The creation of MSE in 2012 brings the number of CECS academic departments to five and changes the name of the former Department of Mechanical, Materials and Aerospace Engineering to Mechanical and Aerospace Engineering (MAE).

Dr. Kevin Coffey, a professor of materials science and engineering, has been appointed MSE interim chair.

MSE is home to six primary faculty and 17 secondary faculty who represent materials science, physics, biology, chemistry, nuclear engineering and mechanical engineering. They also represent various UCF centers, including the Advanced Materials Processing and Analysis Center (AMPAC), the NanoScience Technology Center and the Florida Solar Energy Center.

MSE has 57 students pursuing master’s and doctoral degrees. Plans are under way to offer students an MSE undergraduate degree.

Materials Science and Engineering has existed as a program at UCF for more than 10 years, supported by AMPAC. UCF researchers in the field have contributed to scientific advances as diverse as medicine and space exploration.

“Having an MSE department centralizes a program that spans multiple disciplines. It also directs national prominence and visibility on UCF’s robust materials science research, which for 10 years has received significant funding, achieved notable breakthroughs and has been highly ranked by the National Research Council,” said Michael Georgiopoulos, CECS interim dean.

UCF’s materials science research is broad-based and explores a wide spectrum of topics in the properties and structure of hard and soft matter, including electronic materials, semiconductor interconnects, nanomaterials, magnetics, biological materials, organic and molecular engineering, bio-engineering, novel materials, shape-memory alloys and more.

CECS Among Nation’s Top 10

CECS’s graduate program has ranked among the top 10 in the country for Hispanic students for the eighth consecutive year by Hispanic Business magazine. The publication ranks the nation’s top 10 graduate programs in medicine, law and engineering.

This year, CECS ranked sixth. The rankings are based on questionnaires sent in by schools, enrollments, the percentage of Hispanic faculty members, the number of programs that recruit Hispanic students, retention rates and student services. At CECS, 14 percent of graduate students are Hispanic, and 15.8 percent of postgraduate degrees are earned by Hispanics.

Be Engaged. Be Involved.
Give to CECS.
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New: Materials Science and Engineering (MSE) Department
MESSAGE FROM THE DEAN

In the few months I have served in the role of interim dean, I am impressed by the quality of our faculty, the strong work ethic and forward vision of our young faculty and the academic excellence that our students continue to demonstrate. I also appreciate UCF’s ability to combine efforts across colleges and disciplines to develop remarkable educational programs and fruitful research collaborations.

Building partnerships has been central to my goals for CECS. For the upcoming calendar year, we hope to facilitate more research opportunities for our faculty through expanded industry partnerships, continued research and engineering leadership seminars. We will strive to enable senior design mentorships for our students, and launch a major universitywide STEM effort involving all UCF colleges, centers and institutes.

The past year featured numerous successes. Many of our faculty and students received national awards. Major college initiatives—such as a unique STEM retention program, our Engineering Leadership and Innovation Institute (eli2) and our diversity efforts—were launched or expanded. Five CECS faculty were inducted into UCF’s Research Millionaire’s Club, meaning they attracted more than $1 million in funding. CECS was lauded for receiving the highest total of new research funding universitywide. We also expanded our research infrastructure with a new laboratory facility and we added a new academic department.

As we head into 2013, CECS is preparing to celebrate its 45th anniversary and UCF’s 50th. Check future issues of CECS Updates and our website for details on how you can be a part of these important milestones. You can share your memories on UCF’s online portal created for the 50th anniversary celebration—www.ucf.edu/50.

Finally, enjoy the new year and thank you for your role in our success.

Warm Regards,

Michael Georgiopoulos, Ph.D.
Interim Dean

2012 FACULTY AWARDS AND HONORS

JEFFERSON SCIENCE FELLOW
Dr. Challapalli Suryanarayana, a professor in MAE, is serving a one-year assignment at the U.S. Department of State, helping policy makers understand rapidly evolving technology, science and engineering for the better formulation and implementation of U.S. foreign policy. Only 13 fellows nationwide were selected for the honor this year.

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE (AAAS) FELLOWS
Dr. Louis Chow, a professor in MAE, was elected for his contributions in the areas of heat transfer in electro-optical, computing and power systems and two-phase spray cooling. Chow also received the 2012 Allan Kraus Thermal Management Medal from the American Society of Mechanical Engineers for fundamental contributions to his field.

Dr. Suhada Jayasuriya, chair, MAE, was elected for his contributions to the fields of robust control of nonlinear systems, quantitative feedback theory and multi-agent systems.

Dr. Zhihua Qu, chair, EECS-ECE, was elected for his contributions to the field of nonlinear systems and control, particularly for control of networked systems with applications to robotics and energy systems.

Dr. Peter Hancock, a psychology professor who holds joint appointments in CECE, was elected for his contributions to engineering psychology and human factors related to integrative theoretical modeling in the areas of attention, workload, stress and fatigue.

2012 NEW FACES OF CIVIL ENGINEERING
Dr. Kaveh Madani, an assistant professor in CECE, was among 10 individuals to be honored this year by the National Association of Civil Engineering for notable achievements in the field by people age 30 and younger. Madani’s research interests include conflict resolution in water resource systems.

NSF CAREER AWARD
Dr. Haiyan “Nancy” Hu, an assistant professor in EECS-CS, received the prestigious National Science Foundation award to support her research in bioinformatics and computational biology. She is an expert in data mining and developing algorithms to detect frequent patterns in massive networks of data.

UCF TRUSTEE CHAIR PROFESSORSHIP
Dr. Mubarak Shah, a professor in EECS-CS, and Agere Chair, was honored by UCF with a prestigious five-year award to recognize his international notoriety and achievements in his research area of video surveillance, monitoring and computer vision.

UCF PEGASUS AWARD
UFC’s Highest Faculty Honor
Dr. Donald Malocha, a professor in EECS-ECE, is a renowned researcher in surface acoustics and wireless radio frequency devices. He developed the first two clean rooms at UCF, and is widely known for helping students launch startup companies and much more.

Dr. Sudipta Seal, a professor in MSE, is the director of the UCF Advanced Materials Processing and Analysis Center. He has pioneered research in materials science and nanotechnology, and was instrumental in establishing the materials science program at UCF.

CECS DEAN’S ADVISORY BOARD 2012 FACULTY AWARD
Dr. Mohamed Abdel-Aty, a professor in CECE, was honored for achievements in teaching and developing international partnerships in his research area of transportation planning.

CECS department acronyms: Civil, Environmental and Construction Engineering (CECE); Electrical Engineering and Computer Science (EECS); Division of Computer Science (CS) and Division of Electrical and Computer Engineering (ECE); Industrial Engineering and Management Systems (IEMS); Materials Science and Engineering (MSE); Mechanical and Aerospace Engineering (MAE).
UCF’s Most Winning Team

Few student competition teams can say they have, for more than three decades, consistently placed among the best in the country and even among the top one percent in the world. UCF’s Programming Team can.

Members of this top-performing club compete annually in the Association for Computing Machinery (ACM) International Collegiate Programming Contest, also known as “The Battle of the Brains.” This year, UCF sent eight three-person teams—including its first all-female team—to the Southeast Regional Contest, which featured 85 teams from Florida, Georgia, South Carolina, Alabama and Mississippi.

UCF’s winning record gives the university bragging rights. For 31 years, a UCF team has always placed in the top three in the region. This year, UCF swept the regional contest, winning first, second and third. The winning team will advance to the World Finals next summer in Russia.

As for UCF’s record in the World Contest Finals—representing the best of more than 8,000 regional teams from 80 countries—UCF has finished as high as second, fourth and fifth place.

“UCF’s record is matched by no other school in the southeast region, and our overall performance is matched by very few schools in the world,” said Dr. Ali Orooji, a professor and advisor in the CECS Department of Electrical Engineering and Computer Science, and Programming Team faculty advisor.

