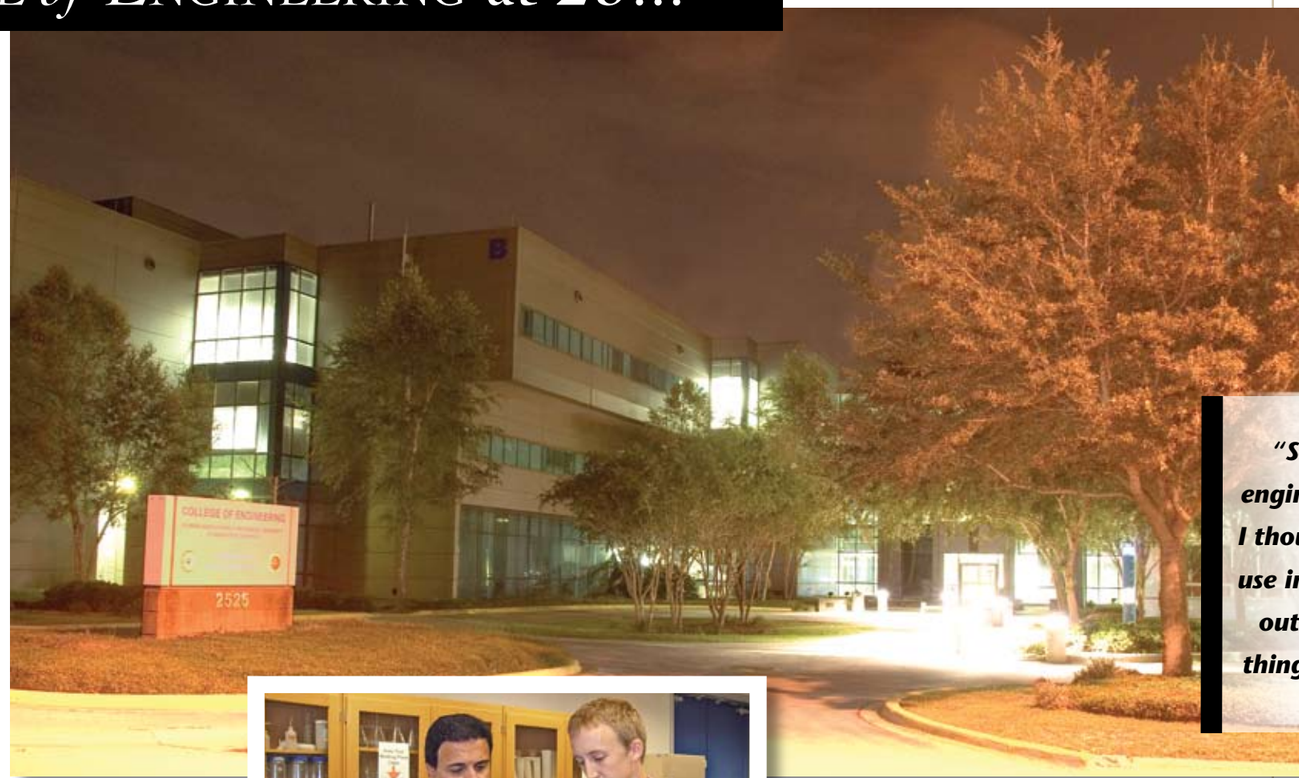
The COLLEGE *of* ENGINEERING at 25…

Going strong, getting stronger

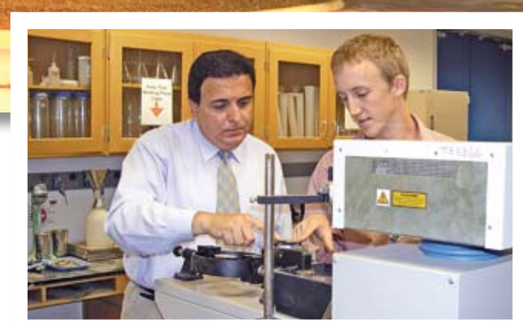


It began in the fall of 1982 with just 35 students scattered across two university campuses. From those humble beginnings, the Florida A&M University-Florida State University College of Engineering, now academic home to more than 2,300 students and a state-of-the-art facility, is celebrating its 25th anniversary as a unique center of academic achievement in the nation.

"The college was an experiment that had never been tried before: a collaboration between a Research I university and a historically black college that was focused mainly on undergraduate education," says Ching-Jen "Marty" Chen, who has served as dean of the College of Engineering since 1992. "That we have not only survived, but thrived, for 25 years certainly is a cause for celebration."

