

# SUPERWOMEN of Sim

By Jackie Kelvington

MEET EIGHT LEADERS WHO ARE CHANGING THE FACE OF THE SIMULATION INDUSTRY.

»» There are changes brewing in the world of modeling, simulation, and training (MS&T). Let's review the checklist: major research and development taking place? Check. New products entering the market? Check. Usual suspects advancing science and technology? Not anymore!



Lockheed Martin's Joanne Puglisi is the program director of F-35 Lightning II Training Systems.

While the numbers may show that men continue to lead when it comes to heading up tech firms and working as engineers and scientists, women are quickly gaining ground. And leading the way is Metro Orlando's globally recognized MS&T industry. Take note: The region is home to the largest cluster of MS&T companies in the country, and these leading women "simulationists" are at the forefront of industry advances.

**Beverly Seay** is senior vice president and general manager of **Science Applications International Corporation (SAIC)**, a Fortune 500 company headquartered in Virginia. Seay leads SAIC's MS&T business based in Orlando. In addition to pioneering the concept of composable, reusable systems for simulation and developing cutting-edge, simulation-based technologies, Seay co-founded SAIC's 2,000-member Women's Network,

and created the company's Mentoring Connection. She also was the 2009 recipient of the Women in Aerospace Leadership Award, and is a major supporter of young women pursuing careers in engineering.

Improving human performance — whether it's on the battlefield or in the classroom — is what the **Carley Corporation's** interactive technology-based products are all about. Under President **Sharon Wolford's** direction, the company has been recognized as a top military-training technology firm, and won significant military contracts last year. Carley's custom training solutions include anything from software to simulators to electronic classrooms, and its clients include the Department of Defense, as well as impressive list of international organizations.

Another top female simulationist also has military ties, both in business and in her own family. **Colonel Karen**

**Saunders** is project manager of Constructive Simulation in the **U.S. Army's Program Executive Office for Simulation, Training and Instrumentation (PEO-STRI)**. A third-generation Army soldier and one of four siblings serving in the military, she specializes in signals intelligence, operations research, modeling, simulation and Army battle-command systems. Saunders attended the Naval Postgraduate School and has a Masters in Computer Science, with a concentration in Artificial Intelligence and Robotics. In addition, she has a Masters degree in National Security Strategy from the National War College.

Under the leadership of **Carol Wideman**, **Vcom3D's** innovations in 3-D avatars, game-based adaptive learning, and mobile communication tools have become a force multiplier for the country's deployed military personnel. Wideman is the president


and CEO of the company, whose rapid transition of mobile applications to warfighters deployed in the Middle East, Afghanistan, and Africa provides a low-cost and portable education and communication tool that enables American soldiers to communicate effectively with local residents using culturally appropriate language and gestures.

**Lockheed Martin's** Orlando-based Global Training and Logistics Division works closely with the military, as well. **Joanne Puglisi**, program director of F-35 Lightning II Training Systems, has been with the company for 17 years. She is responsible for the production of many of the training and support systems for the F-35 Lightning II, the nation's newest fifth-generation fighter jet. Puglisi also has worked with the Navy's Simulation Training Division in Orlando and is a University of Central Florida (UCF) graduate.

When it comes to the simulation industry, UCF plays a significant role in its growth. UCF industrial engineering professor **Mansoor Mollaghasemi** is the founder and CEO of **Productivity Apex**. She began laying the groundwork for her company in 2000, when she first worked for NASA, analyzing how the space agency processes a space shuttle flight from start-up to launch. Today, using high-

tech methods such as simulation modeling and analysis, data mining and artificial intelligence, and system optimization, Productivity Apex is all about increasing productivity and efficiency for its clients, which include NASA, the U.S. Department of Transportation, and the Disney Company. Mollaghasemi's work holds promise for a wide range of applications, including transportation, manufacturing, logistics and health care.

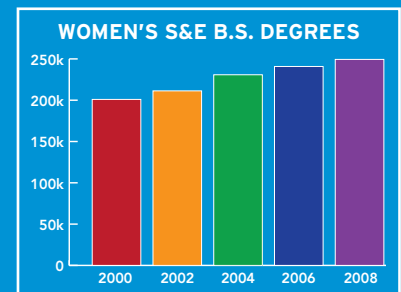
At **UCF's Media Convergence Lab/Institute for Simulation & Training**, associate director **Eileen Smith** and researcher **Lori Walters** are engaged in major research that utilizes computer simulation. Recent projects include: pain management training for nurses to better understand the true post-surgical pain level of a patient and to incorporate non-pharmacological approaches to their pain management; a simulated recreation of the New York World's Fair with add-on virtual experiments; and simulated education projects that provide for the exploration of time, space, and scale that's not possible within the constraints of traditional exhibitry.

Whether affiliated with a university, the military, or a global corporation, Orlando's eight superwomen of simulation are paving the way for continued advances in simulation technology. 

## UPWARD TRENDS

The number of women employed in Orlando and Florida's information and computer system design sectors (which make up the simulation industry) is on the rise. According to 2009 U.S. Census Local Employment Dynamics data, women make up nearly half of the employees in the Orlando Metropolitan Statistical Area's information sector, accounting for nearly 10,800 jobs, compared to the 14,000 jobs held by men. Statewide, the number of women employed in simulation increased 18.5 percent from 2004 to 2009.

The growth is a result of several factors. One is that more women are pursuing degrees in science and engineering (S&E). According to the National Science Foundation, the number of women in the U.S. earning bachelors in S&E fields increased from 200,952 in 2000 to 249,389 in 2008.



The fastest-growing occupations projected for 2018 include computer software engineers, network systems analysts, and biomedical engineers — all of whom will interact with and potentially develop simulation-based systems. Connect that to the fact that 440,000 women ages 25 to 54 are expected to enter the workforce by 2018. Think they'll be pursuing the hottest occupations? Check.

Dating to the 1950s, the concentration of military simulation and training commands based in Orlando also has ushered in major industry projects, from research and development to private industry growth. That, coupled with the city's strong and entrepreneurial business environment, has attracted even more women to Orlando's simulation industry.



Science Applications International Corporation (SAIC) is a leading developer of simulation-based technologies. Beverly Seay leads the company's Orlando division. 