and Curriculum published 2005

2004-2025 National Center for the Biotechnology Workforce Timeline 2004-2025

Visit us at www.biotechworkforce.ord

or technicians working at the interface of regenerative

June 2019 The sixth Bioscience Industry Fellows (BIFP)

medicine and biomedical devices.

rinidad and Tobago. You Tube Link

April 2019 NCBIO NCBW and Durham Technical Communit College convened twenty-three biotech companies, educators

and workforce organizations to identify critical BETA skill sets

November 2019 The North Carolina Biotechnology Center- the

November 2019 Impact Magazine

recognizes six years of success for

e Bioscience Industry Fellows

roiect and the role of more than

30 industry, academic, and

V.P. of Industry Partnerships explains how

October 2023 Dr. Nathan Ahlgrim of Good Foo

Torres, and Chelcie Meija on the science and

teamwork behind Eurofins CRL's research-

based clinical testing services for the global

January 2024 Ian Burdick of Charter Medical

on how Al. marketing, and videography

support FT's student experience and career

skincare industry YouTube Link

opportunities. YouTube Link

Forsyth Tech's culture of continuous

October 2012 NCBW at Forsyth Tech awarded a Department of October 2008 Agreement with the North Carolina Community College System established NCBW as one of seven BioNetwork centers. redentials (c3bc) to work with 45 companies, employers and oNetwork supports the mission of the North Carolina Comshareholders to develop core, industry-recognized skill sets in Bellevue CC Co-hosted 78 state educators at Washington munity College System aligning world class workforce training Community College Summit 2006 to keep up with increasing global competition. Working together. and education to biotechnology and life science industries. bioscience "industry-recognized" credentials were created. Program featured in the industry is second IT Showcase School Program reatured in the industry in the nation 2006 October 2013 Report from the Community College

Anaheim Honorable Mention award to

NCBW report on first three

October 2009 Amy Greeson R. Ph.,

Producer, Healing Seekers "Medicine and

February 2010 Dr. Kevin Conley, Forsyth

Visit to Forsyth Tech cember 2010 Visiting Forsyth Tech, Presiden April 2010 MetLife recognizes NCBW

MiraCosta International Society of Pharmaceutical Engineers supports design, 2005 with more than \$1 million in state-of-the-art equipment to donate unused equipment for

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

of two new

80L fermen-

Standards at NBC2 working

and educators in Indianapoli

Ten short courses developed

Resource for Community and Technical

2006

Located at

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

Pilot facility
Program at BIO 2006 in Chicago community college - industry projects needed by industry the US Dept of Education

t the IT Convergence Zone: A Rapid Informatics Overview: A Program Building

2005 eat Bay CC First in the nation Biomanufacturing Jan. 31. 2005 Northeast

and support new faculty and remodel of facility

Manufacturing Industry

June 28, 2004 President's High-Growth

Job Training Initiative grant for Forsyth Technical CC in partnership with fo the Biotechnology Workforce (NCBW) March 1, 2007 Piedmont Triad BioNight recognizes

May 6-9, 2007 NCBW presents "Faces of Success" at Community College Institute in partnership with Alamance Community College and Bio-Link

February 5- 6, 2008 NCBW hosts nationwide DOL

to Healthcare" February 2011 Dr. Frank Carver, Forsyth Tech "Environmental Health Science

Center" Biofuels Across the Landscape"

Curriculum Development in Liberia" March 2011 Dr. J. Donald deBethizy, CEO, Targacept "The Targacept Story: From the

_abor grant of nearly \$15 million to unite twelve high-performa colleges into a Community College Consortium for Bioscience pioscience. High-growth industries required clearly defined skills.

Program at global BIO convention in Chicago. Forsyth Technical November 2013 TAA c3bc presentation to BIO Ohi on increasing need for workers in new, overlapping

spheres of emerging technologies. December 2013 Biosciences Talent Required - a lecture orsyth Tech partnership as finalist in to the Triad Biotech Alliance on community college, workforce board and company partnerships working to meet industry employment needs

June 2014 Biosciences Industry Fellowship funded by NSF-ATE, selected

teachers gathered for a program with visits to NC Biosciences enterprises, producing modules for use in classrooms. YouTube Link NBC2, Medical Devices Educational Consortium, industry, college reps

