UCF to Grow Next Generation of Digital Twin Researchers with New Graduate Program

The U.S. Department of Education awarded the School of Modeling, Simulation and Training a $1.155 million grant to start the new certificate program.


UCF expands Digital Twin program

ORLANDO, FL, USA, January 25, 2024 /EINPresswire.com/ -- A new University of Central Florida graduate certificate program will focus on strengthening the university's talent pipeline to the rapidly growing digital twin industry in Central Florida and beyond.

The UCF School of Modeling, Simulation and Training received a $1.155 million grant from the U.S. Department of Education to establish and launch the new program, which is expected to start in Spring or Fall of 2025. The grant, part of DOE's (Department of Education) Fund for the Improvement of Postsecondary Education, or FIPSE, program, started this month. SMST faculty will spend this year developing the new program and the next two years implementing and evaluating it.

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>
> *Ghaith Rabadi*

The grant will enable UCF to build on its academic and research strengths in digital twins, which are digital replicas of complex real-world systems. By manipulating digital twins, scientists, doctors, urban planners, and others can analyze, predict, optimize and make real-time decisions on products, processes, and systems.

The new DOE grant will allow UCF to expand educational programs focused on digital twin. Graduate students enrolled in the program would learn about designing, implementing, managing, and creating innovations for digital twin technologies, and they would gain real-life experiences through industry as part of the program.

Along with the $1.155 million in FIPSE funding, UCF will include about 25% in matching funds to bring the total grant to almost $1.5 million.

Ghaith Rabadi, UCF's modeling and simulation professor and graduate program director, will lead the certificate program along with SMST faculty members Roger Azevedo, Joe Kider, Sean Mondesire, Soheil Sabri, and Bulent Soykan. Cyndia Muniz, UCF's Hispanic Serving Institute (HSI) Culture and Partnerships director, will serve as an advisor.

"The award further strengthens the digital twin strategic initiative program at UCF and ensures a definitive pathway to educate the next generation in this transformative technology," said Rabadi. "Graduates will be well-prepared to become leading researchers and innovators in a field rapidly becoming a vital part of our regional and state economies."

The initiative is crosscutting within the university and will encompass ongoing digital twin research in multiple sectors, including microelectronics, space, multi-domain operations, test, and evaluation, human digital twins, AI-enabled capabilities and machine interface, airports of the future, smart cities, energy infrastructure, and more.

This is UCF's second federal grant connected with digital twin research. As part of a 2022 Department of Commerce grant awarded to Osceola County and several partners, UCF researchers are replicating the semiconductor production line at the Center for NeoVation in Osceola County, with a goal of increasing productivity and reliability.

Digital twin research is also a focus of UCF's Strategic Investment Program. Led by Grace Bochenek, director of SMST, that collaboration also includes faculty from engineering and computer science, psychology, and arts and humanities. The goal is to develop a digital twin framework and tools that can be adapted by governments, industry, and academia based on their needs. Potential applications include healthcare, smart cities, transportation, and defense.

About UCF School of Modeling, Simulation and Training :
UCF SMST has been pioneering emergent MS&T (modeling, simulation and training) technology for more than 40 years, partnering with NASA, the Department of Defense and large industry. It is home to an internationally recognized, interdisciplinary institute conducting technology-based human-centric research affecting society — from health care to national defense and education to manufacturing. The school is solving some of today's most challenging issues through technologies, like virtual and augmented reality, advanced modeling and simulation, and digital twin, including the digital human. Its more than 200 researchers, faculty and student interns are unleashing the potential of people and technology and creating tomorrow's technology leaders through its graduate-degree program. It is one of the foremost academic research institutes in the field of modeling and simulation.

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