NPS Defense Energy Program Presents:

Defense Energy Seminar

WWW.NPS.EDU/ENERGY

Tactical Microgrids: Mobile and Sustainable Power

14 January 2020 / Glasgow 102 / 1200–1300

With Guest Lecturer Mr. Blane Wilson

Electrical Engineer, C5ISR Center, Combat Capabilities Development Command, U.S. Army Futures Command

Mr. Blane Wilson

Abstract

Since the introduction of electronic equipment, mobile, resilient, and sustainable power has been vital to tactical operations for the U.S. Army. In order to enable the Army's future operational concept, tactical power will be forced to evolve from basic power distribution schemes using legacy generator sets, to developing open-standard tactical microgrids incorporating energy storage and on-board vehicle power (OBVP). This lecture will describe the advancement of tactical power, the technical challenges it's currently facing, and the ongoing projects that aim to solve them.

Biography

Blane Wilson is an Electrical Engineer for the Power Division at the U.S. Army Futures Command's CCDC (Combat Capabilities Development Command) C5ISR Center, in Aberdeen Proving Ground, MD. He joined the Power Division as a summer intern through the DoD SMART Scholarship-for-Service Program. During his summer internships, Blane primarily focused on building test and evaluation systems for tactical microgrids.

After starting full-time work, his research shifted to investigating control methodologies and communication protocols, to increase resilience and interoperability for tactical microgrids. This work led to his co-authorship of papers that have been published in the 48th Power Sources Conference and IEEE ECCE 2019 proceedings. Blane has also supported the integration of tactical microgrids in domestic and international military exercises, where soldiers trialed emerging technology. Currently, Blane is transitioning to a new project that seeks to improve power management for military helicopters, which will see sharply increased electricity demand in future years. Blane received his Bachelor's and Master's degrees in Electrical Engineering from Stanford University.

NAVAL POSTGRADUATE SCHOOL