New MMAE Lab Facility Expands Research Capability

A fter two years of construction, a $2 million research facility for the Department of Mechanical, Materials and Aerospace Engineering (MMAE) is now open and several happy professors are moving into the space.

Located at the end of Neptune Drive on UCF’s main campus, the facility provides 4,000 square feet of much-needed controlled-environment laboratory space that will safely handle the chemicals, fuels, gases and other materials being used in a variety of research.

The facility’s air handling system has seven fume hoods and three exhaust canopies. Researchers have ample electric power, compressed air and safe material storage for their projects. The facility’s outdoor portion can accommodate turbo-machinery rigs such as a small jet engine.

The new research capabilities will help forge industry and government partnerships in high impact areas such as energy and advanced manufacturing.

“Coupled with the work in the Siemens Energy Center next door, this facility will position us to become a major force in turbo-machinery energy research,” said Dr. Suhada Jayasuriya, chair of MMAE.

In the Laboratory for Ceramics for Energy Applications, Assistant Professor Nina Orlovskaya is studying ways to manufacture and process electromechanically active ceramics and boron-rich solids.

Professor Quanfang Chen will have a fabrication clean-room facility to conduct research on sensors and actuators with nanomaterials.

Assistant Professors Seetha Raghavan and Cheryl Xu will share a fume hood, enabling research on the mechanical behavior of high-temperature coatings and novel nanomaterials, and the machinability of special polymer derived ceramics, metal matrix composites and other advanced materials.

Associate Professor Jihua Gou’s Composites Manufacturing Lab will support research involving composite thermal protection systems for aerospace and wind turbine applications.

Plans include a combustion lab to enable Assistant Professor Subith Vasu’s research in biofuels. He will build a “shock tube” system that simulates the temperature and pressure of an automobile engine.

Golf Classic Raises Thousands

Twenty-four teams of golfers raised $5,400 in scholarship money for students at the Second Annual CECS Golf Classic at Stoneybrook Golf Club, hosted by the CECS alumni chapter. A total of $10,700 has been raised since the Golf Classic began. Corporate sponsors included Texas Instruments, Mitsubishi Power Systems and Philips.

“We thank everyone for supporting the Golf Classic and encourage our alumni to consider the many opportunities to get involved with our great alma mater,” said Herb Gingold (’91), chair of the 2012 Golf Classic.

To get involved in CECS alumni events, contact Robin Knight at 407-362-8751 or at Robin.Knight@ucf.edu or Sarah Dillon at 407-823-1570 or Sarah.Dillon@ucf.edu.
After three years as chair of the CECS Dean’s Advisory Board, William “Bill” H. Miller (MBA, ’91) is stepping down to concentrate on his new position as senior vice president and CIO of Broadcom Corporation in Irvine, CA.

The board includes corporate executives, heads of large engineering firms, CEOs, entrepreneurs, university deans, and even a former astronaut. Under Miller’s chairmanship, the board has recommended several key initiatives, including the CECS Engineering Leadership and Innovation Institute (eli2) for students, and operating CECS in a more centralized capacity to help industry coordinate between the college and various UCF centers and institutes. “That clarity of mission,” Miller says, “is important for leveraging corporate partnerships and helping CECS compete against other institutions for research grants.”

“Since 2009, I’ve seen CECS transform from a nascent Florida educational institution to one that is more confident and recognizable on the national stage,” Miller said.

Miller’s incoming goal as chair was to build and motivate an “activist board,” one that is more intimately involved with CECS staff and local industry. He hoped to avoid what many boards tend to become—review bodies with limited attendance and input. In fact, many of CECS’s board members are also UCF alumni, which fosters the bond with, and sense of pride in, the college they serve.

Miller will stay active on the board and help the new chair transition into the role.

Recruiting quality graduate students and scholars to support our funded efforts is vital.

As interim dean, I will try my best to support the aforementioned activities that will help CECS’s mission of attaining excellence in its teaching, research and service efforts. I will also make a concerted effort to meet more of you in the months ahead. Feel free to contact our office to arrange a visit, or send an email to let us know what you’re doing and how we might be able to work together. Be sure to check our website at ceecs.ucf.edu for upcoming college events and news.

