

# the Pinnacle

Building Your Future at FAU

## WELCOME: MESSAGE FROM THE DEAN



COLLEGE OF ENGINEERING  
& COMPUTER SCIENCE  
Florida Atlantic University

Over the past year, many exciting developments have taken place within the College of Engineering & Computer Science. Our pioneering and inventive spirit continually inspires us to develop and launch new programs and research initiatives. We place great emphasis on encouraging and motivating our students to also adopt this proactive approach.

We have some great news to share! We are pleased to announce that the *FA U-Boat*, our human powered submarine, placed second overall at the International Submarine Races this past June. Read more about this extraordinary accomplishment on page 3. Our Electrical Engineering Department also continues to lead the way in developing ground-breaking research for renewable sources of energy. Their solar-powered golf cart possesses unique capabilities that provide some tremendous possibilities for the future (see page 2).

As always, our primary focus remains working closely with students to provide them with the foundation of knowledge and practical experience that can serve as the basis for their professional development. We continually search for and institute new programs for our students. For example, this spring we are starting a joint B.S./M.S. program that will allow undergraduate students to earn credits towards a master's degree while still working on their undergraduate degree (see page 2).

As you read through *The Pinnacle*, you will learn more about the academic support we provide our students to enhance their opportunities for success, both in the classroom and in the professional world. We invite you to join in this thrilling journey where new ideas help create new opportunities!

Karl K. Stevens, Ph.D., P.E.  
Dean



## PROGRAM SPOTLIGHT

In the Fall of 2006, the Computer Science and Engineering Department will begin an entirely new program of study—the Bachelor of Information Engineering Technology (BIET). The new degree offering is designed to articulate with Computing, Information, and Technology Associate of Science (AS) degree programs currently being offered by community colleges. Typically, students that earn an AS degree cannot transfer their coursework into a baccalaureate program, thus limiting their ability to pursue advanced degrees. These students will now have the opportunity to pursue a bachelor's degree at FAU. The program is also intended for working professionals from the information technology industry who already have AS or AA degrees and want to return to complete the BIET degree.

The BIET degree program is offered at FAU's Treasure Coast campus in Port Saint Lucie and at the Davie campus. Students of the BIET program will learn about the fundamentals of software systems, and will also acquire practical experience with networking, wide area networks, wireless networks, security, databases and Web technologies. For more information about this program, please contact Dr. Borko Furht, chair of the Computer Science and Engineering Department at [borko@cse.fau.edu](mailto:borko@cse.fau.edu).

## ACADEMIC PROGRAMS

- Civil Engineering
- Computer Engineering
- Computer Science
- Electrical Engineering
- Mechanical Engineering
- Ocean Engineering

[www.eng.fau.edu](http://www.eng.fau.edu)

## WE ARE HERE TO HELP YOU!

Ready to be an FAU engineering or computer science student but not sure where to start? The Division of Engineering Student Services (DESS) is here to help! We are happy to talk to you and answer any questions you may have. Maybe you would also like to schedule an appointment to meet with an advisor to receive further information about our programs. Anything you need, any questions you have, feel free to call (561) 297-2780.



## JOINT B.S./ M.S. DEGREE PROGRAM

As you work towards that Bachelor's Degree, you have probably found yourself thinking about attending graduate school one day. Not so sure you will have the time to devote to attaining a graduate degree? Well, FAU may just be the place for you! The College of Engineering and Computer Science is very pleased to announce the introduction of the joint Bachelor of Science (B.S.)/ Master of Science (M.S.) Degree Program. This program is now available to our Engineering and Computer Science students and provides them the opportunity to take nine credits of graduate level courses while working on their undergraduate degree. These nine credits will count towards both the Bachelor's and Master's Degree. Some graduate research and teaching assistantships will also be available on competitive basis for this new program every semester. To receive further information about this program and its requirements, please call (561) 297-3400.

## DRIVEN BY THE SUN

We can all agree that the days of paying \$1.25 a gallon for gas are long gone. As oil prices continue to rise, researchers are looking for alternative sources of energy. Here at FAU, the Electrical Engineering Department has tapped into one of Florida's largest sources of energy – the sun!

Dr. Roger Messenger, an electrical engineering professor, and Max Saelzer, an FAU graduate student, have developed a solar-powered golf cart. JTS Aero Energy, an airplane-engine service firm, based in Boca Raton, underwrote the project.