DOL Workforce Innovations Conference,

March 2012 National Meeting with Manufacturing Institute, Bio-Link, 2009 2010 2011 2012

ning (TAACCCT) program c3bc launched at Biotech Place in Winston-San. Goals - funded by the DOL grant - are to: improve workplace training through tment testing, aptitude assessment, course redesigns, better outreach and retention: introduce portable, industry-recognized credentials into training: ommunity college capacity for education that meets employer needs; add in cture and build internships. Twelve partners are concentrated into four hubs

Accelerate completion time through improved prior learning assessment, removal of institutional barriers es with revised laboratory skills standards and new, technology enhanced instructional materials

Rowan Cabarrus

Alamance

Hub lead institution pilots a modular learning lab, with Biomanufacturing Hub

local career paths

Develop new biomanufacturing courses, credentials and teaching materials in partnership with industry. help trade-impacted workers get high-wage, high-skill jol **Montgomery County** Hub lead institution, also home ter NBC2, leading campaign to

Hub lead institution coordinates Medical Device companies, trade orstack credentials and access more stakeholders to develop skill set

Fellowship Ten participants from six states

funded by an NSF-ATF award visited NC

October 2015 Dr. Norma V. Quiñones. Global

Quality Training and Development at Biogen

"My Journey from Higher Education to the

his Bioscience Workforce presentation

c3bc National Meeting: Consensus by hubs reached in Skills Standards session to identify, select and

Council web site.

date - "Finding alignment" in skills and manufacturing in other indus-

> Other topics 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 June 2015 Community College Program at

Sept 2014 Tech Council Meeting a ganizations, community colleges and St. Petersburg rPoint presentation by Russ Read & Michael Ayers addresses talents required for biotech jobs, including a video about alumni: YouTube Link

June 2014 Community College Program at BIO PowerPoint presentation by Russ Read: Bench to Bedside shows many

March 2015 presentation to NC Academy of Science at Wake Forest Biotech Place

October 21-23, 2015 Biosciences Industry Fellows Program presented at NSF ATE Principal

YouTube Link

March 26-28, 2014 DOL TAACCCT Dec 2014 presentation to the NCBC Piedmont Nov 2015 new SciTech Ideas in Action pub-Triad Biotechnology Advisory Committee, including a Learning Skills Lab video: YouTube Link

■ February 2015 c3bc national meeting in

draft key activities of core critical work Feb 2015 new IMPACT magazine focuses functions common to all bioscience induson c3bc program **Deliverables**: upgrades in tries into a single document. Bio-Link has equipment, training capacity, and standards a page on skills standard work done to across the nation.

Winston-Salem NC to grow bioscience tries at the Manufacturing Skills Standards training for Trade Adjustment Assistanc April 2015 c3bc Medical Device Hu national meeting to develop core skills for nationally- recognized, standard educa-

in Winston-Salem, NC on "Innovation in Investigator's Meeting in Washington, DC.

BIO in Philadelphia including "Faces of Success. "CCP@BIO 15 (PDF report) October 12-15 2015 c3bc (TAACCCT) Annual Meeting, dedicated to common standards

lication documents the first seven years of the Forsyth Tech professional lecture series with links to YouTube videos and other resources

January 2016 Russ Read, NCBW Executive Director. gave this presentation at the 103 Indian Science Congress at the University of Mysore, India March 2016 c3bc National Advisory Council

> Meeting in Research Triangle Park in North Carolina - Building the Manufacturing Talent Pipeline" June 2016 Biosciences Industry Fellowship NSF ATE teachers program with visits to NC Biosciences

June 2016 c3bc National Meeting June 4-5, prior June 6 presentation at the BIO International Convention in San Francisco. New partnership with NIIMBL - the Nationa Institute for Innovation in Manufacturing

June 2016 Core Skills Standards for Bioscience **Technicians** published by **c3bc**. Cick box for full report. and increased training, held at Forsyth Tech.

Biopharmaceuticals, www.NIIMBL.us

June 2016 c3bc Medical Device

Skills Standards published.

Click box for full report.

August 2016 Impact Magazine charts the journey and accomplishments of the c3bc TAACCCT grant, which grew from 12 colleges to 172 industry, academic and workforce partners across the U.S.

tools to sharpen skills with classes for Forsyth Tech

students, biotech employees, plus rentable space. June 2017 Bioscience Industrial Fellowship Project (BIFP) cohort presentations. You Tube Link

ellowship Project cohorts.

