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BME Annual Report 2004-2005

Department of Biomedical Engineering, Florida International University

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FIU

FLORIDA INTERNATIONAL UNIVERSITY
DEPARTMENT OF BIOMEDICAL ENGINEERING

Annual Progress Report

October 7, 2005

Accomplishments of the Department for 2004-2005 Academic Year

1. Academic Programs

- **BS Program**
 - There are currently 97 declared undergraduate majors in BME. That is up from 68 declared majors last year at this time.
 - Five new undergraduate students are receiving the Biomedical Engineering Excellence Scholarships funded by the Wallace H. Coulter Foundation endowment to FIU. The GPA of these students ranges from 3.5 – 4.0.
 - The demographics of the BME undergraduate student population are as follows: 50% female, 18% African American, 6% Asian, 47% Hispanic 17% White, and 12% international (mostly from Latin America and the Caribbean).
 - The program is attracting high quality students, indicated by SAT scores (the average score for BME students entering Fall 2004 was 1256, compared to the corresponding University average of 1141) and % of students in the Honors College (16 of the 56 engineering students currently enrolled in the Honors College are majoring in biomedical engineering, by far the highest number of any program in the College, despite being the smallest program at this point).
 - The program graduated its first 10 students this past academic year (3 in Fall 2004, 7 in Spring 2005). All of these graduates are employed or continuing their education. One of these students accepted an offer from Bausch & Lomb in Rochester, N.Y., with an annual salary of \$58,000.
 - The program also boasts an active student section of the Biomedical Engineering Society. This group won the Fleetest Feet Award at the Fall 2004 meeting of the Biomedical Engineering Society, and has now repeated in the Fall 2005 meeting.

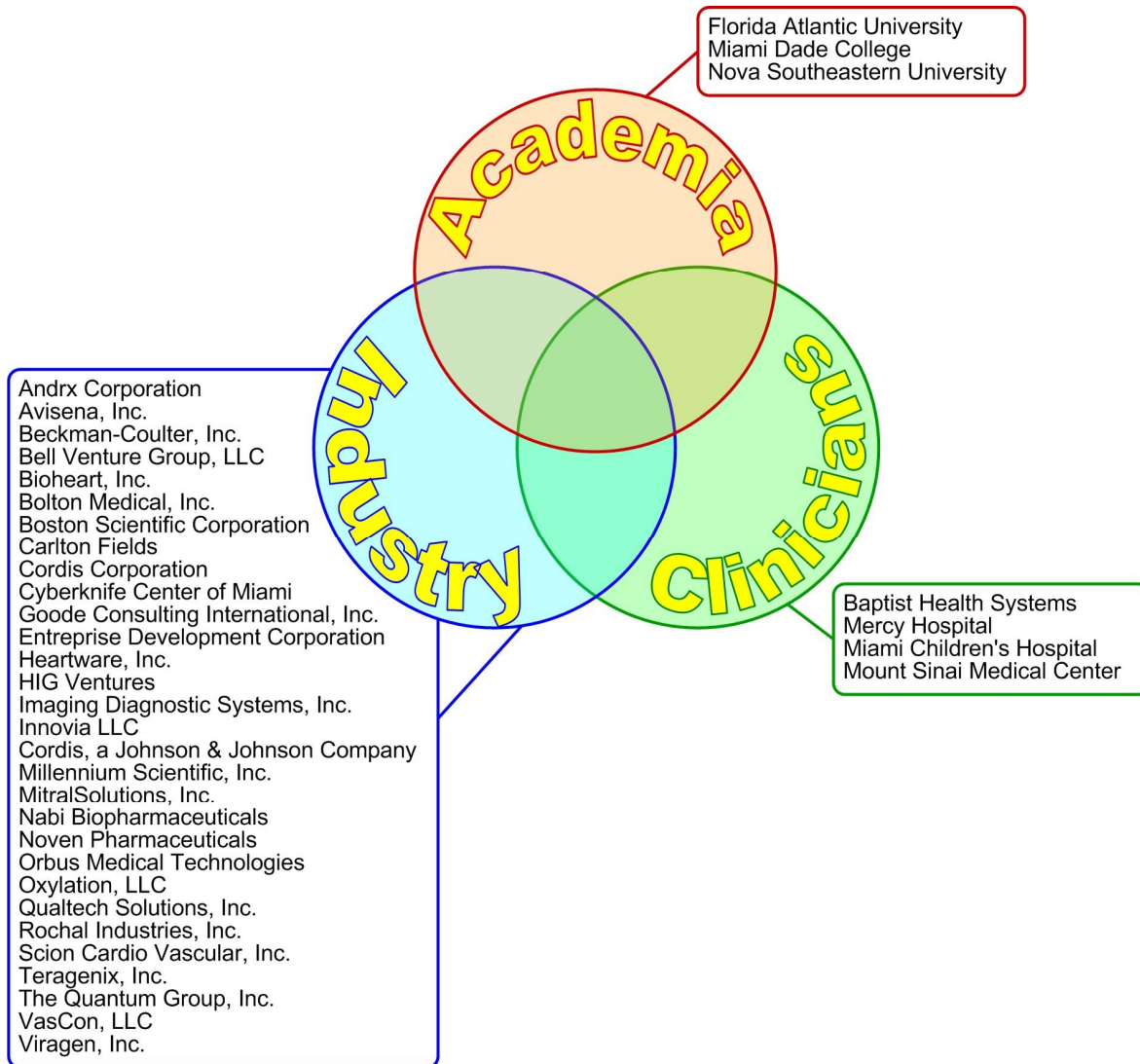
- **MS Program**
 - 17 students were graduated from the MS program this past year.
 - We received 35 applications for Fall 2005. 18 were admitted with 2 assistantships awarded. These new admittees with assistantships obtained an average GRE score of 1180.
 - There are 35 students currently in the MS program.
 - 17 of the current MS students are on fully funded assistantships.