Finally, I hope you enjoy this issue of “CECS Updates.” Each story serves as a reminder of the success that comes when we work together.

Regards,

Michael Georgiopoulos, Ph.D.
Interim Dean

MESSAGE FROM THE DEAN

Dear Alumni & Friends,

It is my sincere pleasure to introduce myself to you as the interim dean of the UCF College of Engineering and Computer Science.

I want to start this message by expressing sincere gratitude to Dr. Marwan Simaan for his excellent leadership in steering our college during challenging times. I am committed to building on CECS’s progress of becoming one of the nation’s best colleges of engineering and computer science.

As we move forward, I hope to inspire a collegial spirit within CECS as we forge partnerships with other colleges, centers and institutes, alumni, industry partners and UCF’s numerous stakeholders. This spirit of collaboration strengthens our efforts to provide the best undergraduate and graduate education for our students, who have entrusted us with their future.

I firmly believe that enabling faculty to produce outstanding scholarly work is the blueprint for building a stronger national and international reputation for CECS and its affiliated departments. Collaborating with our external partners in our efforts to educate the future workforce and expand our research funding footprint is a strategy for success.

As interim dean, I will try my best to support the aforementioned activities that will help CECS’s mission of attaining excellence in its teaching, research and service efforts. I will also make a concerted effort to meet more of you in the months ahead. Feel free to contact our office to arrange a visit, or send an email to let us know what you’re doing and how we might be able to work together. Be sure to check our website at ceecs.ucf.edu for upcoming college events and news.

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CECS is Home to Two 2012 Pegasus Professors

CECS’s Donald C. Malocha and Sudipta Seal were among five faculty members honored as UCF Pegasus Professors during the university’s Founders’ Day ceremony. The award is the most prestigious a faculty member can receive at UCF, and recognizes extraordinary contributions to the UCF community through teaching, research and service.

Dr. Malocha is a professor in the Department of Electrical Engineering and Computer Science and an internationally recognized scholar in the field of surface acoustics and wireless radio-frequency devices.

Dr. Seal is a professor in the Department of Mechanical, Materials and Aerospace Engineering and is the director of UCF’s Advanced Materials Processing and Analysis Center. Since joining UCF in 1997, he has been a leader pioneering innovative research in the areas of materials sciences and nanotechnology.

A Salute to the Chair of the Dean’s Advisory Board

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Federal Grant Awarded to UCF Transportation Experts

UCF’s transportation experts—led by CECS civil engineering professor Essam Radwan—are part of a team that has been awarded $3.5 million from the U.S. Department of Transportation to establish a Southeast-based university research center to study the nation’s transportation needs and provide data to improve transportation systems across the country.

Led by Georgia Institute of Technology, the Southeast hub will also include Florida International University and The University of Alabama at Birmingham, and will focus on transportation systems performance and management, safety, transportation infrastructure and services, and economic competitiveness.

Dr. Radwan’s UCF team, which includes researchers at the Center for Advanced Transportation Systems Simulation (CATSS), is expected to compete for up to $800,000, which may be matched by non-federal sources. A group from UCF’s Institute for Simulation and Training that uses a driving simulator to study the impact of multiple distractions behind the wheel is part of the team.

The grant is expected to continue for a second year at $3.5 million and will also include dollar-for-dollar matching funds from non-federal sources.

Electrical Engineering Alumnus Lands $500,000 Deal on ‘Shark Tank’ Finale

It was a CECS senior design project at UCF that ignited Phil Dumas’ (‘05) passion for alternative lock products. In 2010, Dumas had an idea that turned into a successful venture through UCF’s Business Incubator Program.

And then Dumas’ professional journey led him on an exciting entrepreneurial path that included an appearance on the May 18 season finale of ABC’s “Shark Tank.” He beat out 24,000 applicants to appear on the show, where entrepreneurs pitch their concepts to investors—the sharks—in hopes of gaining investment funds.