January 2018 NCRW named one of ten finalists or prestigious Bellwether Award at Community College Futures Assembly

May 2018 Natural Discoveries, a drug discovery novel compound discovery company, joins the National Center for Biotechnology Workforce (NCBW) lab as its first laboratory tenant.

May 2018 \$579,961 Skills for Biomedical Emerging Technology Applications

(BETA) NSF grant awarded to NCBW to define workforce skills technicians

rill need for manufacturing jobs in high-growth intersections of biomedical

devices and tissue engineering "Employers need technician-specialists

together, we will define these skills." Learn more.

who understand more," says Russ Read, principal investigator. "Working

Bearings Solutions and WFU Engineering

Adjunct Professor "Evolution of Mechanica

CyberBiosecurity" YouTube Link

January 2021 Dr. Matthew Carter, Vice

Future of Work" YouTube Link

Lab Technician" YouTube Link

resident, Cook Medical on "Skills and the

April 2021 Tandeka Boko, NC STEM Advisor,

Navigator, with STEM Fellows Patricia Springs

New BETA Skills partnerships with Advanced
June 2018 The 5th annual Bioscience Industrial Fellowship Project (BIFP) service in the North Carolina Community College Regenerative Manufacturing Institute (ARMI) and cohort gathers eleven exemplary instructors from across the U.S. for hands-on experiences that connect teaching to skills. RegenMed Development Organization (RemDO)

2018

YouTube Link

₹ Forsyth Tech

November 28-29, 2018 The BETA Skills National Advisory Council,

Led by NCBW, the BETA Skills project will work through four nodes to

identify BETA skills and to build regional and national ecosystems.

Russ Read

Principal Investigator

NCBW at Forsyth Tech

Sengyong Lee, PhD

VY TECH Ivy Tech Community College Bloomington IN

Tech, Bob Adams, Lab Manager, Nanotech Labs

Specialist, Forsyth Tech CTL "Science Caree

Military Vets on Career Building Experiences'

September 2021 Bernard Siegel, Executive

College on "Career Opportunities and the

January 2022 Dr. Tracy Criswell Ph.D., Associate

Veteran Farmers: Changing Lives and the Future

of Farming" YouTube Link

Interdisciplinary Science of Kinesiology"

Director of the Regenerative Medicine Foundation

Co-Principal Investigator

representating industry, education, and workforce, meets in Winston-Salem.

January 2019 Dr. Janet Spriggs, with 22 years of System, becomes president of Forsyth Tech, focusing provided cohorts with hands-on, on student success in college and in the labor market. on-site job experiences.

Kathy Bakhit, EdD

Deb Newberry MSc

Burnsville, MN

Newberry Technology Associates

December 2018 Forsyth Tech President Gary Green retires, Across 17 years he added new curricula, led

campaigns. Dr. Green led the school to evolve into a national model for biotechnology, cybersecurity, and

motorsports technology education. With his goal to align programs with changing economies, the college is

more than \$100 million in facilities expansions and raised more than \$33 million in significant capital

Co-Principal Investigator

Co-Principal Investigator

March 2020 SoCalBio College of the Canyons

and the Alfred E. Mann Institute for Biomedical (AMSDL) receives an NSF grant to Engineering host a virtual conference for twentyfour local companies research organizations spectroscopy (HRMS) instrument for and educators. They identify critical BETA skill hands-on development of advanced sets for biomedical and bioelectric employers. lab skills in collaboration with industry.

SciTech Lecture Series and supporting partners meets virtually on

September 2020 Carolina Knowledge Center YouTube series HERE launches the "Biotech Careers Virtual Event March 2023 As a military veteran, and graduate a series of interactive, expert-led professional of Forsyth Tech's Broadcasting Production May 2024 Laura Brown, Forsyth Tec development sessions for teachers to help them Coordinator of Work-Based Learning teach concepts and skills involved with topics like discusses how working at the CTLE influenced xplores advantages for students and

employers who participate in apprenticeshi June 2023 Forsyth Tech Grad Jordan Link talks and internships. YouTube Link about her role as manufacturing super- visor for December 2024 Forsyth Tech Caree ProKidney, her academic and career path, and how lab skills impact patients' lives. Counselors Keith Deveraux and Branc Summey share current job hunting and

