Texas A&M Energy Institute

Distinguished Lectures in Energy

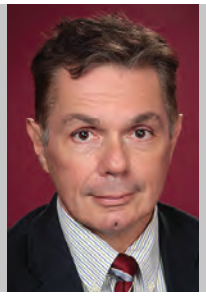
TEXAS A&M UNIVERSITY Energy Institute | TEES

Cyber-Physical Intelligence for Resilient, Sustainable, Trusted Energy and Manufacturing Infrastructure

Dr. Michael Devetsikiotis

Professor of Electrical and Computer Engineering

University of New Mexico



October 28, 2026

11:00 a.m. - 12:00 p.m. CDT (UTC -5:00)

Frederick E. Giesecke Engineering Research Building Third Floor Conference Room and Zoom

Abstract

This seminar outlines a systems approach to integrating energy infrastructure with distributed, intelligent manufacturing. Industries such as steel production, semiconductor fabrication, and aerospace component manufacturing rely on the coordination of power systems, communication networks, computing resources, manufacturing equipment, and supply chains. Currently, these elements are often managed in isolation, which limits their collective ability to address disruptions, energy constraints, cyber threats, and sustainability challenges.

The seminar introduces cyber-physical intelligence as a closed-loop framework that monitors energy, information, materials, and manufacturing service flows; assesses operations using digital twins and AI; makes informed decisions across energy, network, security, and production domains; and verifies physical outcomes. Resilience mechanisms ensure continued operation during communication or energy disruptions. Secure provenance and distributed ledgers offer verifiable records of component origin, design integrity, manufacturing events, energy consumption, and regulatory approvals. The DREAM project will demonstrate how cloud-edge intelligence, software-defined networking, digital twins, distributed manufacturing, and blockchain-based auditability can support secure, sustainable energy and manufacturing infrastructure.

Register Now

Biography

Michael Devetsikiotis was born in Thessaloniki, Greece. He received the Diploma degree in Electrical Engineering from the Aristotle University of Thessaloniki, Greece, in 1988, and the M.S. and Ph.D. degrees in Electrical Engineering from North Carolina State University, Raleigh, in 1990 and 1993, respectively.

In 1993 he joined the Department of Systems and Computer Engineering at Carleton University, Ottawa, Canada, ultimately becoming an Associate Professor and SCE Department Associate Chair in 1998. Michael returned to the Department of Electrical and Computer Engineering at North Carolina State as an Associate Professor in October 2000 and became a Professor in 2006. In 2011 he became Director of Graduate Programs, managing one of the largest ECE graduate programs in the country with over 850 students and 4 staff until 2016.

In July 2016, Michael joined the University of New Mexico as a Professor and Chair of the ECE Department. He led the efforts to put in place graduate concentrations and new online programs in Space Systems Engineering (jointly with Mechanical Engineering) Quantum Computing and Information, in Internet of Things, and in Cybersecurity. Michael has supervised over 40 PhD students during his career at three different universities. His research work has received over 13,000 citations, with an h-index of 40 and an i10-index of 110, in the area of design and performance evaluation of telecommunication networks, modeling and simulation of socio-technical and cyber-physical systems, and studying smart grid communications, smart cities and the Internet of Things. He has been funded, among others, by the NSF, NSERC, Cisco, Alcatel, Vizzia, and IBM.

In 2012 Michael became a Fellow of the IEEE, and in 2017 he was elected to the NC State ECE Alumni Hall of Fame. Between 2008 and 2011 he was an IEEE ComSoc Distinguished Lecturer. He was President of the ECE Department Heads Association (ECEDHA) from 2023 to 2025.