New Training With Industry Opportunity Offered at The Johns Hopkins University Applied Physics Laboratory

By Charles Anderson, Applied Physics Laboratory and LTC Chris Livingstone, FA40 Personnel Proponent Office Chief

The Functional Area 40 (FA40) Personnel Proponent Office and the Space Department of The Johns Hopkins University Applied Physics Laboratory (APL), in Laurel, Md., recently established a formal Training With Industry (TWI) relationship that will provide FA40 Space Professionals a unique opportunity to work with leading industry experts.

Officers selected to participate in the program will have the chance to work for one year at APL, a not-for-profit center for engineering, research and development, which manages several NASA and Department of Defense missions and has built 64 Spacecraft over the past four decades. A division of one of the world's premier research universities, APL meets critical national challenges through the innovative application of science and technology.

"We're excited about this TWI relationship with the Army," says retired BG Duane Deal, director of APL's National Security Space programs. "It's a great step ahead in our effort to gain further insight into the expanding missions of Army Space while exposing the FA40 to the core competencies of APL. TWI is a highly selective Army program that places extremely qualified officers with industry, and it's an honor for APL to be a partner in this effort."

APL provides a one-of-a-kind opportunity for selected officers because of its focus on both national security and civilian Space technologies and missions, according to Deal. This allows for interaction and support with the Department of Defense and Intelligence Space communities, as well as with NASA and other leading Space organizations. The program also provides APL with greater insight and understanding of Army Space mission areas, which could further the Lab's contributions to the Army's critical challenges.

The fact that APL's Space facilities are collocated with facilities and experts in related areas gives the Lab an advantage over other TWI participants, says Deal. "We have mission operations centers here for several NASA and Department of Defense Spacecraft that APL operates, including New Horizons, STEREO [for Solar TErrestrial RElations Observatory] and the Midcourse Space Experiment, just to name a few," he says. "We have national security and civilian Space industry experts here, as well as precision engagement and air defense experts working in missile defense. National security analysts at APL focus on policy that feeds back into the Space industry, and various research and technology development efforts that could benefit the Army and other military branches. There's a wealth of opportunities here that I think distinguishes APL from other TWI organizations."

MAJ Bill Beck has been selected as the first FA40 to take part in APL's TWI program; he'll begin working at the Lab this summer. He's currently a Space Operations Officer assigned to U.S. Army Europe G2 in Heidelberg, Germany, where he specializes in exercise support, intelligence architectures, TENCAP and serves as a national security liaison. He has a master's in Space Systems Engineering and a bachelor's in American Politics.

"It's an honor to be selected as APL's first FA40. I'm looking forward to applying my systems engineering background at APL, and learning more about mission operations, intelligence applications, and Space control," Beck says.

From the Sun to the Planetary Frontier

Headlining APL's Space-related efforts during the past 18 months has been its key contributions and involvement in the development and launch of three major NASA missions.

New Horizons, the fastest Spacecraft ever launched, began its three billion-mile journey in January 2006 to conduct the first close-up, in-depth study of Pluto and its moons in summer 2015. The APL-designed and operated Spacecraft recently swung past Jupiter to pick up more speed on its voyage to Pluto and the Kuiper Belt.

Since their launch in October 2006, NASA's twin STEREO Spacecraft, built and operated by APL, have produced the first 3-D images of the sun. The new view will improve Space-weather forecasting and greatly aid scientists' ability to understand solar physics. STEREO is the third mission in NASA's Solar Terrestrial Probes Program. APL also built and operates the first STP mission — TIMED (Thermosphere, Ionosphere, Mesosphere Energetics and Dynamics) — that's studying the influences of the sun and humans on the least explored and understood region of Earth's atmosphere, the mesosphere and lower thermosphere/ionosphere.

MESSENGER (MErcury Surface, Space ENvironment, GEochemistry, and Ranging) is a NASA-sponsored scientific investigation of the planet Mercury and the first Space mission designed to orbit the planet closest to the sun. The MESSENGER Spacecraft launched on Aug. 3, 2004, and after flybys of Earth, Venus and Mercury, will start a yearlong study of its target planet in March 2011. APL built and operates the Spacecraft and manages this Discovery-class mission for NASA.

Additionally, APL was recently awarded a contract for initial design work on the Lightweight Electro-Optical Space Sensor (LEOSS) program, managed by the Air Force Research Laboratory, that serves as a pathfinder for future Department of Defense geosynchronous Space situational awareness sensors. During this phase of the contract, an APL-led team will study the use of lightweight, electro-optical technology and data products for searching, acquiring, tracking and characterizing resident Space objects.

For more information about APL, please visit www.jhuapl.edu.

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