

The United States Naval Test Pilot School (USNTPS) is nominated for the 2018 Defense Acquisition Workforce Development Innovation Award for superior achievement in the professional development of the Test and Evaluation (T&E) Acquisition Workforce.

Specific achievement or innovation

USNTPS trains the world's finest developmental test pilots, flight officers, and engineers in the design, execution, communication, and risk management of aircraft and systems T&E. Through their unwavering dedication and exceptional achievements, the Staff of USNTPS has directly improved the competency, quality, and professionalism of T&E personnel across virtually all Department of Defense (DOD) aviation acquisition program T&E efforts.

During this award period, USNTPS trained Navy, Marine Corps, Army, Air Force, National Aeronautics and Space Administration (NASA), and National Oceanic and Atmospheric Administration test pilots/flight officers/engineers and aviation personnel from 11 partner countries. This diverse mix of USNTPS graduates enhances effective collaboration among T&E professionals across DOD and within joint/multinational acquisition programs. USNTPS training includes a Fixed Wing, Rotary Wing, and Airborne Systems T&E curriculum. USNTPS provides the only DOD source for Rotary Wing test pilot training and the only dedicated Airborne Systems curriculum in the world. In addition to training experienced pilots, Naval Flight Officer (NFO)s, and engineers to conduct developmental flight test, USNTPS also investigates and develops new flight and systems T&E techniques, publishes T&E manuals for use by the aviation flight test community for standardization of flight test practices and project reporting, and conducts special projects focused on T&E. Integral to the T&E education, acquisition workforce personnel receive at USNTPS are the flight test risk management and test hazard analysis training that serve as the foundation of U.S. Navy, U.S. Marine Corps, and U.S. Army flight test programs. USNTPS maintains its staff as a focal point of Flight T&E expertise, providing the aviation test community with flight test program consultation, along with formal T&E education across the broad spectrum of aviation T&E topics. Graduates of the school meet the rigorous T&E requirements of the Naval Air Systems Command Team and multiple Research, Development, Test and Evaluation activities in all U.S. military services, other U.S. government agencies, civilian industry, and 17 partner foreign nations. Through the extraordinary efforts of the entire USNTPS Staff, 72 Test Pilots/NFOs/Flight Test Engineers completed the 11 month long course of instruction and entered the T&E Acquisition Workforce during the award period. Additionally, 195 personnel completed USNTPS T&E Short courses covering seven critical flight test topics in support of ongoing Developmental Test programs across DOD.

During the current award period, the Staff of USNTPS trained more Developmental Test Pilots/NFOs/Flight Test Engineers than the three other primary T&E Schools combined: USAF Test Pilot School, Empire Test Pilot School (UK), and EPNER (France).

Value of the nominee's contribution

These USNTPS graduates, like the 4200+ USNTPS graduates before them, support and influence the T&E efforts of every aviation acquisition program in the DOD and our foreign partner nations. In fact, virtually every DOD and commercial aviation program over the past 50 years has been supported and positively influenced by the T&E professionals that have graduated from USNTPS. It is worth noting that in addition to the exceptional performance of the Staff of USNTPS in enhancing the professional development of the T&E Acquisition Workforce, the Staff was also

actively engaged in flight test projects during the award period. One of these projects was the High Risk (Category C) flight test program on the UH-60L Variable Stability System, which brought this unique Flying Qualities demonstration capability for rotary wing aircraft onboard as a Navy owned organic capability. Recognizing the value of this unique training capability, US Army Future Vertical Lift Test Team members came to USNTPS to fly the VSS in preparation for upcoming program events. Another flight test project USNTPS conducted was performance testing of the new engine temperature probe on the T-38C, which was designed to increase engine compressor stall margin. Planning, ground, and flight testing was also conducted for the C-26 Airborne Systems Training and Research Systems (ASTARS III) flying classroom project. The ASTARS aircraft support the only dedicated Airborne Systems Developmental Flight Test curriculum in the world, providing airborne systems T&E training to NFOs (Weapon Systems/ Electronic Warfare/Airborne Surveillance Operators).

Recognizing the rapid infusion of technology and new capabilities into the DOD, USNTPS constantly reviews the courses of instruction to anticipate future flight T&E training needs. Recent examples of adaptations to the curriculum include the addition of Active Electronically Scanned Array search and targeting radar hardware to training aircraft, acquisition and integration of Unmanned Aircraft Systems (UAS) into all three curricula, digital Variable Stability System installations on H-60 aircraft, and data link capable aircraft networked to various laboratories and the Ship/Aircraft Integration Lab Major Range and Test Facility Base facility to support student exposure to Live/Virtual/Constructive T&E and Capabilities Based T&E concepts and applications.

