

NCBW TIMELINE

January 2013

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BCC Informatics

Life Science skill standards approved by industry

At the IT Convergence Zone: A Rapid Development Model for Skill Standards and Curriculum published

Co-hosted 78 state high school and community college educators at Washington Community College Allied Health Center of Excellence Summit

Informatics Overview: A Program Building Resource for Community and Technical Colleges published

Microsoft designates BCC as its second IT Showcase School in the nation

Program featured in the industry journal BIO-IT World

Completion of Life Science Informatics Prior Learning Assessment Module applicable across all life science sectors and a first in the nation for community colleges

Originated committee, set mission, goals and agenda for first meeting of the Washington Life Science Industry Education Council.

College adopts two new positions: a bioprocessing faculty position and a fulltime instructional associate

Mike Fino presents at Bio-Link National Fellows Conference in Berkeley

Mike Urbach conducts lab tours for high schools, prepares demonstrations for elementary and middle schools, promotes biotechnology at the MiraCosta Math and Science Fair

New Certificate programs developed

Development of the International Biofuel Training Iowa initiative

Pilot facility grows with Cargill donation of two new 80L fermenters, up from existing 13L

Teacher Fly-In Follow-up Study shows flying in teachers from around the country to Forsyth Tech's 2007 program helped increase overall student interest in biotechnology

August 2011 NCBW presents posters at national conference in San Francisco

Graduate Tracking Study analyzes responses of Forsyth Tech biotech graduates to reveal how feelings for science help motivate efforts to succeed. Communication skills may be a most significant factor.

August 2011 NCBW Follow-Up Study from 2004 to 2007, Forsyth Tech administered the NCBW partnership with four other community colleges across the nation. This follow-up study calculates how the synchronized network enhanced capabilities for providing biotech nd faculty development. The colleges' resources and leadership continue today

February 2011 report on President's endorsement of FT best training practices, biotech economic impacts, more

Winter 2011 edition Tech Quarterly recognizes Kathy Proctor, student President Obama invited to be in his State of the Union address.

NCBW hosts President Obama's Visit to Forsyth Tech

December 2010 On tour at Forsyth Tech, President Barack Obama praises North Carolina's leadership, calls for renewing American scientific education, training and skilled workforce superiority.

SciTech Lecture Series NCBW presents:

March 2012 "An Eye Toward Innovation" by cornea transplant expert Jerry Barker

Sept 2012 "Career Success in Life Sciences" Doug Drabble, Director of BioNetwork

October 2012 "The Changing Landscape of Intellectual Property Protection for Biotechnology Inventions" Charles W. Calkins, Attorney and Partner Kilpatrick, Townsend & Stockton, LLP

November 2012 "From Forsyth Tech to Medical School and Beyond" Adesanmi Ojo, M.D.

June 2012 Summer Undergraduate Research Experience (SURE) Program

June 2012 Ninth Annual Community College Program at BIO Conference, Boston
Industry and education combine for program organized with NBC2, Bio-Link, the Biotechnology Industry Organization and others

July 2012 7th Annual NBC2 BIOMAN Conference, four days of hands-on biomufacturing laboratories, industry vendors, discussions, keynotes coordinated at Alamance Community College in Graham, NC

October 2012 NCBW at Forsyth Tech receives a grant of nearly \$15 million to join twelve high-performing colleges in a consortium working with 145 companies and employers to develop core, industry-recognized, skill sets in bioscience and produce standard, "industry-recognized," credentials. Ever-changing, high-growth industries require these clear, hard skills to keep up.

MCC Bioprocessing

Biogen Idec, Genentech recognize MCC's dedicated, immersive environment for training and support new faculty and remodel of facility

International Society of Pharmaceutical Engineers supports design, construction of 3500-square foot facility - opens to classes in November 2005 with more than \$1 million in state-of-the-art equipment

Materials Resource Program established for biotech companies to donate unused equipment for use in high school

Selected as national model for community college - industry partnerships in biotechnology by the US Dept of Education

Summer biotech teacher professional development

Video, multimedia online course delivery

Innovative 3-D virtual reality system for people to experience process of fermentation debuts at Iowa State Fair

IHCC Biofuels, Agbio

Bioreactors purchased through grant, begin to be used for training, pilot projects needed by industry

Bio-fuel laboratory techniques and fundamental scientific processes developed for teachers

Science Education Mobile Instruction Lab visits schools; more than 30 school districts experience the use of SEMI

NHCTC Biomanufacturing

Jan. 31, 2005 Northeast Biopharmaceutical Manufacturing Industry Skill Standards finalized in consensus with industry

Northeast Biomanufacturing Institute begins with short courses for incumbent workers

First in the nation Biomanufacturing Apprenticeship program begins

First BIOMAN 06 national conference organized by Dr. Sonia Wallman at NHCTC July 24-28

Deb Audino and Bob O'Brien give Lonza trainees Aseptic Awareness course w/ behavioral videotaping

First Biomanufacturing Apprentices complete program, hired by biotechnology companies

Two students go to work with Tengion, finish in-house training program in three months instead of usual six

An automated DNA Sequencer acquired to train techniques and skills on DNA/RNA sequencing, mapping and fingerprinting

2008

BIOMAN 2007 July 22- 27

Core Production System text book published

New Recombinant DNA Technology course developed for R&D labs experimenting in nucleic acids, cloning, stem cell research

Ten short courses developed- can be delivered on campus, in the classroom, or in a biotech company lab facility

June 2008 In house Pilot Research Internship Model

February 5- 6, 2008 NCBW hosts nationwide DOL bioscience WIRED - Workforce Innovation in Regional Economic Development- conference in Winston Salem.

May 19-20, 2008 NCBW lead sponsor, exhibits at Council for Entrepreneurial Development conference in Winston-Salem.

