UCF Grad in Space

UCF

CECS alum Nicole Stott took a trip to a place most of us only dream about—the International Space Station, where she spent 91 days. After three scratched attempts, Stott launched into orbit on the space shuttle Discovery from NASA's Kennedy Space Center (KSC). Stott became the first KSC employee to live on the station, and the last station crewmember to catch a ride aboard the shuttle.

Stott was one of seven astronauts on Discovery's STS-128 mission. She traded places with Tim Kopra, who had joined the station a month earlier.

Stott, who graduated from UCF with an M.S. in Industrial Engineering and Management Systems, served as a flight engineer for Expeditions 20 and 21 aboard the station. She joins five other crewmembers already living on the orbiting complex, where she serves as the chief robotics operator and was responsible for capturing, berthing and later releasing the first Japanese cargo ship flown to the station. In addition to working on multiple scientific studies, she also conducted a six and a half-hour spacewalk to continue station assembly.

During Stott's stay in space, she took part in the first live "tweetup" with crewmate Jeff Williams and members of the public gathered at NASA Headquarters in Washington, D.C.—Stott even sent messages about spending her 47th birthday in space.

But after being in space for two and a half months, Stott was thrilled to see her ride home. She spotted Atlantis from three miles out, a couple of hours before its scheduled late morning arrival. Full of anticipation, Stott radioed the shuttle. "I have my ticket all ready and stamped, waiting for you guys when you get here," she said.
Dear CECS Alumni and Friends:

Let me begin my message in this second issue of the CECS Updates by thanking our President, John Hitt, and our Provost, Terry Hickey, for entrusting me with the honor and responsibility of leading our college as its fifth dean. It is a privilege for me to continue to serve our college and to work with its outstanding faculty and dedicated staff.

This momentum for change in our college continues to be strong and our accomplishments continue to grow. We want to become one of the premier colleges of engineering and computer science in the country, and we will achieve this by pursuing excellence in everything we do.

In 2009 we faced the stress of budget cuts, yet we remained focused on doing what we do best: educating our students, creating knowledge through research, serving our profession, and partnering with our friends and alumni. More than anything else, I am very proud of the accomplishments of our faculty, students and alumni this past year. Some of these are highlighted in this issue of the CECS Updates.

- Professors Deo, Reinhart and Shah were elected Fellows of the AAAS and Professor Gu was elected Fellow of the IEEE. These professional honors are bestowed only on the best of the best and reflect our faculty's commitment to excellence.
- 21 of the 55 National Merit Scholars who came to UCF this year chose to enroll in our college; a testament to the prestige that our college holds among UCF students.
- Alumna Nicole Stott, MS '92, was among the crew of the last scheduled shuttle mission to the International Space Station last August.

The college is now fortunate to have in place a very active and engaged Advisory Board that cares about doing what is best for our faculty and students. The board is under the capable leadership of Bill Miller, CIO of Harris Corporation and met for the first time in November 2009.

As we continue to enhance the experience of our students, improve our programs and elevate our college’s reputation, we need your help to make all of these possible. Whether sharing our college’s accomplishments with colleagues and friends, or giving generously to one of our college funds, your help and influence are highly appreciated.

It is a challenging time for all of us, but with your support we can bring about enormous change in short order. Please contact our Director of Development and Alumni Relations, Robin Knight at 407-823-2241 to learn more about how you can help support our goals or give directly online at cecs.ucf.edu/giving.

I hope the CECS Updates will keep you informed of our activities and plans. Please do not hesitate to contact me if you have any questions, or visit our Web site at cecs.ucf.edu for more information on our activities.

Warm Regards,

Marwan A. Simaan, Ph.D., PE
Dean

UCF CECS computer science student programmers “crack the code.”

UCF has consistently finished in the top three at the Southeast Regional contest, placing first 14 times, second eight times, and third six times. “This is a record unmatched by any southeast regional university,” said Dr. Ali Orooji, faculty adviser for the team. “We were up against 85 regional teams from Florida, Georgia, South Carolina, Mississippi and Alabama,” he added.

Their mission at the competition was to build systems that solve problems modeled after real-world business challenges such as cracking complex password codes or re-architecting space plans. All are designed to challenge the students’ problem-solving skills and business acumen—key skills sought after by global employers in the new information technology workforce. The contest requires students to focus on open technology and advanced computing methods.

