

Employ Florida BannerCenter >>> Biotechnology Newsletter

Volume III, Issue II

Spring, 2010

First Biotechnology Course Offered at Hillsborough Community College



Biotechnology has established a strong foothold in Florida. According to a study conducted in 2008 by the University of Florida "Florida has become one of the fastest growing states in the life science industry, and is among the top 10 U.S. biotech centers". Given its impact on the local and state economy, Florida Center of Excellence for Biomolecular Identification and Targeted Therapeutics has taken a pioneering role in partnering with local secondary schools and biotechnology industries to implement an Associate of Science in biotechnology program at Hillsborough Community College in Brandon.

As part of the partnership between HCC and FCoE-BITT to provide curriculum, recruitment and career awareness materials for community college and high school programs, HCC is offering the first biotechnology course in Spring 2010. "Introduction to Biotechnology (BSC 1420C)" is a gateway course that will provide students basic foundations of biotechnology, and the techniques used in research and industry environments. The course will be offered twice a week, Monday and Wednesday at 2 p.m., and will be taught by Elizabeth McCullough and Debarati Ghosh, instructors at HCC-Brandon.

Kim Wilson, project manager for FCoE-BITT says "The course integrates historical background, current concepts, and techniques in DNA and RNA technology and their role in cell and genetic disorders." The courses will also help demonstrate competency with various instrumentation, including pH meters, centrifuge, spectrophotometer, chromatography, and gel electrophoresis. "It will assist students in understanding scientific methods, lab safety, and best laboratory practices" Wilson said.

The A.S. degree in biotechnology is based upon an assessment prepared by FCoE-BITT and the Biotechnology Advisory Committee, and is designed to meet the demands of a highly qualified workforce for the area's growing biotechnology industry. Graduates of the program will be able to pursue careers as entry-level technicians in the pharmaceutical, medical device manufacturing, research and development, and agriculture industries. This two-year program, comprising of 61 credits, gives students hands-on laboratory experience that prepares them for positions in the biotech industry. For more information on the program, and or to enroll into the course contact Kim Wilson at 813.253.7845/wilson@fl-ate.org or visit <http://www.fl-ate.org/projects/bitt.html>.



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INDIAN RIVER
STATE COLLEGE



Martin, St. Lucie Students become Dolphin Science Investigators in Probe of Dolphins' Deaths



ALEX BOERNER alex.boerner@scripps.com

Clark Advanced Learning Center students, Pam Brava, 17, from left, and Sean Crary, 16, talk with Angela Morales, a scientist with Torrey Pines Institute for Molecular Studies, while working in the biotechnology suite in the Vernon Smith Center for Medical Education in Fort Pierce. Eight Clark Advance Learning Center students and a group of students from Indian River Charter High School are taking part in the Dolphin Science Investigators program designed to give the students hands-on experience in the lab while working to discover answers to the suspicious deaths of 50 dolphins in the Indian River Lagoon in October of 2008.

Indian River State College staff, Torrey Pines Institute for Molecular Studies scientists and state-of-the-art scientific equipment, teenaged “Dolphin Science Investigators” are working together to determine the cause of death of fifty dolphins from the Indian River Lagoon. See related stories from the St. Lucie News Tribune by Tyler Treadway and Johnathon Matisse:

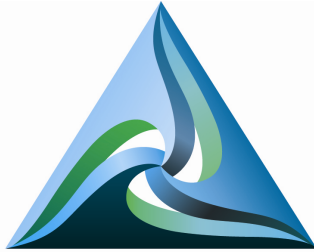
<http://www.tcpalm.com/news/2009/jun/24/science-students-to-try-to-solve-dolphin-mystery/>

