



(<http://www.navy.mil>). This is an official U.S. Navy website.

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