Fall 2005

BME STATS Fall 2005

Department of Biomedical Engineering, Florida International University

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BME Awards 2005

Anuradha Godavarty, Assistant Professor of Biomedical Engineering, received the Sylvia Sokkin Greenfield Award for the best paper (outside of radiation dosimetry) published in Medical Physics in 2004. Dr. Godavarty was chosen for her paper “Fluorochrome-Enhanced Optical Imaging of Large Phantoms Using Single and Simultaneous Dual Point Illumination Geometries.” The award was presented at the AAPM Meeting in Seattle on July 25, 2005. The article appears in the February 2004 issue of Medical Physics.

Nicolaos Tsoukias, Assistant Professor of Biomedical Engineering, won the prestigious Arthur C. Guyton Award for Exelllence in Integrative Physiology for 2006 from the American Physiology Society. One award is given annually to an investigator who holds an academic rank no higher than assistant professor and is pursuing research that utilizes quantitative and integrative approaches and feedback control to study the regulation of physiological functions.

Melissa E. Jablonka, received one of two 2005 HENAAC Student Leadership Awards. In addition to grade point average, the selection committee considered leadership and campus and community service. The prize, which was awarded at the Oct. 2, 2005 HENAAC Awards Ceremony, included a $5,000 scholarship, hotel accommodations and airfare to the ceremony in Anaheim, California. HENAAC was established in 1989 to honor the contributions of Outstanding Hispanic American students in all fields of study.

Ronald Gutierrez, PhD student in Biomedical Engineering, was one of 4 FIU recipients of the CyberBridge Fellowship. A bridge is a bridge that builds trust between the Information Technology community and the sciences by presenting students with an avenue where they can explore applications of Cyber infrastructure research within their domains. Selected fellowship advisors will conduct research and student experimecents among the Cyber researchers. Ronald will be working under the supervision of Dr. Eric Grumple, Assistant Professor of Biomedical Engineering, on a project entitled “Computational Enhanced Mesh Design in Tissue Engineering: Measuring Wall Shear Stress in Cell/Scalpel.”

Though only in its second year, BME has already emerged as a leader in Presidential Fellowships at FIU. In the spring, four of the department’s new PhD admitted the honor, providing half of the College of Engineering and Computing’s eight fellowships. A total of many awards were given university-wide last year. Most of BME’s fellowships received two fellowships. As of Fall 2006, there were fifteen-ten engineering students in the Honors College. Sixteen of them were biomedical engineering students, the largest number from any engineering program, despite BME having the smallest program in terms of numbers of students.

Approximately, 15 percent of BME’s students are in the Honors College, compared to approximately three to five percent of the FIU student body.

New Faculty

In the future when you need an organ transplant, instead of searching for a suitable donor, doctors will create an organ. At least that’s the dream of Rebecca Anderson, a new Instructor and Undergraduate Advisor in FIU’s Biomedical Engineering Department.

“During my doctoral studies, I became very interested in tissue regeneration using biomaterials designed by NASA. In the future, it is possible that tissue regeneration in these biomaterials may make obsolete the need for organ donors for organ transplantation.”

Dr. Anderson, who joined FIU’s faculty in August and teaches Biomaterials Sciences, is especially interested in regeneration of tissue in the cardiovascular system and improving vascular grafts, as well as incorporating aspects of nanotechnology. This kind of research requires collaboration between academic, clinical institutions and the biomedical industry. Dr. Anderson is adept at making these connections. “One of my strengths is my ability to develop collaborations between engineers, physicians and basic scientists. In previous positions, I established and maintained the Department of Anatomy in the College of Medicine, at the University of South Florida and the Department of Biomedical Engineering at the University of Florida.”

Message from the Chair

Certainly one of the more rewarding aspects of my duties as Chair is to attend the commencement ceremonies each December and May. I relish every moment and circumstance that goes with graduation. It is a time of reflection on past achievements of our students, and a time of anticipation of their future glory and accomplishments. It is why we as faculty are in the field of education.

This past year was especially gratifying because the Department graduated five of its students with a baccalaureate in Biomedical Engineering. Just as the first-born always holds special status within a family, so too does the first group of graduates from a program hold special status for a Department. Oh, there will be more students (more now), but we are extremely proud of our new graduates and their accomplishments (see article in this newsletter for some examples), and they will always be our first.

And many more students there are. We are fast approaching 150 students at the undergraduate level, and 50 at the graduate level. More importantly, however, is the quality of students that we are attracting. The BME programs boast one of the highest percentages, within the University, of undergraduate students in the Honors program, and of FIU Presidential Fellowship awardees at the graduate level, as well as students who are able to graduate with honors, as evidenced by this year’s many activities and awards given to the FIU student BME (see their column).

Our primary educational objective is to provide an education that prepares these new graduates for life after graduation. We have been working hard to develop educational programs that will give our students the skills they need to meet our objective. And we have developed many unique ways to utilize their performance in the BME laboratory courses and Senior Design Project. Initial reactions from companies that have hired our students indicate that we are on the right track.

Dr. Richard T. Schepershein, Director BME

First undergraduate BME class graduates

This past year, the first undergraduate BME class graduated with fifteen students. Getting to graduation was a challenging, but rewarding, journey for students and faculty. While the students started in 2002, it took almost five years to develop the program. Committees began by putting together a curriculum that would satisfy the requirements of our university, state, and, for the future, ABET, the recognized accreditation agency for engineering, computer science, and technology.

This class was a true pioneer and the gains they have made will likely help to launch our continued on page 4
The Biomedical Engineering Society at FIU is moving at full steam with an executive board, once comprised of six officers, and now up to ten. Melissa Montalvo, FIU’s BME program requires students to work on several projects including a senior project design. presenters. The 35-year-old researcher was in 1987, not a professor, but as a graduate student when he arrived with a BS in Electrical/Mechanical Engineering from the National... attended the Annual Biomedical Research Conference for Minority Students (ABRCMS) in 2003 and 2004 and jointly submitted an article that was published in the BME Bulletin. As a Pier Mediator, she assisted students with conflict resolution. To stay physically active and disciplined, Arias joined the women’s judo team.

While participating in the National Institutes of Health Minority Access to Research Careers (MARC) program for two years, she worked with Assistant Professor Anthony J. McGrew on in vitro blood-brain barrier models for antiepileptic drugs. The experience was instrumental in helping her land her first professional position. BioHeart, Inc., hired the twenty-three-year-old from Nicaragua as a full-time Lab Technician after her graduation. She works in the research of cardiovascular cellular-based therapy. Although at BioHeart, Inc., for less than a year, she was recently promoted to Lab Technician II. In her spare time, Arias is studying for the GRE in anticipation of applying for FIU’s graduate program in Engineering Management. When not working or studying, she likes to go dancing, especially when the beat is a salsa or merengue. She also enjoys reading journals and the classics. Her favorite journal is The Scientist; her latest classic was Jane Austen’s Pride and Prejudice.