http://www.tcpalm.com/news/2009/oct/16/no-headline---mc_sl_dolphins/



**INDIAN RIVER
STATE COLLEGE**

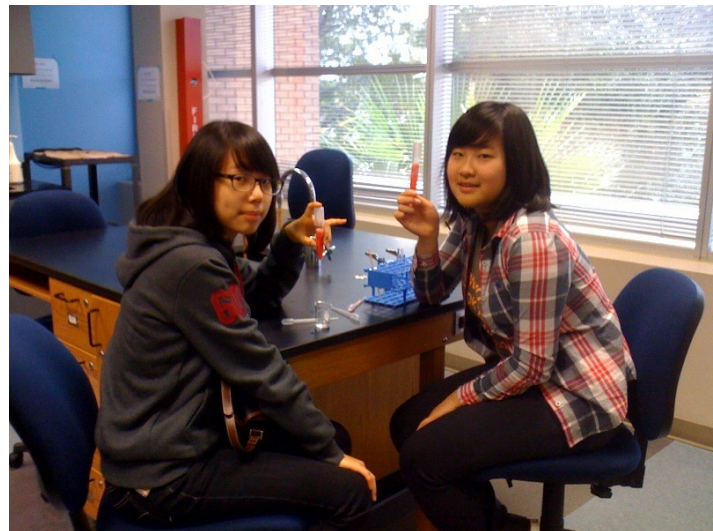
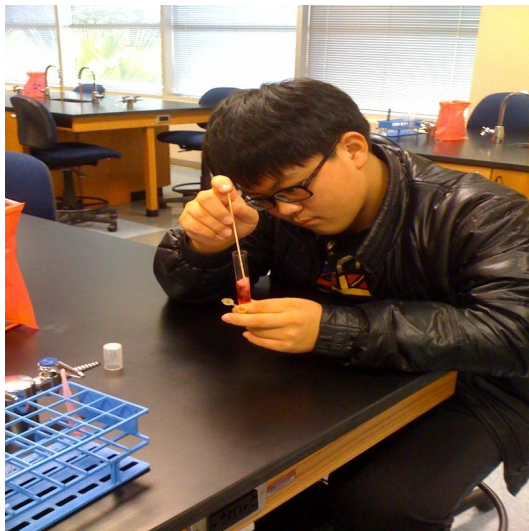
Korean Students Visit Florida State College at Jacksonville's Biotechnology Laboratory



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Inquiry-Based science teaching focuses on the processes of science such as observation and inference, questioning, constructing explanations, testing explanations against existing science knowledge via experimentation, communicating of findings and exercising critical thinking by looking at alternative possibilities. Inquiry science classrooms are fun classrooms where students are highly engaged with the learning environment. Students interact with equipment, have discussions with peers and work collaboratively.

This was the experience recently when 20 middle school students from Masan, South Korea were accompanied by Mr. Kim, the Masan Committee Chair for the City of Jacksonville and Pastor John Lee, the group's sponsor and interpreter. These students visited the Biotechnology Laboratory in the Advanced Technology Center located on Florida State College's Downtown Campus and rolled up their sleeves and went to work. They were given a brief introduction of the concepts, and then with the guidance of Mr. Chris Bush, Dr. David Beall, and Dr. Kathy Foley they conducted DNA extraction using current methodologies. Many students commented they have not been exposed to this level of scientific inquiry. As they left the lab, with the strawberry DNA suspended around their necks and a smile on their faces, a universal sign of happiness.



Upcoming Events

Industrial Biotechnology Training Course

To date, the Employ Florida Banner Center for Biotechnology has trained over 185 students in its “Introduction to Industrial Biotechnology: Working in a Regulated Environment” course. It is now also being offered state-wide at Banner Center partner locations including: Florida State College at Jacksonville, Hillsborough Community College, Indian River State College, Santa Fe College (at the Banner Center Lab), and Palm Beach Community College. This course provides the tools and underlying principles for developing and implementing effective Quality Assurance and Quality Control systems. Students learn about federal and international regulations, and the agencies that enforce the regulations. Students perform the functions of both Quality Assurance and Quality Control personnel in the manufacture, testing, and release of a final product. Topics covered include document control, material flow and testing (raw materials, in-process, final product), material sourcing, facility control, validation, setting material/product and facility specifications, CAPA, and the inspection of activities to meet the regulatory guidelines for the manufacture and release of safe and effective products. Please contact Lori Wojciechowski lwojo@cerhb.ufl.edu or visit http://www.cerhb.ufl.edu/education_index.html for information.

**Next Course Offering at the Banner Center for
Biotechnology: February 22-25, 2010**

PALM BEACH STATE COLLEGE

Palm Beach State College will be offering the following Biotechnology short courses in the spring:

Basic Techniques 2/19
Tissue Culture 3/19
Chromatography 4/16

Please Contact Dr. Libby Handel, Ph.D. for further information:

handele@pbcc.edu
www.pbcc.edu/biotechnology.xml



Upcoming Events

What: Advances in Biotechnology Workforce Education Workshop

Where: Pittcon 2010, Orlando, Florida, 2:00 PM Room: 308A

When: March 1, 2010

Organizer: R Kevin Pegg, Florida State College at Jacksonville



The biotechnology group at Florida State College at Jacksonville invites all to attend our upcoming workshop at the Pittsburgh Conference in Orlando. Workshop topics include:

Updates on National Science Foundation programs in undergraduate education by Dr. Linnea Fletcher, NSF Program manager; Programs at the NSF Biomanufacturing Center by Dr. Sonia Wallman; California is way ahead of Florida in biotechnology education at all levels; two presentations on academic/industry partnerships and biotechnology education will be offered by Drs. Conroy and Harber; From the biopharmaceutical side Dr. Harry Orf will update on research programs at Scripps Florida; and, Noted biotechnology author Dr. Yali Friedman will share his insights on the directions of the biotechnology industry.

This is an open-forum workshop with short presentations and ample opportunity for attendees to ask questions of the panel or presenters. The presenters are interested in hearing about other programs, and all workshop attendees are welcome to say a few words regarding their institutions and projects.