There are other solar-powered golf carts in the

United States, but FAU's golf cart is unique due to its automatically adjusting solar cells that search out the strongest rays of the sun. The tilting silicon panels convert the sunlight into electrical current, which can be used to power the golf cart or be stored in a battery for future use. The vehicle can capture five times more solar energy than other models and also holds the special distinction of being the only solar-powered golf cart in existence that can become a generator for appliances such as a small refrigerator or television—a great benefit, especially in light of Florida's recent hurricane activity. There



is also potential for the battery to supply solar-generated energy into the public power grid. Messenger and Saelzer have recently applied for a patent for the "extended range solar-powered electric vehicle." Saelzer, a former Broward Community College student, plans to specialize in environmentally friendly sources of energy. "We need to look for renewable sources of energy," he said. "This is a small step toward reducing our dependence on foreign oil."

## EXTREME MAKEOVER: FAU EDITION

Over the past few years, the Boca Raton campus has undergone its own extreme makeover complete with new and spectacular state-of-the-art buildings set amidst beautiful tropical landscape designs, intricate walkways and more. Our own civil engineering students are now playing a role in the makeover.

The Visual Arts building on

the Boca Raton campus is undergoing a renovation to address problems such as its poor aesthetic appearance and limited space. Three groups of FAU civil engineering students were brought on board to develop new designs for the building as their senior design project. The result: some elements of the students' designs such as a green roof, solar panels

and a hot-water system using heat from the kiln chimneys may be used in the renovations scheduled to begin this spring. In addition, Eli Brossell, a recent Civil Engineering graduate, is participating with the design consultants for the project. Talk about leaving a legacy! Congratulations to our civil engineering students!

## DISCOVER FAU

As you venture on to the next stage of your academic journey, you are faced with many choices as to where to continue your studies. Deciding upon a university at which to pursue your bachelor's degree can be a rather challenging decision, especially today, with so many options available. Twice a year, in the fall and in the spring semester, we host a College Recep-

tion/Open House event. This event provides students with information on what our programs have to offer and showcases some very exciting student projects such as the human powered submarine and the formula one race car. Prospective students have the chance to learn more about the services we offer, such as the free tutoring program, schol-

arship and internship opportunities and meet with advisors from all the departments.

If you are interested in the FAU Engineering or Computer Science program, this is definitely the event for you! Call (561) 297-2952 or email [tcarey2@fau.edu](mailto:tcarey2@fau.edu) to learn more. Hope to see you there!

# FAU'S HUMAN-POWERED SUBMARINE TEAM PLACED SECOND IN INTERNATIONAL COMPETITION

This past June, FAU's Human-Powered Submarine Team propelled past the competition to place second overall at the Eighth International Submarine Races held in Bethesda, Maryland. In addition, the group was awarded the title of Most Efficient Team. The team also broke its own personal record, clocking in at 6.1 knots, granting FAU entry into the elite "6+ knot club."



As the oldest submarine in the 2005 competition, the *FA U-Boat* set an international speed record at the World Submarine Invitational in 1994, securing a spot in the Guinness Book of World Records. The team, comprised of undergraduate and graduate engineering students from the College's various disciplines, worked together for more than a year to modify and rebuild the 15 year-old submarine, adjusting such things as the hydrodynamic quality, propulsion capacity and life support systems. The sub is operated by two people: one provides the propulsion and the other the pilot-navigates and steers.



"The International Submarine Race is a great opportunity for FAU engineering students to put theory into practice," said Travis Steeves, the pilot for this year's team. "Having the opportunity to compete and share information with other ocean engineering enthusiasts from around the world is definitely very exciting."

## DIVISION OF ENGINEERING STUDENT SERVICES

At the Division of Engineering Student Services (DESS), our primary goal is to provide academic support and guidance for our FAU Engineering & Computer Science students to enhance the opportunity for a successful academic career.

It is absolutely essential that we provide a supportive environment that encourages students to interact and engage with one another, explore opportunities and achieve excellence. In order to facilitate such academic success, we assist our students in many different areas, such as providing counseling to undecided engineering majors, promoting professional development through work

opportunities, oversight of student professional societies and more. We also work very closely with our students to provide assistance and tutoring for challenging courses. Check out the box below to see what else we provide. Call (561) 297-

2780 to learn more about the academic support and services you would receive as an FAU engineering/computer science student.

- Free Tutoring Assistance
- Scholarship Information
- Resources for Career Placement
- Student Professional Societies
- Academic Petitions
- Note-Taking Skills
- Guidance & Counseling
- Time-Management Skills
- Test-Taking Strategies
- Friendly Faces

# DON'T LET LACK OF FUNDS STAND IN YOUR WAY!

There is always help at FAU. FAU has numerous opportunities for students in need of financial aid. If you have specific questions about your options, check out [www.fau.edu/finaid](http://www.fau.edu/finaid). The Website provides detailed instructions on how to apply for financial aid and also includes information on scholarships. You can also call the financial aid office at (561) 297-3530 for further information.



