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"The CERHB is working to develop a biotechnology cluster in Florida by stimulating new company formation and existing company expansion, and by attracting outside companies to the region."

*Dr. Richard Snyder
Director*

EMPLOY FLORIDA
BANNER Center
Biotechnology

Welcome

Welcome to the CERHB Education and Training Center!

We are housed within the University of Florida's Center of Excellence for Regenerative Health Biotechnology, a 46,000-square-foot state-of-the-art Educational and Biopharmaceutical manufacturing facility. The Education and Training Center has been modeled to reflect the most current work environments, instrumentation, and applications used by biomanufacturing companies. We provide job-specific, hands-on training utilizing our Cleanroom simulator, and state-of-the-art process and analytical equipment used in the manufacturing and testing of drugs. The Center has formed strategic partnerships with corporations, state and local government agencies, and educational institutions to train faculty and deliver curricula to attract and educate high school and college students, as well as provide existing workforce training for entry and mid-level careers in the biotechnology industry.

Please stop by for a tour! We are located in Progress Corporate Park-13706 Innovation Drive, Alachua, Florida.

WorkForce Florida Inc. Launches "Employ Florida BANNER Center for Biotechnology"

In October of 2006, WorkForce Florida Inc. designated the CERHB Education and Training Center the "Employ Florida BANNER Center for Biotechnology," and awarded funding to create training programs addressing critical workforce needs identified by industry. Collaborating with us on this endeavor are Santa Fe Community College (SFCC), Florida Community College at Jacksonville (FCCJ), Indian River Community College (IRCC), Embry-Riddle Aeronautical University (ERAU), and the International Society for Pharmaceutical Engineering (ISPE). Industry employers participated in the development of curricula to assure relevant training.

This year the BANNER Center offered its first course titled; *Introduction to Industrial Biotechnology: Working in a Regulated*

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Environment, which has been offered by FCCJ, IRCC, SFCC, and the CERHB.

To date we have 87 graduates who have earned industry-recognized certificates. The next course offering is scheduled for November 6-9 at the CERHB Education and Training Center. Please visit our website <http://cerhb.rgp.ufl.edu/education> for course description and application instructions, or contact:

Amanda Lowe (386-462-3181), alowe@cerhb.ufl.edu



“Florida must be prepared to meet the challenges of our steadily growing high tech job market.”

Former Gov. Jeb Bush

State Approves High School Curriculum for Industrial Biotechnology

Through our NSF funding, the CERHB worked with partnering school districts, including Alachua, Marion, and Palm Beach Counties to develop a three-course high school curriculum for industrial biotechnology. Students who complete the sequence are prepared for entry-level positions in the field, articulation into the SFCC A.S. degree program in Biotechnology, or entrance to a four-year institution. The curriculum was aligned with Sunshine State Standards and Performance Standards to integrate biotechnological concepts with applied learning.

Congratulations to Santa Fe High School in Alachua and North Marion High School in Citra (Marion County)! Both schools rolled out Biotechnology I this Fall, and have a combined enrollment of 42 students. This course introduces advancements of genetic engineering, historical discoveries, benefits of biotechnology, career options, organism structure and function, basic chemistry, microbiology, and legal and ethical responsibilities. Laboratory applications cover safety procedures, experimental design, equipment, measurement of volume and mass, solution preparation, DNA isolation and analysis, sterile technique, culturing of microorganisms, environmental monitoring, basic chemistry, data analysis, documentation, and communication.



Santa Fe High School students perform restriction digests and analyze their product on a gel.

Center of Excellence for Regenerative Health Biotechnology Education and Training Center Opens its Doors to Students and Teachers

Capturing the interest and enthusiasm of our youth is critical to building a workforce to support the growing biotechnology industry. Initiated by CERHB's NSF grant, we have hosted 25 classes, for a total of 591 students. Highlights of these events include interactive lectures on cloning and the industrial processes of biomanufacturing, hands-on activities utilizing molecular biology techniques, testing and quantifying solutions, environmental monitoring, cleanroom operations, and working in a regulated environment. Each concept and skill is taught in the context of a career, thus generating an awareness and perhaps an aptitude for a future position in the field.

***Middle and High School teachers interested in bringing their students for a hands-on experience at the CERHB Education and Training Facility, please contact:
Tamara Mandell (386) 462-6397, or e-mail tmandell@cerhb.ufl.edu

Summer Teacher Workshops

In preparation for the launch of the high school Biotechnology curriculum, CERHB conducted a two-week intensive training workshop for high school teachers implementing the Biotech I curriculum. The focus was on preparative steps for the hands-on components of the course, and incorporating an "industrial" perspective to the lessons. The workshop was designed based on teacher input. They identified laboratory activities (media and buffer preparation, aseptic technique, pouring agar plates and tubes, preparing and staining agarose gels, storage and handling of microorganisms) in which they needed extra guidance. The teachers prepared classroom kits for these activities, and conducted practice runs of the hands-on experiments. Incorporated into these laboratories were concepts and practices used in industry, such as documentation (batch and test records, deviation reports, equipment logs), and ethical case studies.

***This workshop will be advertised state-wide for the summer of 2008, to increase awareness of the curriculum and to facilitate its implementation across the state.

For more information, please contact:
Tamara Mandell (386) 462-6397, or e-mail tmandell@cerhb.ufl.edu



Students Celebrate a Successful Day at the CERHB Education & Training Center



Jill Stephens and Dee Reedy, from North Marion High School prepare aliquots for their classrooms.

Santa Fe Community College Implements Capstone Course in Industrial Biotechnology

As Florida's biotechnology industry expands, there has been an increased demand for employees with training in biomanufacturing and its inter-departmental relationship with quality control, regulatory affairs, and quality assurance. Also through CERHB's NSF funding, Santa Fe Community College together with our partners developed a Capstone Course in Manufacturing and a corresponding lab, for biotechnology majors. The four credit-hour course introduces the processes and materials used in manufacturing environments including the medical diagnostic, biopharmaceutical and medical device sectors. Topics include basic principles of industry, major departmental functions, regulatory agencies, current good manufacturing and laboratory practices, safety, engineering controls, aseptic and sterile processing techniques, inventory management, and documentation. The laboratory details a typical biotechnology procedure with appropriate manufacturing documentation including batch records, raw materials, and excursions.

***For more information on the Capstone Course, or the SFCC Biotechnology A.S. degree program, please contact:
Dr. Kelly Gridley at 352-395-5687, or e-mail kelly.gridley@sfcc.edu

Upcoming Events

Fall Course Offering:

Introduction to Industrial Biotechnology: Working in an Regulated Environment

DATES: November 6th - November 9th

TIMES: November 6th & 8th 12:30pm-4:30pm
November 7th & 9th 8:30am - 5pm

LOCATION: UF's Center of Excellence for Regenerative Health
Biotechnology Education Center, Room 204
13706 Innovation Drive, Alachua FL

BioFlorida's "Party in the Park"

November 1st

A casual and relaxed social for all employees of any BioFlorida member company

Bioscience Career Fair

January 17, 2008

10:00 a.m. - 2:00 p. m.

Atrium of Sid Martin Biotechnology Development Institute
12085 Research Drive, Alachua, Florida



Students learn aseptic mammalian tissue culture techniques performed in a Biosafety Cabinet.

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