

**Biography: Dr. Grace M. Bochenek**  
*Director & Professor*  
**School of Modeling, Simulation and Training,  
University of Central Florida**

Fascinated by the next generation of technology capability, future workforce, and the opportunity to drive innovation, with a view of the strategic and a pure understanding of tactical solutions. Dr. Grace M. Bochenek is a pioneer and leader in research and technology development.

Currently, she is the director of School of Modeling, Simulation and Training (SMST) at the University of Central Florida (UCF) where she plans to capitalize on UCF and SMST's 40-year history of as early pioneers in human-centered modeling and simulation research to expand M&S at UCF as an innovative, integrative, and inspirational force across campus both in research and academics.

Prior to joining UCF, Dr. Bochenek held positions in both the Department of Energy and Department of Defense serving as a member of the federal government Senior Executive Service, with over 30 years of technical and managerial experience. She served as the Director of the National Energy Technology Laboratory, NETL, and, in the Department of Army, as the Chief Technology Officer of the U.S. Army Materiel Command and the Director of the Tank Automotive Research, Development and Engineering Center. Dr. Bochenek held a presidential appointment as the Acting Secretary of Energy during the 2017 administration transition. She is well-versed in science, technology investment strategies, commercialization and performance, technology maturation and integration, and performance analyses with an emphasis on strategic alliances, partnerships, and global/international programs.

She has been recognized with numerous awards, including the Presidential Rank Award as Meritorious Executive, a Silver Medal from the National Defense Industry Association, and Decorations for Exceptional Civilian Service from both Departments of Army and Energy.

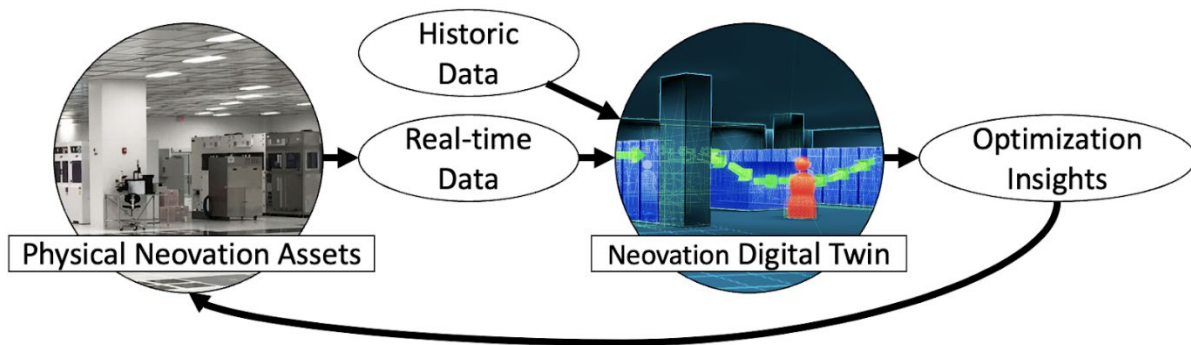


Title:

Microelectronics Design and Production Digital Twin (MeDT)

Abstract:

Advances in digital engineering, advanced simulations, data management, and artificial intelligence are utilized to integrate into the existing and expanded Center for Neovation's microelectronic product and process design, development, manufacturing, and production processes and systems. The concept is referred to as a digital twin (DT). As depicted, in the most simplistic definition, a DT is a virtual replica of a real-physical system and its processes augmented with real-time data exchange between the physical and virtual systems.



The objective of the project is to design and develop a Microelectronic Digital Twin (MeDT) of the Center for Neovation. Utilization of sensing system, HPC, visualization, and simulations allow for the creation of models to analyze, predict, and provide insight into efficiencies and deficiencies in the current processing systems. A discussion of the approach and targeted outcomes will be presented.