# Department of Electrical and Computer Engineering

TEXAS TECH UNIVERSITY
Edward E. Whitacre Jr.
College *of* Engineering™

## Spring 2025 Seminar Series

**Seminar Title**: ***Opening Switch Evaluations and Mega-Watt Applications***

**Time**: 2:00-2:50 PM, Monday, Apr 14, 2025

**Location:** ECE 101

**Speaker**:
**Shawn Higgins**
US Navy

**Abstract:**
Inductive storage circuit topographies utilize opening and closing switches for operation and have been shown to produce giga-watt outputs. This presentation will discuss the drift step recovery diode (DSRD) opening switch, developed methods for performance evaluation, and mega-watt class impulse-generator applications.

**Speaker Bio:**
Mr. Shawn Higgins leads the directed energy high power microwave development team at the Naval Air Warfare Center Weapons Division (NAWCWD) at China Lake, CA. He holds a BS degree in electrical engineering from Cal State University Long Beach. He has over a decade of experience in solid-state high-power microwave and is considered a subject matter expert. He continues to push the envelope in inductive storage circuit development, generating MW amplitude nanosecond pulses with opening switches, and pico-second rise times utilizing fast closing switches and ferrite loaded transmission lines. He has developed 200,000 volt impulse rated coaxial cable interfaces, radio frequency (RF) terminating loads, and feeds for GTEM and antennas. Mr. Higgins holds two U.S. Patents for these RF interfaces. He has several years of experience getting his boots dirty in the field performing gigawatt-class HPM system characterization and effects testing.