

UCF College of Engineering & Computer Science UPDATES

News and updates for the CECS Dean's Advisory Board, University of Central Florida

December 23, 2015

New Faculty

This fall, 200 new faculty members joined the Knights family. This is the largest number for a new school year in more than a decade. Those new faculty members include 100 new faculty positions in addition to the 100 faculty who replaced retiring and departing faculty members. A year from now, we plan to welcome about 100 additional faculty members who will fill new positions, 50 of which will be hired by the College of Engineering and Computer Science. This bold two-year hiring effort will increase by 25 percent the number of UCF's tenure and tenure-track faculty positions.

Student Recruitment

The average SAT 2-score of our incoming freshmen at a record 1262, six points higher than last year. Also, the average GPA of our freshman class currently stands at a record high of 3.99, compared to the 3.92 from last fall. The SAT scores and GPA for freshmen entering our Burnett Honors College are at a record 1402 and 4.4, respectively.

In addition, we have enrolled 69 freshman National Merit Scholars, which should put us in the top 15 nationally among public universities and among the top 40 nationally among all institutions. As you may know, in the previous two falls, UCF enrolled more freshman National Merit Scholars than any other university in Florida.

Enrollment has exceeded just more than 63,000 students, which is an increase of approaching 3 percent.

24% of students are Hispanic; 43% of students are minority population

Faculty Cluster Initiative – launched this year:

UCF's Faculty Cluster Initiative leverages our existing strengths and fosters the development of strong, interdisciplinary teams focused on solving today's toughest scientific and societal challenges through teaching and research. In its inaugural year, the Faculty Cluster Initiative is adding 33 new faculty members in six select fields to advance UCF's unique areas of excellence and global impact. The strength of this initiative comes from faculty depth, the ability to translate this depth across disciplines and the collaboration of faculty and academic administrators in every college across the university.

CECS involved in all of the six clusters selected:

- Cyber Security and Privacy
- Energy Conversion and Propulsion
- Genomics and Bioinformatics
- Prosthetic Interfaces
- Renewable Energy Systems (RISES)
- Sustainable Coastal Systems

Strategic Planning and Academic Goals

In fall 2015, university and community leaders launched a strategic planning process to set UCF's trajectory for the next 20 years. In doing so, we will help shape how we can have a greater impact on lives and livelihoods at UCF and throughout the region. The UCF Board of Trustees and President Hitt charged the Strategic Planning Commission to explore UCF's role in the community through the three dimensions of Philosophy, Value and Distinctive Impact. Taken together, these dimensions will consider our purpose, the quality our institution provides and areas of excellence that will distinguish UCF from other institutions on the national and international stage. We also will examine how UCF best fits into the education landscape in the state and across the country.

This planning process, aptly named "Collective Impact" because it involves not only internal stakeholders but also members from the community, will take place through spring 2016. It will involve UCF and community members working together to deliver a road map that will help develop our long-term vision and a 5-year action plan.

Community members can learn more about the process and receive updates at <http://ucf.edu/strategic-planning>

Research

Final first-quarter research numbers are about \$13 million more than this time last year.

Efforts also are underway to grow our graduate student population, supported in part by the new faculty hiring campaign and additional funding for PhD students.

CECS Marketing and Media

UCF Among Nation's Most Innovative Universities, and 'Storming' Higher Education

In September, the University of Central Florida was recognized along with Harvard, MIT, Stanford and Duke as one of the nation's most innovative universities in *U.S. News & World Report's Best Colleges 2016* guide. A front-page *Washington Post* story published Sept. 20 noted that UCF is "storming higher ed" as a model for "a nation in desperate need of a better-educated workforce." Also in September, UCF was featured nationally on PBS for its DirectConnect program that guarantees UCF admission to graduates of partner community colleges.

U.S. News & World Report story:

<http://colleges.usnews.rankingsandreviews.com/best-colleges/rankings/national-universities/innovative>

Washington Post article Sept. 20:

https://www.washingtonpost.com/local/education/with-54000-students-and-growing-u-of-central-florida-storms-higher-ed/2015/09/20/0db73380-4cbd-11e5-bfb9-9736d04fc8e4_story.html

PBS Newshour story: <http://www.pbs.org/newshour/bb/community-colleges-can-help-close-graduation-gap/>

UCF is Nation's #1 Workforce Supplier to Aerospace & Defense Industry

UCF Today Story: <https://today.ucf.edu/ucf-is-1-supplier-of-engineers-to-aerospace-and-defense-industries/>

'Oscar of Invention' Awarded to UCF Materials Science & Engineering Researcher

Jayan Thomas – who developed a nanoscale copper wire that stores and transmits energy simultaneously – was honored by *R&D Magazine* at its recent annual R&D 100 Awards, known as the "Oscars of Invention."

