Department of Electrical and Computer Engineering

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

Fall 2025 Seminar Series

Seminar Title: ***Data-driven learning and control for automation and autonomy in cyberphysical systems***

Time: 3:00-3:50 PM, Monday, Sept 29, 2025
Location: ECE 101

Speaker:
Marzia Cescon
University of Houston

Abstract:
Cyberphysical systems (CPS) integrate physical processes with communication and control and interact with the physical world via actuators and sensors. Over the last few years, there have been intense efforts to increase the capability, adaptability, scalability, resiliency, security, and usability of CPS. As a result, today, CPS guide medical interventions, control vehicle, aeronautical and aerospace systems, inspect critical infrastructures and monitor energy resources, among many other applications. Such systems are increasingly being expected to operate not only automatically but also autonomously in many critical tasks and missions. Our group is using the tools from data-driven learning and control engineering to close the loop on several systems to guarantee their safe and autonomous operations. In this presentation, I will give an overview of our research activities with applications to advanced air mobility, adaptive space systems, and personalized healthcare.

Speaker Bio:
Marzia Cescon is the David C. Zimmerman Assistant Professor of Mechanical and Aerospace Engineering at the University of Houston (UH). At UH she is also founder and director of the Advanced Learning, Artificial Intelligence and Control laboratory, a multidisciplinary effort for learning-based decision making and control of complex and potentially unknown dynamical systems. Dr. Cescon earned a bachelor's degree in information engineering and a master's degree in control systems engineering from the University of Padua, Italy, and received a Ph.D. in automatic control from Lund University, Sweden. She has held several research positions, including at the University of California at Santa Barbara, the University of Melbourne, and Harvard University. Dr. Cescon is the recipient of the Cornelis Drebbel Faculty Fellowship from TU Delft (2023), the NSF Career Award (2024), the Cullen College of Engineering Early Inventor Award (2025), and the ASME Rising Star in Mechanical Engineering Award (2025).