Other examples that demonstrate that the USNTPS Staff is not content to “just teach what they have always taught”, the command established the USNTPS Research Cell during this award period. The Research Cell has been productive and prolific in fostering collaborations with educational institutions and engineering centers of excellence that have grown the command’s knowledge base in critical areas and reciprocally supported associated organizations. These collaboration activities are enabling USNTPS to take a more active role in developing aviation T&E doctrine, in addition to serving as a repository for current test techniques. These efforts have already led to course updates that will better prepare USNTPS graduates for future T&E challenges that accompany the accelerating rate of new technology applications in aircraft and weapon systems. The following technical papers and presentations were authored by USNTPS instructors:

- “What We’re Learning About Learning: Flight Test Implications”, presented at the 61st Symposium of the Society of Experimental Test Pilots in September 2017 by [REDACTED].
- “Arducopter Control System Development and USNTPS UAS Capabilities”, presented at the Workshop, “Defining Handling Qualities for Unmanned Aircraft Systems” at NASA Langley Research Center on 18 July 2017 by [REDACTED].
- "Large Helicopter Aeroservoelastic Stability - A Case Study" for the NAVAIR Fellows Lecture Series on 15 November 2017 by [REDACTED].
- "Helicopter Maneuverability, Agility, and Operational Aerodynamics" for members of the CSAR CTF and USAF Weapons School at Nellis AFB on 6 November 2017 by [REDACTED].
- "Lessons Learned from the Digital Flight Engineer (Ultimate State Machine) Project", presented to members from NAVAIR, DARPA, and the USAF in February 2017 and to Society of Engineering Test Pilots (SETP) East Coast Symposium in April 2018 by [REDACTED].

Support and alignment to DoD acquisition improvement priorities USNTPS Staff worked across organizational boundaries for the collective betterment of the T&E profession at large. In September 2017, USNTPS Leadership hosted the annual Test Pilot School Headmasters Conference which included the leadership teams from the USAF, United Kingdom, and French Test Pilot Schools, to share best practices and discuss areas of mutual concern, emerging trends in flight test, risk mitigation strategies, and collaboration opportunities. Of particular interest during this year's conference were the processes each school employs to qualify contractor pilots and aircraft to support their respective Qualitative Evaluation (QE) programs. This was a particularly high priority topic in the aftermath of the United Kingdom School's fatal mishap during a QE exercise. These frequent engagements between the schools, fosters cooperation and synergy which has proven to be increasingly important in today's environment of multi-nation acquisition programs. Similarly, USNTPS Staff interact with their counterparts at the other test pilot schools, DOD and international flight test organizations, and across industry to stay abreast of the latest trends and developments in flight test for the mutual benefit of all involved.

Recognizing the unique and valuable T&E experience, skills, leadership, and technical expertise of the USNTPS Staff, the President of SETP requested the assistance of USNTPS Chief of Academics (██████████) to Chair a multi-disciplinary panel consisting of government, military, and contractor members attempting to standardize the flight test risk management process among U.S. and International commercial and military defense contractors, U.S. and International military flight test organizations, the Federal Aviation Administration and European Aviation Safety Agency at the Flight Test Safety Workshop in May 2018.

AWARD CITATION

The 2018 Defense Acquisition Workforce Development Innovation Award is presented to the United States Naval Test Pilot School for exceptional achievement in improving the quality and professionalism of the Test and Evaluation Acquisition Workforce. The USNTPS trained 72 Test Pilots, Flight Officers, and Flight Test Engineers through a rigorous 11 month course of instruction and 195 additional flight test personnel and aircrew via 12 specific flight test short courses over the past year. Through their unwavering commitment to train the world's finest developmental test pilots, flight officers, and flight test engineers in the design, execution, communication, and risk management of aircraft and systems test and evaluation, the Staff of USNTPS directly improved the competency, quality, and professionalism of Test and Evaluation personnel across virtually all Department of Defense, multiple US Government Agencies, and 11 partner nation aviation acquisition flight test and evaluation programs. By constantly refining the optimal mix of classroom, simulation lab, and inflight instruction, active feedback, and mentoring, the USNTPS Staff transformed experienced pilots, flight officers, and engineers into the flight test and evaluation professionals critical to the successful execution of complex developmental test programs supporting the delivery of new and enhanced capabilities to warfighters throughout the Department.