



UNIVERSITY OF CENTRAL FLORIDA

DIGITAL TRANSFORMATION



As leaders in digital transformation, UCF is providing the talent and research that has helped make Orlando, and Central Florida, the modeling, simulation and training (MS&T) capital of the world.

UCF's team of digital transformation researchers are architecting communities and business systems for the future while driving novel approaches to address workforce needs of tomorrow. Their research is at the heart of solving longstanding issues on urban sustainability and creating

smart cities of engaged communities, all supported by enhanced economic opportunities.

And with an \$8.8 million federal grant, UCF's **Grace Bochenek '98PhD**, U.S. National Energy Technology Laboratory (NETL) and now the director of UCF's School of Modeling, Simulation and Training, will drive an initiative to develop a digital twin framework to help Central Florida lead the nation in semiconductor research, design and manufacturing.

“Digital twin is transformative technology that holds the potential to improve everything from manufacturing plants to medical procedures.”

Grace Bochenek '98PhD
lead researcher, UCF Digital Twin initiative



DIGITAL SOLUTIONS FOR REAL-WORLD PROBLEMS

To solve the 21st century's most pressing — and emerging issues — it requires dedicated effort to fostering innovation of talented people and evolving technologies.

To accomplish this, UCF is at the forefront of these areas:

- Cybersecurity
- Digital Human
- Data Science
- Data/Sensors
- Human Performance
- Machine Learning/Artificial Intelligence
- Modeling and Simulation
- Network Science
- Virtual Reality/Augmented Reality/ Human-Computer Interaction

UCF's critical investments will drive advancements in these industries:

- Automotive
- Behavioral Health Care
- Defense
- Energy, Microgrids and Turbomachinery
- K-12 Education
- Manufacturing
- Smart Cities and Transportation
- Space and Hypersonics
- Veterinary Medicine

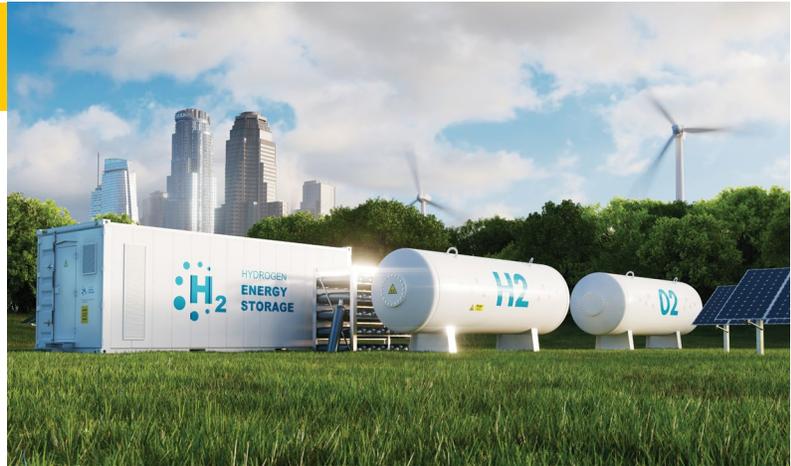
Computer Vision and AI for Smarter Streetscapes

UCF Trustee Chair Professor Mubarak Shah leads the multi-institutional Situational Awareness Team — a key component of the five-year, \$26M grant that funds a new U.S. National Science Foundation research center. The grant, which supports high-risk, high-payoff research areas focused on advancing engineered systems technology and education with high-societal impact, will fund the development of smart streetscape applications to forge livable, safe and inclusive communities.



Decarbonizing with Next-Generation Hydrogen Combustors

To help the U.S. obtain clean energy by 2035, Professor Subith Vasu serves as principal investigator of the Clean Hydrogen project, which received an \$800,000 award from the U.S. Department of Energy to advance clean hydrogen technologies and fuel research. UCF's project will focus on better understanding how to implement hydrogen in modern, electricity-generating turbines, including exploring the best fuel blends and their combustion characteristics.



Renowned Simulation Expert

Syretta Spears, assistant director of the UCF Simulation, Technology, Innovation and Modeling Center in the College of Nursing, is among the first to receive the advanced certified healthcare simulation operations specialist designation from the Society for Simulation in Healthcare. The certification recognizes those who are certified healthcare simulation operations specialists who have demonstrated leadership and advanced simulation capabilities at their institution and beyond — highlighting Spears' dedication to simulation pedagogy.



Where UCF Graduates Work



Explore more about UCF's impact on digital transformation at ucf.edu/lp/digital-transformation or scan here:

