Robert H. Bishop Named College’s Sixth Dean

Dr. Robert H. Bishop became Dean of Engineering at the University of South Florida and a full professor in the Department of Electrical Engineering. He previously held the endowed position of Opus Dean of Engineering at Marquette University. Before Marquette, he was the Chairman of the Department of Aerospace Engineering and Engineering Mechanics at The University of Texas at Austin where he held the Joe J. King Professorship and was a Distinguished Teaching Professor. Prior to academia, he was a member of the technical staff at the Charles Stark Draper Laboratory. He received his Ph.D. from Rice University in electrical and computer engineering and his M.S. and B.S. in aerospace engineering from Texas A&M University. Bishop is a Fellow of the American Institute of Aeronautics and Astronautics and a Fellow of the American Astronautical Association.

College Celebrates its 50th Anniversary 1964-2014

The College of Engineering celebrated its 50th year of educating engineers by holding the first Engineering Excellence Awards Dinner which recognized 10 distinguished alumni and a former dean for their significant contributions to society and the field of engineering.

The College of Engineering at the University of South Florida currently serves more than 5,000 engineering students and awards 30 degrees in 14 academic programs. Since its first graduating class in 1966, the college has awarded nearly 23,000 engineering degrees.

Three Faculty Receive NSF Career Awards in 2015

**Qiong Zhang**
Civil & Environmental Engineering, $501,886; Program: Environmental Stability

**Wenjun Cai**
Mechanical Engineering, $506,992; Program: Metal & Metallic Nanostructures

**Hui Yang**
Industrial & Management Systems Engineering, $500,000; Program: Manufacturing Enterprise Systems

9 USF engineering faculty have received CAREER Awards since 2010
BEST@USF Bulls Engineering Success Training

A unique collaboration between academia and industry provides experiential learning.

The Bulls Engineering Success Training (BEST) program provides selected undergraduate students with an interdisciplinary, industry-based capstone design experience.

A BEST team of six students complete an industry-contributed project in two semesters and earn six credit hours. The BEST program prepares students for their first job in industry and enables them to hit the ground running. All BEST students are supervised by a College of Engineering faculty member and mentored by an industry partner. Being part of the BEST program is a great way for companies to help prepare the next generation of practicing engineers. Participating companies benefit directly from having a project completed and gain recruiting advantages in hiring new engineers.

BEST is based on collaboration between industry and the College of Engineering at the University of South Florida. Seven projects were completed during the 2013-14 academic year with companies such as Syniverse, CAE, Harris, and Oscor. The goal is for 20-30% of all engineering students to participate in a BEST project.

Ericsson Internship Program

The Department of Computer Science and Engineering is the recipient of a $25K donation from Ericsson to support a paid on-campus internship program for its undergraduate program. Six undergraduate students are working 10 to 20 hours per week to develop a graphical topology generator for a virtualized network. Five of these students will be continuing their internship at Ericsson’s Silicon Valley location in the summer of 2015. This on-campus internship program brings real world experience to our students and an opportunity for top-tier companies to check-out USF students for possible employment upon graduation.

Degrees Awarded

Significant Gifts to the College in 2014

- Endowment: $858,356
- Operational: $384,766
- In-Kind: $69,050,567
Professor Daniel Yeh’s research group is concentrating on growing microalgae as a mono-crop, not in custom and high cost environments, but in wastewater treatment plants. The treatment plant provides all the essentials for the microalgae: water, nutrients such as ammonia and phosphates, and carbon dioxide for the tiny plant-like algae. Through an award from the National Science Foundation, Yeh and his team have developed a potential solution for growing mono-cultures in wastewater. The process is called Isolated Cultivation of Algal Resource Utilizing Selectivity (ICARUS). Simply put, it is a system that allows the good crop of microalgae to flourish in its own membrane-protected environment. This process completely reinvents the conventional wastewater management theory of removing or separating waste from water to produce the cleanest effluent water possible.

