

# NCBW TIMELINE

May 2014 Click dashed-line entries for more info

## Bellevue CC Informatics

Co-hosted 78 state high school and community college educators at Washington Community College Summit 2006

Program featured in the industry journal: BIO-IT World

Microsoft designates BCC as its second IT Showcase School in the nation 2006

At the IT Convergence Zone: A Rapid Development Model for Skill Standards and Curriculum published 2005

Informatics Overview: A Program Building Resource for Community and Technical Colleges published 2006

## MiraCosta Bioprocessing

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

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

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

## Indian Hills CC Biofuels, Agbio

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

Pilot facility grows with Cargill donation of two new 80L fermenters.

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

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

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

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



December 2010 Touring Forsyth Tech, President Barack Obama praised North Carolina's leadership in renewing American scientific education, training and skilled workforce superiority.

## NCBW hosts President Obama's Visit to Forsyth Tech

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

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

October 2013 Report from the all-day Community College Program held at global BIO convention in Chicago. Four C<sup>3</sup>BC Hub Directors joined Russ Read, Executive Director, on a panel to update participants on coordinated projects now underway.

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

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

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

November 2013 TAA C3BC presentation to BIO Ohio on increasing needs for workers in new interfaces of bio/nonbio segments, overlapping spheres of emerging technologies.

December 2013 Biosciences Talent Required - Triad Biotech Alliance Lecture on strategic partnerships between community colleges, workforce boards and companies to meet industry employment needs

January 2013 The Trade Adjustment Assistance Community College Career Training (TAACCT) program c3bc launched at Biotech Place in Winston-Salem. Goals - funded by the DOL grant - are to: improve workplace training through recruitment testing, aptitude assessment, course redesigns, better outreach and more retention; introduce portable, industry-recognized credentials into training; build community college capacity for education that meets employer needs; add infrastructure and build internships. Twelve partners are concentrated into four hubs:



## Learning Technologies Hub

Accelerate completion time through improved prior learning assessment, removal of institutional barriers and new, technology enhanced instructional materials

Forsyth Technical

Rowan Cabarrus

Hub lead institution, pilots a modular learning lab, with assessments conducted and duplicated nationally.

Alamance

## Lab Skills Hub

Develop new courses and credentials in the Biosciences with revised laboratory skills standards

City College of San Francisco

Madison Area

Hub lead institution, also home of the NSF national Bio-Link center, addresses lack of industry-recognized credentials, works to harmonize skill standards

Austin

## Biomufacturing Hub

Montgomery County

Hub lead institution, also home of NSF biomufacturing center NBC2, develops new biomufacturing courses in partnership with industry, leading to stacked credentials and local career paths.

Bucks County

Los Angeles Valley

## Medical Devices Hub

New skill standards; stackable, latticed credentials will help trade-impacted workers get high-wage, high-skill jobs

Ivy Tech

Salt Lake City

Hub lead institution hosted Medical Device companies, trade organizations, community colleges in March, 2013 to develop skill set matrices in five functional areas.

St. Petersburg



## Great Bay CC Biomufacturing

First in the nation Biomufacturing Apprenticeship program begins 2005

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

First BIOMAN 06 national conference organized by Dr. Sonia Wallman July 24-28, 2006

Sept. 2007 Harmonized Biopharmaceutical Manufacturing Industry Skill Standards at working group meeting of industry and educators in Indianapolis

## Forsyth Tech R&D

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

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

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

## NCBW

## National Center for the Biotechnology Workforce

June 28, 2004 President's High-Growth Job Training Initiative grant for Forsyth Technical CC in partnership with four other community colleges around the nation develop the National Center for the Biotechnology Workforce (NCBW)

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

[www.biotechworkforce.org](http://www.biotechworkforce.org)

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

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

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

April 9, 2006 Community College Program at BIO2006 in Chicago

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

## NCBW SciTech Ideas In Action Lecture Series:

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.

March 2013 "My Journey as an Entrepreneurial Scientist, CEO and Investor" with Dr. Christy Shaffer, Venture Partner and Managing Director of Hatteras Discovery with Hatteras Venture Partners. Shaffer spoke about how entrepreneurial innovation creates new products that are transforming the practice of medicine and creating value for investors.

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

September 2013 Dr. Eric Tomlinson, Chief Innovation Officer at Wake Forest Baptist Medical Center and President of Wake Forest University's Innovation Quarter, shared innovations collaborating in downtown Winston-Salem, NC in areas such as medical devices, protein drugs and mobile apps.

January 2014 Gwyn F. Riddick, Executive Advisor for Strategic Development and Agricultural Biotechnology Consultant for the North Carolina Biotechnology Center, spoke on "A Race Against Time: How Biotechnology is Transforming Our Largest Critical Industry." He emphasized the urgency for the Ag Biotech Initiative's research in finding new or better crops plus new uses for plants. Alternatives developing include field trials to find genetic traits for shorter growing times. NC companies produce innovations such as extractions from soybean seeds to produce an oral vaccine. "It's win-win for everyone by creating more jobs, more new companies, and even new industries," said Riddick. "We must retain companies now and educate our workforce as part of our state BioAgriculture. Plants are our future and an integral platform for agricultural biotechnology development." [You Tube Link](#)

February 2014 Dr. Stephen A. Hill, President and CEO of Targacept spoke on "Biotech: Risk and Reward." Targacept is a biopharmaceutical company engaged in the development of novel treatments of various diseases and disorders of the nervous system. [You Tube Link](#)

March 2014 Paul Kortenaar, PhD - Executive Director of SciWorks, a science museum in Winston-Salem with a planetarium and a 17-acre outdoor Environmental and Science Park, spoke about "Education for Innovation: Preparing Students and Their Teachers to Work in a World of Technology Change." [You Tube Link](#)

December 2013 A special edition of Forsyth Tech's biotech Impact Magazine features a complete look at the nationwide programs of the TAA C3BC.

March 26-28, 2014 DOL TAACCT c3bc National Meeting Participants convened from around the nation for a 3-day meeting in Winston-Salem:

- Consensus was reached by hubs in the Skills Standards session to identify, select and draft key activities of core critical work functions common to all bioscience industries into a single document. Bio-Link has a page on skills standard work done to date - "[Finding alignment](#)"
- Gardner Carrick of NAM suggested referring to work in skills and manufacturing in other industries at the [Manufacturing Skills Standards Council](#) web site.
- Other topics addressed included: innovative ways to assess prior learning; strategies for Workforce Investment Boards; plus a look at the library of modular teaching "granules" being built to share through the new online NTER system.
- "Lessons Learned" listed highlights, programs, courses being implemented, with most equipment purchased and in use.

June 2014 Biosciences Industry Fellowship Program, funded by an NSF-ATE award, gathers selected teachers in Winston-Salem for a month-long program of visits to NC Biosciences industrial facilities, community colleges, university labs and research parks. Working in pairs, the twelve participants will produce modules to use in their classrooms and distribute.