Story: <http://www.cecs.ucf.edu/oscar-of-invention-awarded-to-ucf-materials-science-engineering-researcher/>

Video illustrating the technology: <https://www.youtube.com/watch?v=-a3O4cP22qY&feature=youtu.be>

Reigning Champs: UCF Programming Team

In November, the team convincingly won the U.S. Southeast regional title, earning UCF its 34th consecutive top-three regional placement. This success record is unmatched by any similar team in the nation. The winning three-member team will travel to Phuket, Thailand in May to compete in the World Finals. UCF is continuing to pursue the possibility of hosting the World Finals in Orlando in 2020.

Story: <http://www.cecs.ucf.edu/reigning-champs-ucf-programming-team-grabs-fourth-consecutive-win/>

Cyber Security National Champs

Besting Ivy League schools, members of UCF's Collegiate Cyber Defense Team recently won the national CyberSEED competition, which included three team competitions; UCF took first place in two of them and second place in the other, and earned \$25,000 in prize money. The team has also won 2014 and 2015 national titles in the National Collegiate Cyber Defense Competition, sponsored in-part by Raytheon.

Story - <http://today.ucf.edu/ucf-students-win-25500-at-cybersecurity-competition/>

Limbitless Solutions' Wheelchair for People with Severe Mobility Impairments

Five graduating seniors created a low-cost wheelchair controller that works with electromyography (EMG, or muscle sensors). A small 3D-printed box attaches to the wheelchair joystick. EMG sensors placed on the person's face send signals to the box to move the wheelchair multi directions. The invention was debuted for media Nov. 24 and received extensive coverage, and approximately 1 million media views and shares to date.

Video - Fox35 Orlando: <http://www.fox35orlando.com/news/local-news/53874140-story>

Video – NBC WESH-2: <http://www.wesh.com/news/vet-test-drives-latest-in-wheelchair-technology-produced-by-ucf-students/36638622>

Video – WKMG-News6 (CBS) - <http://www.clickorlando.com/news/new-3-d-device-control-wheelchairs-with-facial-movements>

Limbitless Solutions Launches "12 Arms for Christmas" Campaign

An inspirational story featuring the compassionate work of UCF engineering students in Limbitless Solutions who deliver UCF-made 3D-printed bionic arms to 12 children in December.

<https://today.ucf.edu/limbitless-solutions-launches-12-arms-for-christmas-campaign/>

Assistant Professor Lands \$1.1 Million Federal Grant to Revolutionize Power Plant Technology

Supercritical Carbon Dioxide May Be Promising Alternative to Steam

UCF Today story: <http://today.ucf.edu/ucf-professor-lands-1-1-million-grant-pioneers-new-technology/>

Engineering Student's Junk Pile Leads to New Hope for Child with Disability

David Shamblin, UCF aerospace engineering student, used his "junk pile" at home to change the life of 5-year-old Edward Reyes, a child with developmental delays who previously did not speak, feed himself, hold a bottle, walk or use his hands in any purposeful way. Shamblin's gadget helped Edward engage for the first time.

UCF Today story: <http://today.ucf.edu/engineering-students-junk-pile-leads-to-new-hope-for-child-with-disability/>

Video – Fox/National (Thanksgiving week): <http://www.fox5ny.com/news/51952830-story>

Time.com: The Making of a Superhero: Providing Bionic Arms to Help Children in Need

National story featuring UCF engineering student Albert Manero, founder of Limbitless Solutions.

Article: http://time.com/content-from/hyundai/s124352_0/albert-manero/?ntv_a=wOUBAKUUEAG3wFA

Artificial Intelligence and Creativity: Prof. Ken Stanley's Work Featured Nationally

Research by computer science professor Ken Stanley was featured in a lead story on FiveThirtyEight, a popular national online news portal. The July 23 story delves into Stanley's work and features his art-evolution website Picbreeder. The article also mentions his new book, *Why Greatness Cannot be Planned: the Myth of the Objective*. "Stop Trying to be Creative" - <http://fivethirtyeight.com/features/stop-trying-to-be-creative/>

Prof. Haitham Al-Deek's Expertise Included in National WalletHub Story

Dr. Al-Deek is an intelligent transportation systems expert and professor in the Dept. of Civil, Environmental and Construction Engineering.

WalletHub's "2015 Best & Worst Cities to Be a Driver" - <https://wallethub.com/edu/best-worst-cities-to-be-a-driver/13964/#haitham-al-deek>

Hurricane Prediction Technology Featured in Media

Technology that collects data within the entire eye of a storm to provide a faster and more accurate method of predicting the path and intensity of hurricanes is featured in WFTV-9 Orlando's "Hurricane Safety Report 2015." Electrical and computer engineering professor W. Linwood Jones appears in a 3-minute segment starting at 17:08. Video - <http://www.wftv.com/videos/news/2015-hurricane-safety-report/vDX5nS/>