The teams prepare for months to cover a semester’s worth of knowledge while performing under a grueling five-hour deadline in hopes of claiming the “World’s Smartest Trophy.” The team that solves the most problems correctly in the least time emerges as champions, earning scholarships, bragging rights, and prizes from IBM.
American Association for the Advancement of Science (AAAS) Fellows:
Three CECS faculty members have been awarded the distinction of AAAS Fellow in 2009. AAAS, founded in 1848, is the world’s largest scientific organization and the publisher of the journal Science.

- Dr. Narsingh Deo, professor and holder of the Charles N. Millican Chair in Computer Science, was selected for his contributions to graph theory, algorithms and applications, parallel algorithms and parallel data structures, and for authoring pioneering books.
- Dr. Debra R. Reinhart, professor of Civil, Environmental and Construction Engineering, was selected for her practice and research in solid waste management and groundwater remediation.
- Dr. Mubarak Shah, professor and holder of the Agere Chair in Computer Science was selected for his outstanding contributions to video surveillance and monitoring, shape from shading, active contours, human action recognition and object tracking in computer vision.

Institute of Electrical and Electronics Engineers (IEEE) Fellow
IEEE, the world’s leading professional association for the advancement of technology, recently conferred the grade of Fellow to Dr. Zhihua Qu, professor and holder of the SAIC Professorship in the School of Electrical Engineering and Computer Science. Professor Qu was cited for his contributions to control for nonlinear uncertain systems.

National Science Foundation (NSF) CAREER Award Recipients 2009
NSF’s Faculty Early Career Development (CAREER) Program provides support for scholars for outstanding research, education and the integration of education and research within their organization. Three assistant professors in electrical engineering and computer science received this prestigious award in 2009. Dr. Xun Gong will study Next-Generation Ultra-Low-Cost Phased Arrays. Dr. Joseph J. LaViola Jr., will study Mathematical Sketching: Pen-based Tools for Conceptual Understanding in Mathematics and Physics, and Dr. Gita Sukthankar will study Modeling Group Dynamics in Multi-agent Systems.

In January, Progress Energy continued its commitment to excellence by giving $145,000 to support the new CECS Institute in Leadership and Research. The Institute will support and expand three programs.

Senior Design Challenge—Continuing this effort which is in its second year, Progress Energy will fund at least 20 Senior Design teams to create viable projects focusing on sustainable and renewable energy concerns. Each team will be challenged to develop a unique approach to reducing dependence on fossil fuels, either through energy conservation or identification and development of alternative fuels. An annual symposium will feature all of these projects on April 14.

Leadership Seminar Series—Retooling a program that formerly served 30 students per year, this seminar series will be offered to 300 CECS juniors as a weekly workshop to enhance leadership skills, business ethics acumen and provide guidance as the students move into their careers. Notable industry leaders and business consultants will be featured and students will earn continuing education credit.

EXCEL Program Undergraduate Research Experiences—This program will provide funding to CECS sophomores who want to participate in undergraduate research with a faculty member focusing on energy- or sustainability-related issues. The goal is for students to gain firsthand experience in a research setting early in their educational journey.

“We are excited to support areas that integrate the principles of leadership, research and renewable energy,” commented Regional Vice President, Dave Maxon, for Progress Energy.

CECS Hosts Florida Energy Workforce Consortium
UCF’s energy research was on the agenda of the Florida Energy Workforce Consortium (FEWC) Board Meeting in December. The meeting hosted by CECS and the Orlando Utilities Commission at the Harris Engineering Center also included an energy update on the college and UCF’s academic and professional development projects.

FEWC was formed in 2006 and is developing solutions to meet the current and future workforce needs of Florida’s energy industry.
The Society of Automotive Engineers was just one of the groups eager to show off their creations at UCF’s Family Day in October 2009. Students gave presentations to an enthusiastic crowd. One visitor even got to take a seat in the Formula vehicle.

Club members spend their weekends building Formula vehicles designed and fabricated to compete in a small formula-style race. The student teams are judged not just on speed but reliability, cost to maintain, aesthetics and comfort.

More than 200 visitors stopped by CECS to enjoy a barbecue lunch sponsored by Harris Corporation, and to see demonstrations by student organizations that also included a moon buggy, turbine propellers and energy saving devices.