YouTube Link

October 2023 Dr. Sam Yenne, Chief Commercial Office` of Metalytics on how cellula and manufacturing timelines. YouTube Link

YouTube Link

Institute on making the global food system Fernandez-Figuereo and WFIRM's Dr. Gary Green better for the planet, people, and animals. "From Forsyth Tech Biotech Grad to WFU PhD YouTube Link November 2023 Nicole Kauffman Cynthia

changing "Career Transition – Furniture Industry to BioPharma" YouTube Link

Copenhagen, Denmark. YouTube Link

Professor, Wake Forest Institute for Regenerative

herapy Branch (CTTB) at the FDA talks with Russ Read about developing evaluation protocols and policy in emerging areas of cellular therapies and regenerative medicine. YouTube Link

with forty-plus related performance skill indicators, and fourteen critical soft skills. July 2020 Forsyth Tech President Janet N. Spriggs hosts U.S. Secretary of Labor Eugene Scalia and U.S. Representative Virginia Foxy who visit the National Center for Biotechnology Workforce, the SBDC and the Analytical &

Molecular Skills Development Lab

rapidly changing and convergent

grant from the NSF to focus on Cyberbiosecurity. The opportunities for instructors, create curriculum based on cybersecurity requirements for medical device good manufacturing practices (GMP), and update current skill

June 2020 IMPACT Magazine t BETA skill sets, regional ecosyste and new courses that technicians will need to fulfill evolving roles in the

professional development cohort of 11 college and advanced biomedical device industry. high school program instructors from the U.S., Jamaica, and June 2020 The first version of BET Skill sets is published in Impact Magazine-- nine key technical areas

Forsyth Tech is awarded \$535,297 as part of a \$7.5 million National Science Foundation grant led by Austin Community College for InnovATEBIO, a new national biotechnology education center and network that will address the rapidly growing need for highly skilled technicians in biotechnolog

first state-funded effort to grow a state's life science strengths in the U.S.-celebrated it's 35th Anniversary on November 5th, 2019 August 2020 NCBW receives a supplemental BETA Skills project will develop and provide professional development

2021

September 17th for updates and insights of

June 2020 Forsyth Tech

National Center for the

Community College, home of the

Biotechnology Workforce, marks

April 2021 NCBW develops new BETA NanoBio course for colleges and STEM instructors. June 2022 NCBW holds BETA NanoBig April 2021 NCBW develops new BETA

May 2021 NSF Bioeconomy Distinguished

Lecture Series "Scoping and Educating the

Fletcher, Russ Read, and Dr. Thomas Tubon.

une 2021 Pete Pellerito (BIO), Russ Read

NCBW), Lori Lindburg (California Life

International Convention.

BETA Skills (June 9, 15, 16).

Dynamic Biotech Workforce" features

Professional Development program at the Joint School of Nanoscience and Russ Read (NCBW) and Dr. Thomas Tubon. Nanoengineering (JSNN) in Greensborg

June 2022 NCBW hosts 25 community

college and K12 bioscience instructors fror hroughout the U.S. for the final phase of the

HI July 2022 NCBW BETA Skills Sciences) and Ryan Helwig (TEConomy) showcased at NSF ATE HI-TEC discuss CSBI's just-released 2021 Life Sciences July 25-28, 2022 September Conference poster session. Workforce Trends Report at the 2021 Virtual BIO

July 2022 Russ Read travels #RioMADE une 2021 NCBW conducts two virtual BETA with education, industry, and governmen skills Professional Development bootcamps for LS college instructors and STEM teachers: BETA CyberBio Security (June 28-30) and

lovember 2022 NCBW awarded \$115,989 from June 2021 InnovATEBIO launches vear-long meet demands for workforce-ready biotech professionals.

2022

speakers.