June 16, 2008 Community College Program at BIO 08 convention in San Diego

June 17, 2008 "Hire Right and Churn Less" workforce panel at BIO 08 San Diego

June 2008 In house Pilot Research Internship Model

2008 final report on first three years of NCBW (pdf)

2010

BioNetwork supports the mission of the North Carolina Community College System aligning world class workforce training and education to biotechnology, pharmaceutical and life science industries.

September 2010 NCBW creates a partnership with the national Manufacturing Institute to benefit students, workers and the North Carolina manufacturing industry

June 2010 Powepoint Presentation to Northwest Piedmont Workforce Board shows strength of biotechnology industry growth, need for workers.

May 2010 Six page PDF report on the Community College Program at the Biotechnology Industry Organization event in Chicago, themes include importance of graduates as Faces of Success, emerging innovative programs and questions of certification

April 2010 MetLife recognizes NCBW - Forsyth Tech partnership, named finalist in National Community College Excellence competition, with \$20,000 award.

January 2010 Biotech Workforce report on Piedmont Triad BioNight highlights results, challenges ahead; pdf includes quotes from participants, awards, and photos.

June 2009 First report on Student Tracking Program including all phases, results and Pilot Model for tracking and alumni database management.

May 2009 Community College Program at BIO2009 in Atlanta on future biotech economy, immersive and e-learning (click for powerpoint presentation)

November 2008 report on biotechnology Student Tracking program meeting with graduates, experts, stakeholders

March 2009 report on meeting to determine Biotech Student Tracking program findings and best practices.

October 2008 Biotech Student Tracking program begins. a series of phases to locate, track, analyze and keep graduates connected.

2012

December 2011 National Meeting between Manufacturing Institute NCBW with Bio-Link, NBC2, PhRMA and BIO

SciTech Lecture Series NCBW presents: NCBW hosts science lecture series on Forsyth Tech campus

February 2012 "Vaccines: Why and How" Steve Mizel and Bruce Kaylos, Wake Forest University School of Medicine faculty

January 2012 Dr. Tim Bertram on regenerative medicine.

September 2011 Executive Director of the NC Biotechnology Center's Piedmont and Regional Office Nancy Johnston on "Catalyzing Regional Strengths to Support Bioscience Job Growth."

October 2011 by Morris J. Clarke, PhD, personal experiences in process of drug discovery

June 2011 8th Annual Community College Program Day at BIO - Washington, DC Presented by Bio-Link, NBC2 and the NCBW, representatives of the nation's community colleges, funding agencies and corporations gathered to experience best practices in biotechnology training and education today. BIO recognizes community colleges and their training as "creating a continuing climate for bioscience industry creation even in this challenging economic environment." Panels addressed many issues during the day-long event.

March 2011 Triad BioNight Employment growth in the Triad's life sciences firms was celebrated with a record crowd, recognizing leaders with awards at the Sheraton Greensboro, NC

May 2011 Forsyth Tech biotech graduates

2011 NCBW Career Line model goes online

2004

2005

2006

2007

2009

2011

2013

Forsyth Tech R&D

March, 2006 North Carolina Governor Michael Easley opens new technology building at Forsyth Tech, new biotechnology lab space, state-of-the-art equipment

Articulation Agreement with North Carolina Central University

Lab animal handling course developed

Wake Forest Institute of Regenerative Medicine recruits three students for internships and "hands on experience"

NCBW

National Center for the Biotechnology Workforce

Strategic plan for the National Center created

Web site created, www.biotechworkforce.org by Tim Dubuque

June 28, 2004 President's High-Growth Job Training Initiative \$5 million grant for Forsyth Technical Community College in partnership with four other community colleges around the nation to develop the National Center for the Biotechnology Workforce (NCBW) across a three year period.

Series of nine Demand-Driven Workforce Training Videos begins

June 19, 2005 NCBW presentation at BIO 05 in Philadelphia, Dr. Sonia Wallman co-chair with Elaine Johnson, NSF Bio-Link director.

www.biotechworkforce.org

January 2006 NCBW team meets at Salt Lake City Community College

February, 2006 NCBW team presents at symposium on Bio-processing & Biomanufacturing Training in partnership with BioNetwork NC community college biotech training system. Focus for first Resource Line -Tracking Trends in Biotechnology Workforce

March 2006 NCBW team presents at League for Innovations conference in Atlanta

April 9, 2006 Community College Program at BIO2006 in Chicago

May 1, 2006 NCBW presents to North Louisiana Partnership for Innovation at Shreveport

July 11-13, 2006 NCBW team presents at DOL Workforce Innovations Conference, Anaheim. Honorable Mention award to NCBW.

October 2006 Five profiles published by consultant John Grady, one on each Center of Expertise; capture and document best biotech training practices, serve as replicable models and resources for community colleges nationwide.

January 10, 2007 Biotech Resource Line on Best Practices produced from a seminar with five college partners and Tengion.

Feb 2007 Profile on National Center Office published

March 1, 2007 Piedmont Triad BioNight recognizes NCBW and Russ Read for excellence in community service.

May 6-9, 2007 NCBW presents "Faces of Success" at Community College Program at BIO 07 Boston; subject for Biotech Resource Line.

July 2007 Profile on consortium of eight community colleges with Forsyth Tech published.

October 17-19, 2007 Piedmont Triad Fly-In hosts 24 high school biotech teachers from around the country, tours of Biogen Idec, Targacept, Tengion, Wake Forest Institute in partnership with Alamance Community College and Bio-Link.

October 2008 Agreement with the North Carolina Community College System establishes NCBW as one of seven BioNetwork centers.

March 2012 National Meeting with Manufacturing Institute, Bio-Link, NBC2, Medical Devices Educational Consortium, industry, college reps