Department of Electrical and Computer Engineering

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

Spring 2024 Seminar Series

Seminar Title: ***The LANSCE Proton Accelerator at Los Alamos National Laboratory***

Time: 2:00-2:50 PM, Friday, Mar 8, 2024

Location: Holden Hall 150

Speaker:
Gregory Dale
Los Alamos National Laboratory

Abstract:
At the heart of the Los Alamos Neutron Science Center (LANSCE) is an 800 MeV proton accelerator. At the time it was commissioned it was the most powerful proton accelerator in the world, capable of delivering over 1 MW of beam. The LANSCE accelerator is still unique in it's ability to accelerate H+ and H- ions simultaneously. LANSCE continues to serve the nation by delivering proton beams to 5 different target areas simultaneously during 24-7 operations. These target areas include the isotope production facility (IPF), proton radiography (pRAD), ultra cold neutron (UCN), the Lujan Center for materials science, and the Weapons Neutron Research (WNR) facility. This talk will describe the primary mission focus areas of the LANSCE accelerator, how it works, how me make neutrons with protons, and near-term modernization plans. The talk will also focus on how multiple engineering disciplines collaborate to keep a truly unique scientific facility operational.

Speaker Bio:
Dr. Gregory Dale is an R&D Engineer and Project Leader at Los Alamos National Laboratory (LANL). In his 21 years at LANL Greg has worked in the fields of solid-state pulsed power, accelerators, nuclear well logging, medical radioisotopes, fusion plasmas, non-proliferation, and nuclear forensics. Currently, Greg serves as the Technical Director of the LANSCE Accelerator Modernization Project (LAMP). Greg has a Ph.D. in Electrical Engineering from the University of Missouri, M.S. in Nuclear Engineering from North Carolina State University, and a B.S. in Nuclear Engineering from the University of New Mexico.