

During the past year, the BEACON enterprise has continued to evolve into 3 distinct entities.

- **BEACON**, a 501(c)(6) professional organization, has effectively established a “**preferential access network**” consisting of and for its members. As a result, BEACON provides to any of its members access to the expertise and facilities within the BEACON network. To facilitate collaborative activity and partnering, BEACON holds seminars, symposia, institutional visits, and presentations by federal and state agencies as well as its corporate members. For the faculty and medical staff of its member institutions it also provides initial guidance as they seek to develop business plans and funding support for innovations in the realm of bioscience and bioengineering.
- **BTN, Inc.** is a for-profit organization and subsidiary of BEACON whose specific goal is to facilitate/accelerate the commercialization of new medical technologies. It conducts, for a fee, due diligence, business plan development, managerial functions, etc. for the members of BEACON, as well as other companies seeking its assistance.
- **The BEACON Foundation** is a 501(c)(3) non-profit corporation able to receive major gifts from individuals, organizations, or foundations, with the express purpose of supporting basic and applied research and development efforts of individuals from accredited academic and medical institutions in the areas of bioscience and biomedical engineering.

In addition to these organizational efforts, BEACON successfully completed several projects and initiatives for 2004:

- **Assessment of bioengineering resources in the I-91 Corridor from New Haven, CT to Northampton, MA commissioned by Northeast Utilities**
- **Organized and delivered a Seminar Series for its members from February to June**
- **Presented the BEACON Symposium and Technology Fair on Bionanotechnology in October**
- **Developed a Technology Transfer protocol**

POTENTIAL FOR GROWTH
**The Medical Device Industry in Southern
New England's I-91 Corridor**

Thanks to a grant from Northeast Utilities, BEACON was able to complete a comprehensive assessment of the medical device industry in the I-91 corridor from New Haven, CT to Northampton, MA. It took six months to complete the study. Some of the findings include:

- The region ranks among the Top 50 in the nation relative to industry concentration
- The region is home to a substantial support system—health care institutions, precision machining capabilities, critical mass and industry support groups
- The region offers potential new markets for the area's machining and tooling firms, historically engaged in contract aerospace manufacturing
- The region has a lower cost of living than other metro areas with which it competes, including Boston and California
- There are 314 medical device companies currently operating in this region employing approximately 5,000 workers
- With 43 colleges and universities in the region, and several of the country's top medical research institutions, this region stands out more than most in R&D
- There are major transportation hubs with Bradley Airport and the highways in all directions, making moving products faster, easier and cheaper than in most other markets

Copies of the report are available at:
www.hartfordspringfield.com

**NEW FOR 2005
THE FIRST EVER CONVENTION EMPHASIZING THE
DEVELOPMENT AND COMMERCIALIZATION OF
MEDICAL TECHNOLOGIES
OCTOBER 24 –2 6, 2005
CONNECTICUT CONVENTION CENTER
ADRIEAN'S LANDING
HARTFORD, CONNECTICUT**

Advances in Biotechnology and Medical Technology during the past decade have been profound. These advances have and will continue to alter health care delivery in the United States. Furthermore, the economic impact of efforts to continually develop and commercialize advances in these fields offers great compromise for creating new companies, new jobs and new economic engines throughout the United States, especially in the Northeast.

In order to put this all into perspective, this convention will bring invention, development and commercialization of biotechnology and fast-paced medical technology into focus. Some of the highlights planned are:

- Workshops and networking sessions
- Presentations by national experts in the medical field
- Exhibits on the latest technology
- “University Row” of table top displays of new scientific activities and academic projects

Partnerships are important. Therefore, many alliances are taking shape to make this convention happen. We are pleased that the following groups are working with us to make this a reality:

Alliance for Connecticut Technology
Pfizer
Hartford Hospital
Northeast Utilities
State of Connecticut
Connecticut Innovations



Senior staff from Pfizer go on a hard hat tour of the new Convention Center during the summer when it was newly under construction.