On the show, Dumas negotiated a $500,000 deal with two investors to support his Orlando-based company, Unikey Technologies, which makes an innovative keyless lock. A resident uses a smartphone application and simply touches their door to enter their home—no key is required when they have their phone with the Unikey application with them.

Dumas credits his college experience at CECS for the foundation and inspiration that led to his business idea. “My senior design project at UCF was a system that opened a car door using a cellphone,” he said. “You called your car, entered in your password and the doors unlocked.”

Dumas remains active with UCF. He often attends CECS alumni chapter meetings and is planning to establish a communication scholarship to support CECS engineering students. “This is how innovation happens,” Dumas said. “I hope it will encourage students to step out of their comfort zones and develop the communication skills they need to be successful professional engineers and entrepreneurs.”

Student Team Competes in National Energy Competition

Students from MMAE represented UCF in Washington, D.C. at the U.S. Department of Energy National Clean Energy Business Plan competition as one of only six student teams from universities nationwide.

During the event, the team pitched a business plan for Mesdi Systems, Inc., a start-up company founded by MMAE graduate student Brandon Lojewski.

The team didn’t take the top prize, but their journey was impressive. Mesdi Systems won the $100K ACC Clean Energy Challenge—a regional competition—which secured a spot in the national contest.

Mesdi Systems uses electrospray technology to vastly improve the manufacturing process for making lithium ion batteries and other products to ultimately increase product life while reducing production costs and manufacturing waste. The company’s technical adviser, Dr. Weiwei Deng, an assistant professor in MMAE, is renowned for his work in multiplexed electrospray techniques, which use thousands of tiny spray nozzles on a single chip.

The innovative technology uses electrical charge to create uniform, ultrafine droplets with precision control, and can be applied to making batteries, photovoltaic solar cells, medical devices, pharmaceuticals and much more.
Mark Your Calendar
College Open House at CECS
September 15, 2012
UCF Black & Gold Gala
November 1, 2012
CECS BBQ & Tailgate for UCF Homecoming
November 3, 2012
Keep up with the latest CECS events at
cecs.ucf.edu.

A Gift for Computer Science

Growing up in Orlando, Arthur Hillman enjoyed listening to the radio and reading stories about Buck Rogers, a fictional character who used futuristic gadgets that inspired fans to imagine: “What if that kind of technology existed?” Fast forward to today’s ubiquitous presence of smartphones and the technology that makes them work.

“I am simply shocked by what has happened in my lifetime,” Hillman marveled. “Anything that can be conceived by the human mind can become a reality with technology.”

The retired doctor of optometry and his wife Sally want to help UCF students pursue their dreams and take technology to new heights. The couple established a named endowment in 2001 to support Ph.D. students in computer science, and have committed to a planned gift in their will to ultimately augment their endowment that will benefit students for years to come.

“We figure that if a student has gotten to the doctorate level in their education and the only thing holding them back is a need for money, then we are proud to help.”

The Hillmans consider giving to UCF as a way to give back to society and especially to their local community.

“I’ve watched UCF transform into a major presence in Central Florida. Helping UCF is my way of helping the community where I was born and raised,” Hillman said.

The family also has a proud, personal connection to CECS. Their grandson Drew is a CECS undergraduate studying computer science.

The Hillmans encourage others to give to UCF because they feel the university shows its appreciation, not just with thank-you letters, but by keeping donors informed and involved.

“It’s rewarding to be invited out and meet the students we’re helping and really see what they’re doing and who they are,” Sally Hillman said.

Graduate students Antony Stabile and Justin Pugh are this year’s recipients of the Hillman Scholarship. Stabile holds UCF bachelor’s and master’s degrees in electrical engineering. His doctoral research will focus on image processing and computer vision. Pugh holds a bachelor’s degree in computer science and intends to pursue doctoral research in the field of artificial intelligence.

“This scholarship will alleviate my financial burden and allow me to concentrate more on my studies,” Pugh said. “I will be proud to add the Hillman Scholarship to my resume.”

Arthur and Sally Hillman