By promoting algae biomass production in the ICARUS process, the effluent wastewater is cleaner, reducing algae blooms and other pollution of waterways and oceans. The algae biomass can be used as biodiesel, fertilizer, or digested for biogas.

Besides revolutionizing conventional sewage treatment plants, Professor Yeh also emphasizes sound business practices, with a practical eye on taking esoteric research projects from the laboratory to the board room. In the future, we will see outcomes such as fewer harmful algae blooms, repurposed carbon dioxide, and cost-effective biofuels.

Students at the Center for Urban Transportation Research (CUTR) work with faculty and staff to make a local and statewide difference

Student undergraduate and graduate assistants at the Center for Urban Transportation Research (CUTR) work diligently on a multitude of projects that cover a comprehensive range of research areas including:

- Pedestrian and bicycle safety
- Motorcycle safety
- Public transportation
- Transit research
- Transit safety
- Bus rapid transit
- Freight transportation and logistics
- Traffic operations
- Wrong-way driving
- Mobility studies
- Transportation demand management
- Transportation finance and economic analysis
- Transportation energy research
- Transportation planning and corridor study
- Street lighting level measurements
- Landscaping design
- Effective truck route signing
- Software design
- Cell phone technologies and applications in transportation
- Railroad safety research, Pattern recognition
- PCB design
- Workforce development and training
- Geographic information systems (GIS)
- Website design
- Statistical analysis

CUTR employs over fifty students within ten program specialties, creating diverse opportunities for students to engage in hands-on learning and innovation in the field. Each year, undergraduate and graduate students, from a variety of collegiate disciplines, are awarded research assistantship positions. In addition, students provide assistance in co-authoring papers with CUTR faculty, attending and presenting at local, state, and national conferences and meetings, as well as maintaining involvement in professional organizations and societies.

**Patents Awarded**

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<tr>
<th>COE Patents</th>
<th>Total #</th>
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<tr>
<td>2014*</td>
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<td>2013</td>
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* Through 6-30-14

**Research Awards for FY 2014**

- Center for Urban Transportation Research $20,999,394
- Chemical & Biomedical Engineering $3,217,319
- Civil & Environmental Engineering $3,881,828
- Computer Science & Engineering $1,709,738
- Electrical Engineering $3,173,107
- Industrial & Management Sys Engineering $384,176
- Mechanical Engineering $3,017,725

**Total** $36,383,287

**Research Expenditures**

- 2014 $31,091,566
- 2013 $30,576,548
- 2012 $28,327,966
- 2011 $28,477,226
- 2010 $25,246,781
- 2009 $23,923,018

- 0 $20,000,000 $40,000,000
Targeted STEM Outreach Bulls-EYE Mentoring Program

Engineering students mentor students who are at risk for low achievement. Program participants complete a five week summer program on USF campus where activities improve both their life skills and technical skills. Lessons expose students to a broad array of engineering disciplines, hands-on activities, and how engineers improve their community.

Empowerment and growth are achieved through strong relationships and will be used to foster the development of the new generation of STEM professionals—one that continues to champion diversity and the role of STEM careers for the betterment of society.

USF’s Environmental Engineering Team Continues Its Four Year Winning Streak

A student team from the environmental engineering capstone design class took first place in the Florida Water Environment Association (FWEA) 2015 Student Design Competition. They are adding to USF’s four-year streak of first place finishes in this competition both in Florida and nationally.

Competing in the Wastewater Division was the team named Sidea Engineering. Their project, “Reclaimed Water Aquifer Storage and Recovery Well Rehabilitation,” was an evaluation of clogging problems in the City of Oldsmar’s ASR system and the design of a solution to this problem. Sidea Engineering took first place in the Wastewater Division and will represent Florida in the national student design competition at the Water Environment Federation Technical Exhibition and Conference (WEFTEC15) this September in Chicago.

USF teams have consistently been top ranked teams in the Florida competition.

- 2015: First place in Wastewater
- 2014: First place in Wastewater
- 2013: First place in Wastewater; First place in Environmental
- 2012: First place in Wastewater; First place in Environmental
- 2012: First place in Environmental; Third place in Wastewater