

Biomedical Engineering Institute
Academic-Clinical-Industrial Partnership Program
Inaugural Advisory Board Meeting Minutes

Date: June 14, 2001

Location & Time: CEAS 2300; 8:30 am

Industry Attendees: William M. Abraham – Mount Sinai Medical Center
Michael Christie – Cordis Corp.
Simon J. Fuger – Medtronic Peripheral Vascular
Dana Jacobs – Beckman-Coulter, Inc.
Denise Jaques – Miami Children’s Hospital
Prasanna Jayakar – Miami Children’s Hospital
Howard J. Leonhardt – Bioheart, Inc.
Mario J. Martinez – TechGeorgia Nexus
Suzana Otano-Lata – Boston Scientific Corp.
Matthew A. Palmer – Medcanica, Inc.
Hamid Shahrestani – Boston Scientific Corp.
Rolando Sierra – Scion Cardiovascular
Kevin Smith – Syntheon, LLC
Jack A. Ziffer – Baptist Health Systems

BMEI Attendees: Ofer Amit
James Byrne
James Moore
Richard T. Schoephoerster

Minutes by: Rosy Verona

- **Welcome**

Dr. Richard Schoephoerster began by welcoming everyone to the first Advisory Board meeting of the Academic-Clinical-Industry Partnership Program. He stated that his goals for this Board is to foster a relationship among industry, FIU, and the Biomedical Engineering Institute (BMEI), but also to create a strong and vibrant biomedical industry in South Florida.

After everyone introduced themselves, Dr. Schoephoerster presented a videotape of NBC's visit to BMEI, which explained FIU's mission for biomedical engineering of creating a strong workforce with industry.

- **BMEI's History**

Dr. Schoephoerster presented a brief history of biomedical engineering at FIU. Four years ago, the Quality Improvement Program was set up with funds from the president of FIU. This established the Cardiovascular Engineering Center (CVEC). From there, a \$1 million grant was received from the Whitaker Foundation. This established the Biomedical Engineering Institute and its programs. Most recently, we received a \$10 million grant, from the Wallace H. Coulter Foundation that established an endowment for permanent income to the BMEI.

Dr. Schoephoerster organized BMEI's mission into 3 parts: 1) to integrate academia, clinical medicine, and industry; 2) to educate and train the next generation of biomedical engineers; and 3) to conduct research & development leading to innovations in medical technology. The program flag ship is a BS/MS program that combines a Bachelor's Degree in Mechanical, Electrical, or Chemical Engineering with a Master's Degree in Biomedical Engineering. In addition, at the undergraduate level, the student receives a minor in Biomedical Engineering. This gives the student a strong engineering foundation along with the ability to communicate in the biomedical field.

Our research programs focus on cardiovascular applications (Dr. James Moore as Director of CVEC, and Miami Cardiac & Vascular Institute as our clinical partners) and neuroscience applications (Dr. Malek Adjouadi as Director of the neuroscience program, and Miami Children's Hospital as our clinical partners). Our other faculty members include Dr. Anthony McGoron (nuclear medicine and pharmacokinetics) and Dr. Juan Franquiz (image processing and nuclear medicine). Dr. Armando Barreto and Dr. Malcolm Heimer, from Electrical Engineering, focus on digital signal processing and medical instrumentation, respectively. Dr. Diana Rincon (biomechanics, joint dynamics, and biomimetic robots) and Dr. Eric Crumpler (bioreactors, drug delivery materials, and tissue engineering) are from Mechanical and Chemical Engineering.

Dr. Schoephoerster's goal for this meeting is begin to develop a strategy to integrate industry and clinical medicine into the Institute's activities. He believes FIU BMEI should operate as a business. Therefore, our products are our graduates; technology developed by faculty, staff, and students; and engineering services. Our customers are those who buy our products (industry, clinical medicine, and other universities). Since our focus for this meeting is on industry and clinical medicine, he would like to get input from this Advisory Board, as customers, on how to "optimize" the products.

- **By-Laws**

- **Purpose, Vision, Mission**

A lengthy discussion over the purpose, vision, and mission of the Partnership Program resulted in Dr. Schoephoerster asking for a motion to approve the proposed purpose and mission and vision statements (see attached). Dr. Ziffer set the motion. Dr. Jacobs seconded it. Mr. Shahrestani then suggested to conditionally approving these statements and to go back for a closer look at a later date for final approval.

- **Membership**

Dr. Schoephoerster briefly went over his views on the program's membership and asked for everyone's input on the criteria. Mr. Smith suggested, and all of the participants agreed, having a tiered membership fee since all companies have different budgetary issues. Dr. Schoephoerster confirmed that this suggestion would be taken into consideration towards an appropriate membership fee and then would be reviewed again for final approval.

- **Chairmanship**

The last item in the administrative issues is to elect a chair. Dr. Schoephoerster believed that it is important that there be leadership outside of FIU. Dr. Jayakar stated that Dr. Schoephoerster should currently be the chair since there isn't a direct link among the industry participants. Dr. Christie added, and others agreed, that there be a type of executive committee that includes a representative from each industry and clinical company. There was a general consensus that, for now, Dr. Schoephoerster take on the role of Chair at least until the program is better defined.

- **Entrepreneurial PhD Program**

Dr. Schoephoerster began with an overview of BMEI's current programs. There is a stand alone Biomedical Engineering Master's program which prepares students for a PhD program. We also offer a combined BS/MS program that prepares students for industry. Here students have a full curriculum of Mechanical, Electrical, or Chemical Engineering courses along with the Biomedical Engineering courses (Statistics, Materials, Instrumentation, Manufacturing, Physiology, Biology, Clinical Rotations, and a Senior Design Project). He stated that it takes a Ph.D. to produce someone with the technical background, regulatory background and business sense to function in an industry or clinical environment. He also believes that small industry drives the biomedical industry. Therefore, academia can contribute to their growth by incorporating research that is relevant to industry. Dr. Schoephoerster then invited ideas from the Board to produce graduates that are prepared to function in this type of environment and be an effective leader in a biomedical device development team.

A lengthy discussion ensued. The discussion focused on whether or not a PhD is worth having in industry instead of “real” experience; theory vs. hands-on/practical experience. Mr. Leonhardt understands that adding a PhD program adds prestige to the Institute, but believes that expanding the Master’s program would have more of an impact on the university. A discussion occurred on the importance of a Master’s degree vs. a PhD degree in the work field. Mr. Smith, Dr. Christie, and Mr. Leonhardt led a consensus that the first priority would be to focus on an Executive type Biomedical Engineering Master’s Program catered to those in the work field. This would bring research to the Institute, revenues to the university, and would also feed the PhD program. Dr. Schoephoerster stated that we do have a Professional Track in the MS program and could be re-designed to fit this need.

- **Next Meeting**

The next meeting of the Board was set for late September.

- **Certificate Distribution**

In appreciation of everyone’s valuable time spent at BMEI’s Inaugural Advisory Board Meeting, certificates were presented to all attendees.