WHAT IS M&S?

A **model** is a physical, mathematical, or otherwise logical representation of a system, entity, phenomenon, or process.

**Simulation** is a method for implementing a model over time.

**Modeling and simulation (M&S)** is the discipline that comprises the development and/or use of models and simulations or the use of models, including emulators, prototypes, simulators, and stimulators, either statically or over time, to develop data as a basis for making managerial or technical decisions.

**Live simulation** is a simulation involving real people operating real systems. Military training events using real equipment are live simulations.

**Virtual simulation** is a simulation involving real people operating simulated systems. A flight simulator falls into this category.

**Constructive simulation** is a simulation involving simulated people operating simulated systems. Real people can be allowed to stimulate (make inputs) to such simulations. Examples include wargaming and analytic simulations.

“The art and science of modeling and simulation is foundational for many fields, particularly for training in every domain. IST and now SMST were founded with this fundamental philosophy in mind. SMST has grown to be the largest institution of its kind conducting both MS&T research & development and educating future MS&T leaders.”

— **GRACE BOCHENK**, DIRECTOR
WHAT IS SMST?

The School of Modeling, Simulation, and Training (SMST) was established by the University of Central Florida (UCF) in 2018 to formally recognize of the exceptional growth and success of the Institute for Simulation & Training (IST) and its Modeling, Simulation, and Training (MS&T) Graduate Program.

Our mission is to conduct cutting-edge human-centered simulation research and execute a world-class transdisciplinary graduate program to create leaders in modeling, simulation, and training.

THE INSTITUTE

Founded in 1982, IST is an internationally-recognized interdisciplinary research institute within SMST that conducts basic and applied research in the art and science of modeling, simulation, and training. IST partners with public and private stakeholders to apply and develop simulations for diverse applications and actively supports the university’s modeling and simulation education initiative through SMST’s graduate program.

THE GRADUATE PROGRAM

SMST houses a series of interdisciplinary graduate degree programs in modeling and simulation, designed primarily for students with backgrounds in STEM who wish to pursue careers in any number of fields, including academia, government, defense, entertainment, technology, service, and manufacturing.

IST is one of the nation’s leading research centers for modeling, simulation, training, virtual and mixed reality research for both defense and commercial applications. Joint faculty appointments across UCF extend the institute’s range of capabilities to a wide spectrum of university disciplines.

The institute’s facilities are configured as laboratories and research workspaces, equipped with computers, simulators, and related equipment interconnected by high speed networks, providing an optimum environment for students, faculty, research staff, and outside organizations wishing to conduct research.

The institute is located in the Central Florida Research Park next to the UCF campus. This location is in the heart of the “Florida High Tech Corridor” between Daytona Beach and Tampa where over 170 companies specialize in simulation and training-related research.

The curriculum is designed to provide a broad perspective across people, processes, and technology relating to the developing simulation industry and an awareness of associated economic factors, particularly with respect to improved training methods for high-skills, high-stakes jobs.

ACADEMIC PROGRAMS

- M&S Doctor of Philosophy
- M&S Master of Science
- M&S Behavioral Cybersecurity Graduate Certificate

Students show off their research at the annual SMST Day, one of our many events aimed to help students connect with industry professionals.