## PREPARE NOW FOR FAU!

As you may know, there are a number of pre-requisite courses that need to be completed before the majority of upper division engineering or computer science courses can be taken at FAU. You can take these courses at your community college. To view the list of courses, go to [www.sefeec.org/matrix.htm](http://www.sefeec.org/matrix.htm). Simply click on your major under the community college you attend and the list of courses will appear. For more information, call (561) 297-2780.

To receive future updates and invitations to special events, please e-mail [tcarey2@fau.edu](mailto:tcarey2@fau.edu). Please include your full name, address and phone number.

## LEARN WHILE YOU EARN

At the Engineering Career Development office, we work closely with undergraduate and graduate students in the College of Engineering & Computer Science to provide co-op and internship positions in industry.

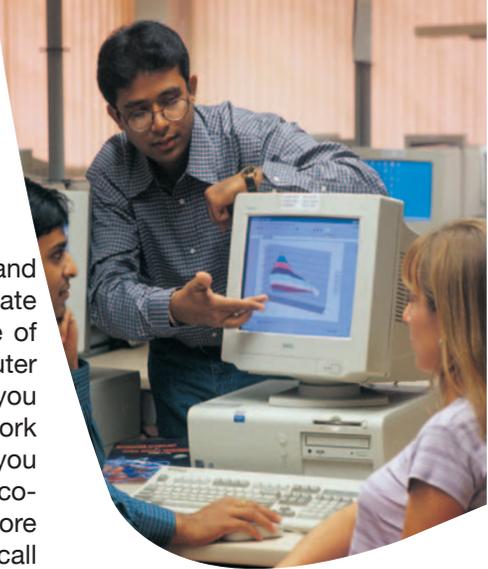
Co-op and internship students obtain on-the-job work experience that is directly related to their academic majors in private, public and governmental organizations. Co-op and internship students earn both a salary, academic credit, and real-world experience.

Currently, over 250 companies work with us to provide job opportunities for our students. Many of our

students do very well in this program and find themselves being offered full-time positions from their companies upon graduation.

We provide assistance in the following areas: dissemination of resumes to potential employers for local, national & international co-op & internship opportunities, career guidance, resume writing guidance, and interview support. This program

is available for juniors and seniors as well as graduate students in the College of Engineering & Computer Science. To register, you must fill out paperwork the semester before you would like to start your co-op or internship. For more information, please call (561) 297-2694 or visit [www.depd.eng.fau.edu](http://www.depd.eng.fau.edu).



## FAU MECHANICAL ENGINEERING GRADUATE HAS DREAM JOB AT NASA

Many people dream about having an amazing career, such as working for NASA. For Mark Berg, a mechanical engineering graduate from FAU, his dream came true; he works for NASA as a systems engineer with the liquid hydrogen group.

So, how did Berg secure his current position at NASA? Through none other than the FAU engineering co-op program! He began working at NASA in September of 2000 and was hired full-time upon graduation in 2003. Berg is one of a group of system engineers responsible for making sure that the hardware is properly processed in preparation for the loading and launch of the shuttle. He also works with the cryogenic systems community to resolve outstanding technical issues, particularly those that impact

the liquid hydrogen system. Berg is also one of a select group of SE's who has been called upon for inputs on the development of respective systems for the new Exploration program that will take the space program back to the moon and ultimately to Mars.

Berg's interest in engineering spans his entire lifetime, from when he was a child watching his brothers race Super Stock drag cars to later work with his father in his gas piping company. He attended Miami Dade

College, where he received his associate of arts degree in 1997 and then transferred to FAU to study in the mechanical engineering program.

"If possible, try to find work with some technical element," advises Berg, "Whether as a co-op, intern or other...I know of those that I went to FAU with who benefited from their work in machine shops, experience in the Navy, etc." Sounds like great advice. Best of luck Mark!



## READY TO TRANSFER TO FAU?

Apply today! We are in the process of reviewing applications for the summer and fall 2006 semester. We are also reviewing application for the spring 2007 semester. The deadline for transfer students to apply for the summer semester is April 15th, for the fall semester is

July 1st and for the spring 2007 semester is November 15th. To apply to FAU, visit [www.fau.edu/academic/admissions/Undadmissn.htm](http://www.fau.edu/academic/admissions/Undadmissn.htm). There are detailed instructions available to guide you through the application process.

There are two ways that you can apply: 1) apply online or 2) send in your application by mail. The application form is available online to download, complete and mail. You will need to include your transcripts as well as the

\$30 application fee. If you have additional questions, please call the Division of Engineering Student Services at (561) 297-2780 or the Admissions Office at (561) 297-3040.