The College of Engineering wasn't FSU's first foray into the field. Engineering studies got their start at FSU in 1959 with the creation of a new department of engineering science. The department later was upgraded to the School of Engineering Science. However, economic concerns, coupled with cutbacks in the U.S. space program and a surplus of engineers in the state, led FSU administrators to eliminate the program in 1972.

By the late 1970s, engineering education in Florida once again needed a boost—and both FSU and FAMU stepped forward with proposals to launch their own colleges of engineering. Ultimately, the state Board of Regents, which oversaw Florida's public universities, recommended an innovative and cost-saving approach: establishing a joint engineering college that benefited from FSU's research capabilities while also reflecting FAMU's commitment to increasing career opportunities for women and minorities within the engineering profession.



While the journey has had its share of bumps, the FAMU-FSU College of Engineering now—at the ripe old age of 25—has arrived as a model of academic rigor and diversity.

"Many felt that such a marriage was doomed to failure, but the perseverance of a group of dedicated individuals who had faith in its mission has prevailed," Chen says. "As the college embarks on its second quarter-century, it leaves a legacy of accomplishment, with more than 5,000 degrees granted to a diverse group of engineering graduates."

Today, the College of Engineering's 109 faculty members are among the most accomplished scholars in their fields. With their guidance, students are conducting hands-on research to address many of the most critical engineering problems that face our society. From the development of lightweight, affordable composite materials with numerous applications to the design of high-tech devices that enable scientists to grow adult stem cells for future therapeutic treatments, the College of Engineering is actively engaged in working toward solutions to make our world a better, safer place.

There have been many other successes as well. The College of Engineering now consistently ranks in the top five nationally in the number of African-American students earning bachelor's degrees. And collaborations with other FSU research centers, such as the Center for Advanced Power Systems and the Center for Materials Research and Technology, have served to broaden the focus and curriculum of the college.

Despite the challenges of its joint-school structure, "We can still be optimistic about the future," says Chen. "Research funding continues to grow, with new programs being added and existing programs enhanced. Enrollment and graduation continue at their highest levels, particularly with respect to minorities and women. And program quality continues to meet and exceed ever-increasing accreditation standards.

"The 21st century at the College of Engineering promises to be an exciting one to watch."

Learn more about the FAMU-FSU College of Engineering and its 25th-anniversary celebration by visiting www.eng.fsu.edu.

Produced by University Communications

Craig Nance

View from Mauna Kea

It can't be said that a degree from the FAMU-FSU College of Engineering won't take you places. Just ask Craig Nance.

"There are certainly worse places to live," says Nance, a college alumnus (B.S. '91 and M.S. '94, electrical engineering) who has served as facility engineer for the W.M. Keck Observatory in Hawaii since 2001.

Located on the 14,000-foot summit of Hawaii's dormant Mauna Kea volcano, the observatory probes the deepest regions of space with the world's largest optical and infrared telescopes. Each telescope stands eight stories tall and weighs 300 tons, yet operates with nanometer precision. Keeping both of them in perfect working order is Nance's responsibility.

"The meat and potatoes of my work is the telescope machinery—such things as the telescope cooling systems, power distribution, hydraulics, pneumatics, domes and shutters, cryogenic refrigeration, vacuum chambers and thin-film optical coatings," he says. "I supervise a crew that performs maintenance, repairs and improvement to these systems. "The other half of my work involves ongoing upgrades to the observatory. This year, for example, we are installing a laser guidance system on the Keck 1 telescope."

"Some things in the engineering curriculum I thought I would never use in my career turned out to be important things to understand."

The education he received at the FAMU-FSU College of Engineering was "essential" in preparing him for his career, Nance says.

"My undergraduate education provided an understanding of core engineering principles," he explains. "Some things in the engineering curriculum I thought I would never use in my career turned out to be important to understand. For example, I never imagined I would use thermodynamics as I have.

"Second, the college's educational demands taught me to be diligent and methodical, and to ensure that I understand things in a deep way," Nance says. That's important because "much of what we do in astronomy has never been done before.

"As a graduate student, I had the opportunity to teach undergraduate labs and classes. This taught me how to communicate technical information in a logical and, hopefully, entertaining, way … a powerful skill for an engineer."

Nance cites several examples of hands-on research he was able to participate in at college that were directly applicable to his job at Keck. Among them: "I worked with Professors Leonard Tung and Bing Kwan on a project involving lightning strikes and grounding of the Sunshine Skyway Bridge in St. Petersburg," he says. "At the time I considered it an interesting thing to study but doubted it would be relevant to my future. However, since telescopes sit on tall mountains and are subject to lightning strikes, what I learned during that project has been used regularly in my career in astronomy."