Advanced registration to Pittcon is \$95 before February 1st. Pittcon is the premier science technology show, to register and for more information on the program and the exposition visit: www.Pittcon.org.

Please contact Dr. Kathleen Foley, 904-598-5640, kfoley@fscj.edu for more information, or to let us know if you would like a few minutes to speak at the workshop.

Overview:

The focus of this workshop is the trend of industry, government and academic partnering to fulfill the increasing need for highly skilled workers in the pharmaceutical industry, medical device manufacturing, testing, and academic research laboratories. The Associate in Science (A.S.) degree and laboratory workforce certification are becoming the route to an entry-level biotechnology job. Expert speakers discuss detailed cases of inter-institutional partnering and distance education as well as providing broad views of the direction of this workforce phenomenon.

2:00 PM	Introductory Remarks
2:05 PM	Training to Meet Regional Needs: The FSCJ Institute for Food Safety - A Public/Private Partnership , R Kevin Pegg
2:25 PM	Funding of Biotechnology Workforce Education by the National Science Foundation , Linnea Fletcher
2:45 PM	Scripps Florida: At the Front Lines of Hope , Harry Orf
3:05 PM	Biotech Skills Development Research Program: An RT-PCR Case Study at the Community Colleges , James Harber
3:25 PM	Recess
3:40 PM	Factors that Impact Success of Online Team Projects with Companies , Richard Conroy
4:05 PM	Education and Training for a STEM Career in Biomanufacturing , Sonia Wallman
4:25 PM	Educating the Next Generation of Biotechnology Founders and Managers , Yali Friedman
4:45 PM	Discussion/Wrap Up

Upcoming Events

Bioscience Education & Workforce Development Program

A BioFlorida Southwest Chapter Event

REGISTRATION ONLINE REQUIRED [CLICK HERE](#)

Tuesday, February 9, 2010

5:00 – 9:00 PM

Embassy Suites Hotel, Estero, FL

This event is open to both BioFlorida members and the public.
Feel free to forward this invitation to your colleagues.



EVENT SCHEDULE:
subject to change

5:00	Registration & Networking
6:00	Welcome: Russell Allen , BioFlorida President & CEO
6:20	K-12 Outreach & Junior Achievement Programs: Vicki Stephan , President, Junior Achievement of Southwest Florida
6:40	Certification Program: Bob Gasparini , President & Chief Science Officer, NeoGenomics
7:00	University/Workforce Panel Presentations: FGCU , Hodges , Edison State , Ave Maria , New College and SWF Workforce Development Board
8:00	Florida University Research Network: David Kakkuri , PhD, Director, Florida Gulf Coast University
8:15	Q&A / Closing Remarks
8:30	Networking

COST: \$15 BioFlorida Members | \$25 Non-Members | FREE Students/Press

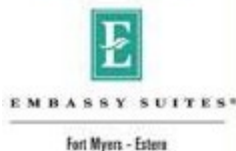
LODGING: If you require a hotel room, you can link directly to the Embassy Suites from the registration page. The number to call and ask for the FGCU rate is 866-949-9491.

The theme for this event will be focused on Education Programs & Workforce Development that support the bioscience/life science industry in Southwest Florida.

What to expect:

- **Educators** will highlight programs supporting the industry and showcase their current student base;
- **Industry Representatives** will meet with educators and students to communicate their specific workforce needs and potential partnering opportunities; and
- **Students** will showcase their recent projects/activities, and will have their resumes on hand.

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Curriculum Development for Workforce Training: Help us Help You!



The Employ Florida Banner Center for Biotechnology will continue to develop advanced and specialized hands-on curricula.

We welcome your input to let us know which topics will be most useful to you or your organization! You may respond to us directly (tmandell@cerhb.ufl.edu).



Funded by Workforce Florida Inc.

We're on the Web!
[http://cerhb.rgp.ufl.edu/
education_wfi.html](http://cerhb.rgp.ufl.edu/education_wfi.html)

Suggested Course Topics:

- **Quality Assurance:** GLP, GMP, and GCP compliance, document writing, document control, document auditing, personnel training, quarantine and release, corrective actions, and validation
- **Laboratory and Aseptic Techniques:** cell culture, microscopy, closed systems, media and buffer preparation
- **Cleanroom environments:** Facility design and specifications, environmental monitoring, critical cleaning, and gowning
- **Quality Control analytical assays:** protein-based assays, nucleic acid-based assays, and cell-based assays and analysis, sampling, standards and controls, and validation
- **Downstream processes:** Chromatographic, filtration, and centrifugal methodologies and analysis, and validation
- **Regulatory Affairs:** Federal regulations, working with the FDA, assembling and filing an IND, IDE, or 510K application, clinical trials
- **Business and Legal:** Project management (timelines, budgets, resources, communication), outsourcing, intellectual property protection
- **Laboratory and Facility equipment maintenance:** calibration, metrology, qualification, validation, and preventative maintenance
- **Research & Development, Process Development, and Assay Development**

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