- **PhD Program**
 - We received 13 applications for Fall 2005. 10 were admitted with 9 assistantships awarded. These new admittees with assistantships obtained an average GRE score of 1352.
 - Four of these students were offered FIU Presidential Fellowships, 50% of the allocation to the College, and 20% of the allocation to the entire University. This is another indication of the quality of students our program attracts.
 - There are 14 students currently enrolled in the PhD program, in its second year of operation.

- BME Faculty
 - We now have a headcount of 10 faculty in the BME program. Two new Instructors were hired this past year to bolster up the undergraduate program in preparation for accreditation this coming year (see more on that below). Dr. Michael Brown joined in Spring 2005 and Dr. Rebecca Anderson joined in Fall 2005. Dr. Brown holds MD and PhD degrees from the University of Miami and comes with 15 years of R&D experience from the Bascom Palmer Eye Institute and Bioheart, Inc. Dr. Anderson is a recent graduate of the University of Florida and has had post-doctoral training at the University of Illinois, Chicago.

2. Research and Funding

- Research expenditures in BME rose from \$860,000 in 2003-2004 to over \$1.13 million in 2004-2005.
- BME has received over \$3.25 million in research award funding for 2004-2005 (up from \$1.45 million a year ago), from NIH, NSF, AHA, ONR, and industry.
- BME has published 57 journal articles and another 74 conference proceedings in 2004-2005.
- The Ware Foundation awarded FIU a \$1.42 million grant to endow the Ware Foundation Laboratory for Brain Research and Neuro-Engineering Applications, to be jointly operated by the FIU BME Department and the Miami Children's Hospital Brain Institute.
- The Biomedical Engineering Partnership Program is currently comprised of the Partner organizations listed in the following figure.



The FIU Biomedical Engineering Partnership Program

An example of the Partnership Program influence on the biomedical engineering programs is the Biomedical Engineering Technology Expo & Competition. It is a required curricular activity for undergraduate biomedical engineering seniors and a recommended extra-curricular activity for graduate students in the Department of Biomedical Engineering. In this new biannual event (with the first event occurring Spring 2005), individual students and student teams present their senior design projects or theses/dissertations that create and/or investigate solutions to unmet clinical needs. The presentations are made to a panel of judges comprised of members of the BME advisory board representing academia, industry and clinical medicine. In addition to providing a venue for students to display the product of their effort, the event offers biomedical companies and entrepreneurs a view of FIU's graduating biomedical engineers and innovative biomedical technology. Cash prizes, funded through external sponsors, are awarded to the winners and runners-up in both categories (undergraduate and graduate).

Plans and Goals for 2005-2006

- An ABET Accreditation site visit is scheduled for November 6-8. See the attached Self-Study executive summary for more information on our preparation for accreditation.
- BME's goal for research income in 2005-2006 is \$4 million.
- BME's goal for research expenditures in 2005-2006 is \$2 million.
- The Department is currently developing a proposal to be submitted to the NIH's National Center for Research Resources (NCRR) through their Research Centers at Minority Institutions (RCMI) program. This program provides up to \$7.5 million in direct costs over 5 years for research infrastructure development, new faculty recruitment, and faculty development, for minority institutions. See the attached executive summary for more details.
- The Department is working with FIU administration as the plans for the new Medical School continue to develop. FIU will present a proposal for a School of Medicine to the Florida State University System Board of Governors in November.