BEACON SEMINAR SERIES

Starting in the winter and ending in the spring, BEACON held a series of seven seminars on various topics all designed to stimulate networking and give educational information on grants and opportunities.

February 27 “Areas of Promise: A Corporate Perspective” was presented by Laurie Sullivan, Director of New Product Marketing, Tyco Healthcare/Kendall. She explained the process involved in identifying the proper corporate contact, how doctors are recruited for clinical trials and what methods are used to determine the viability of a product.

March 5 Dr. Richard Swaja, Senior Science Advisor, NIH, Nat. Institute of Biomedical Imaging and Bioengineering, spoke on what grants are currently available and how to position a company/individual in working through the process. He stressed that diligence pays off.

March 25 “Bringing Your Medical Device to Market” was presented by author Dr. John Reiss who surprised many who did not know about the regulatory process and legal steps needed to have a device licensed and sold. A very well attended event with lots of lively discussion followed.

April 15 “Inside the Mind of a Venture Capitalist” was presented by Mr. Udayan Gupta editor of *Done Deals: Venture Capitalists Tell Their Stories*. He shared secrets of how VCs pick the hottest technologies to invest in and how money is invested between the east and west coasts.

May 6 “Illness and Health Care in the 19th Century” presented by Mr. Jack Larkin, Chief Historian, Old Sturbridge Village, entertained and educated everyone on the rudimentary medical procedures of the time and how illness was perceived and treated.

May 20 “The FDA and Medical Devices” was presented by Dr. Sandy Weininger, FDA/CDRH, Office of Science and Technology, about the complicated regulatory process and how important it is to integrate safety into design and development. He summarized how devices are classified, what requirements are applied to those classifications and the importance of hazard analysis and risk management.

June 17 Presentation and tour of the Engineering Applications Center at University of Hartford by Dr. Devdas Shetty. After watching a power point presentation, everyone toured the center and saw a demonstration of the Ambulatory Rehabilitation System invented by students.

BEACON Symposium & Technology Fair
Bionanotechnology: The World of the Small in Medicine
October 28, 2004

On October 28th, BEACON hosted its annual Symposium and Technology Fair, entitled *Bionanotechnology: The World of the Small in Medicine*. The all day event was held in Heublein Hall of Hartford Hospital's Education & Resource Center. After a welcome by Dr. Joseph Bronzino, Doug Fisher, Director, Economic and Business Development at Northeast Utilities, joined in welcoming the audience to Hartford and the region encompassing the I-91 Knowledge Corridor.

The Symposium Speakers and their topics were:

Dr. Gregory Tew, UMASS-Amherst, Polymer Science Center
Merging Chemistry, Materials Science and Biology to Create New Materials for Biomedical Applications

Dr. Kambiz Pourrezaei, Drexel University, Nanotechnology Institute
Applications of Nano Optical Probe to Single Cell Imaging

Dr. Jun Li, NASA Ames Research Center, Biomedical Nanodevices
Nanodevices for Biomedical Applications

Dr. Mark Saltzman, Yale University, Dir. Biomedical Engineering
Biomaterials and Nanotechnology in Drug Delivery

Dr. David Reisner, CEO & President, Inframat Corp. and US Nanocorp
Bioengineered Nanocoatings for Prosthetic Devices

Mr. John Lanzafame, President, Nanolution Division of Biophan Technologies
Development of a Novel Field of Nanotechnology

Dr. Gualberto Ruaño, President, GENOMAS, Inc.
Physiogenomics and Nanotechnology: A Systems Engineering Approach to Personalized Healthcare

Dr. JoAnne Fenney, VP Research, Punk, Ziegel & Company
Economic Forecast for Bionanotechnology

BEACON's Technology Transfer Protocol

Networking is the key to success in business and life. BEACON consists of many academic and medical institutions as well as corporate members. In order to provide a unique opportunity to showcase new medical technology, BEACON has developed a five-step approach to successful technology transfer. It gives researchers a chance to have their product or idea looked at for potential licensing and for corporations to "articulate their questions" in a neutral setting. BEACON can facilitate the connection and create a neutral setting for this to happen. For more information, please contact the BEACON offices.