The contest begins with each team receiving up to 12 problems that draw on skills in math, logic, graphs, charts, geometry and more. Each three-member team shares one computer to solve the most problems in five hours, writing a computer program for each solution. An example problem might ask competitors to route a fire truck across a city to a fire in the quickest time, allotting for complex conditions such as one-way streets and road closures.

The secret to UCF’s success is devoted practice 35 to 40 Saturdays a year. The seven-hour practice sessions simulate the five-hour contest, with the extra time spent on analysis and feedback.

Lighting Career Paths

Brenda Isaza (B.S., AE, ’97 and M.S., IE, ’06)

As a design engineer for Boeing, Brenda Isaza works on support structures for NASA’s Ground Systems Development Program. But it’s the moral support and advice she gives to aspiring engineers that have CECS students glad to know her.

Outside of her job at the Kennedy Space Center, the mother of three finds time to volunteer with K-12 students, mentor college students and speak to UCF groups like the Society of Hispanic Professional Engineers.

“I didn’t have a mentor guiding me in college,” Isaza said. “That can really make a difference in someone’s life.” At UCF she navigated her educational path. She ignored people’s advice to change her major, and made bold moves like applying for an electrical engineering job at Boeing weeks before earning her aerospace engineering degree.

“The job was to integrate payload into the space shuttle, which sounded perfect for me,” she said. At the interview, she talked up her UCF senior design project—a particular robotic arm system for NASA. Boeing hired Isaza, and since then she has worked her way up, winning numerous awards along the way. She also earned a UCF master’s degree in industrial engineering.

Isaza encourages students to attend an annual conference known as HENAAC (Hispanic Engineer National Achievement Awards Corporation). That’s where Isaza’s mentee, Ivan Trivino, a UCF senior studying aerospace engineering, began his own successful journey with Boeing.

Always one to heed Isaza’s advice, Trivino interned at Boeing’s headquarters last summer after interviewing at a HENAAC job fair. He also recently won a Boeing scholarship.

Trivino met Isaza through his mother when he was in high school. Wanting to know more about her job, he asked questions and accepted her invitation to visit her workplace. That experience launched the unique mentoring relationship that continues today.

“Brenda has been a lighthouse who has guided my path as I sail through the waters of college,” Trivino said. “She always shows me where to go and what to avoid.”
Three CECS Alumni Honored

Three CECS alums were honored Nov. 1 at the Black & Gold Gala, UCF’s annual awards program to recognize alumni for their professional achievements and community service.

David Bettner (B.S., CS, ’03), received the Distinguished Alumnus award, the highest professional achievement award the UCF Alumni Association offers. He is the creator of the popular game, Words With Friends.

Eric Singleton (B.S., IS, ’86) received the CECS Professional Achievement Award. He is the senior vice president of technology and applications of Chico’s FAS, Inc. He is also the co-founder of Altairstar, LLC, creators of PropertyManagerUSA.com.

Phil Dumas (B.S. EE, ’05), was honored as the CECS Rising Star Alumnus. The entrepreneur is the founder and creator of Unikey Technologies. Earlier this year his product was featured on the nationally televised season finale of ABC’s “Shark Tank.”

Homecoming Barbeque and Tailgate

Nearly 250 alumni, students, staff, faculty and friends celebrated UCF Homecoming on Nov. 3 at the CECS Barbecue and Tailgate sponsored by Harris Corporation. This was the fifth year that Harris has sponsored a barbecue event for CECS alumni. Harris also donated $500 to the student engineering society Theta Tau for having the most club members in attendance. More than 900 UCF graduates are employed at every level of Harris Corporation.

Mark Your 2013 Calendar

Engineers Week & UCF 50th Anniversary Celebration  
Feb. 17-23

CECS Alumni Honors Reception  
March 14

CECS Alumni Chapter Golf Classic  
March 15

CECS Scholarships Reception  
April 2

CECS Senior Design Day  
April 19

CECS events are listed online at:  
www.cecs.ucf.edu