EVENTS ATTENDED BY BEACON

It was a year of travel for BEACON staff as they participated in several events up and down the north Atlantic coast. At most, the new BEACON pop up display was seen by many who attended.

- Northeast Biomedical Engineering Conference at Western New England College, Springfield, MA
- NanoBusiness 2004 in New York City
- XPO 2004 in Hartford, CT
- BIO 2004 in San Francisco (thanks to a Connecticut booth)
- Medical Device & Manufacturers East show in New York City



Terri Wilson, Assistant Executive Director and Bob Miller, Executive Vice President and COO, show off BEACON's new pop-up display at the XPO 2004 event at the Hartford Expo Center.

SPONSORS OF THE SYMPOSIUM

BEACON would like to thank the following sponsors who supported the 2004 Symposium and Technology Fair.

**CBIA Education Foundation through a grant
from the National Science Foundation**

Deloitte

Pfizer

Hartford Hospital

Cantor Colburn, LLP

Connecticut Innovations

Trinity College

Forbes/Wolfe Nanotech Report

Hoffman Auto Group

NanoBusiness Alliance

Boston Scientific

Metro Hartford Alliance

Tyco Healthcare/Kendall

eR Portal Software Group

Joseph Merritt & Company

Depino Associates, LLC

Design by Analysis, Inc.

Elsevier

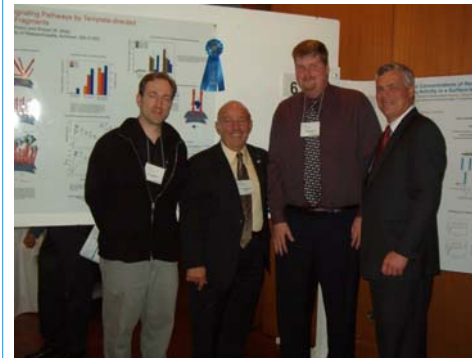
CRC Press

Special thanks to St. Francis Hospital and Medical Center for accrediting this event through the Connecticut State Medical Society to sponsor Continuing Medical Education credits (CMEs) for physicians who attended.

Special thanks also to the Connecticut Business and Industry Association (CBIA) for offering Continuing Education Units (CEUs) for high school teachers who attended. Through the CBIA Education Foundation, fifty high school/community college teachers and 25 students from Staples High School in Westport attended. It was a unique opportunity to expose young adults to new medical technology.

The keynote address was presented by **Dr. Michael Connolly**, Founder and CEO of Integrated Nano-Technologies. He gave an overview of what was heard during the morning session and how his company views bionanotechnology over the next few decades.

Following the morning session was time to visit the many exhibitors and vendors. They included established well-known companies and organizations including BEACON members such as: Pfizer, CT Center for Advanced Technology, Trinity College, Hartford Hospital, Microtest Labs, Springfield Technical Community College, Asnuntuck Community College and Applied Software Technologies/eR Portal Software Group. Also exhibiting were a number of other technology firms and companies that are in the medical field that have developed exciting new biomedical devices or systems.



Shown receiving the first prize in the poster contest is Dr. Don Peterson, head judge; Dr. Joseph Bronzino; Dr. Anthony ShROUT (winner) and Mr. Oz Griebel, Metro Hartford Alliance.

In addition to the exhibitors there were over thirty posters submitted by medical students, scientists, business people and designers covering a variety of biomedical engineering topics such as polymer hydrogels for use in drug delivery, a surgical cooling garment, and a new long-range model for membrane protein folding, among many others. Added to this year's event were monetary awards given to the best in category. This year's winners were: First Place \$500 to Dr.

Anthony ShROUT, UMASS Amherst; Second Place \$300 to Kelleny Oum, School of BME at Drexel University; Third Place \$200 to Ashley Deliso, UCONN Health Center.

Special thanks to CRC Press which donated 5 *Biomaterials Science* handbooks used as runner-up awards.

The awards were sponsored by:
Metro Hartford Alliance
Robinson & Cole, LLP