May 2023 NCBW) received a \$79 738 supplement to its NSF ATE BETA Skills Grant to provide professional development for community college deans and senior administrators who wish to better understand the converging biosciences

June 2023 Over 300 attendees from education industry workforce development & government gathered at the National Academy of Sciences Ju 26-27 for "Envisioning the Next Bioscience Norkforce: A Summit on Industry Trends and Needs'

June 2023 NCRW in collaboration with the Kansas-based Bioscience Core Skills Institute, launched a week-long in-perso

July 2023 Five community college faculty members from across the

2024 2025

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

Forsyth Tech | Wake Forest Institute of Regenerative - delivered on campus in the internships and "hands on experience"

company lab facility opens new technology building at Forsyth Tech, new developed for R&D labs experimenting in biotechnology lab space, state-of-the-art equipment nucleic acids, cloning, stem cell research

NCBW | National Center for the Biotechnology Workforce

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

`February, 2006 NCBW presents at NCBW - Russ Read: excellence in community service

BioNetwork NC community college biotech training system. Focus for first Resource Line -Tracking Trends in Biotechnology Workforce newsletter. October 17-19, 2007 Piedmont Triad Fly-In hosts 24 high school biotech teachers

Institute in partnership with Alamance pioscience WIRFD - Workforce Innovation in Regional Economic Development -conference in Winston Salem.

from around the country, tours of Bioger

cessing & Biomanufacturing

Indigenous Healing Traditions" November 2009 Dr. Ski Chilton, Founder Gene Smart "Genetics, Diet and Chronic

National Community College Excel-

lence competition, with \$20,000 award

Tech Nanotechnology Program "The World or November 2011 Dr. Carol Strobecker Center for Design Innovation "The Importance of Design in the Winston March 2010 Chris Sowers. Forsyth Tech Biotech Instructor, "Why Conjurer's Nut?"

April 2010 Judith and Dr. Tom Ginn. January 2012 Dr. Tim Bertram, Tengio Forsyth Tech, "Health Issues in Rural Kenya" Regenerative Medicine – Growing Today, Tomorrow and the Future'

September 2010 Dr. Frank Torti, Wake orest Baptist Medical Center Advancing Cancer Treatment through

October 2010 Dr. Mark Wainberg, McGi Iniversity "Twenty-Five Years of HIV Research Benefits on Laboratory Technology and Human Health" November 2010 Steven Burke, NC Biofuels

January 2011 Dr. Anthony Atala, Wak Forest Institute for Regenerative Medicine "Regenerative Medicine: New Approaches

November 2012 Adesanmi Oio MD

September 2011 Nancy Johnston. Piedmont Triad Office, NC Biotech Center Catalyzing Regional Strengths to Support

December 2013 A special edition of Forsyth

Tech's biotech IMPACT magazine features

an illustrated look at the nationwide

programs of the TAACCT c3bc.

Vinston-Salem State University of Biotechnology: A Wellcome' Experience

Salem Community"

February 2012 Dr. Steven B. Mizel, Wake

Kaylos, NCBIO "Vaccines: Why and How? March 2012 Jerry Barker, CEO, Ocular Systems Inc. "An Eye Toward Innovation"

September 2012 Doug Drabble, Director of BioNetwork, "Career Success in Life Sciences" YouTube Link

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

From Forsyth Tech to Medical School and

Curriculum" YouTube Link

March 2013 Dr. Christy Shaffer, Hatteras Discovery "My Journey as an Entrepreneurial Scientist, CEO and Investor" YouTube Link

2013

Journal report)

Identifying, Managing, and Communicating collaborations in medical devices, protein drugs and mobile apps.

October 2013 Dr. Roger Cubicciotti, CEO of Nanomedica "Chemistry of Teams' YouTube Link National c3bc Meeting. YouTube Link

February 2014 Dr. Stephen A. Hill, CEO of YouTube Link

of SciWorks Science museum "Education for Innovation" YouTube Link June 2014 Celeste Carter, National Science

Technology into Community College

October 2009: National Center for the Biotechnology Workforce Launches SciTech Ideas Lecture Series

March 2014 Forsyth Tech leads \$15M effort to

build new biotech learning model. (Triad Business

Bioscience colleges, labs and companies YouTube Link September 2013 Dr. Eric Tomlinson, Chie nnovation Officer at Wake Forest Baptis Medical Center and President of WFU's Innovation Quarter, shared innovations and

> February 2015 Anthony Atala M.D., Directo Wake Forest Institute for Regenerative Medicine in conjunction with the 2015

January 2014 Gwyn F. Riddick, Agricultural March 2015 Jennifer Bryant, Forsyth Tech Biotechnology Consultant for the NC Criminal Justice Program "CSI In The Real Biotechnology Center "A Race Against Time World." YouTube Link." YouTube Link Largest Critical Industry." YouTube Link

Targacept, spoke on "Biotech: Risk and Reward." YouTube Link March 2014 Paul Kortenaar, PhD Exec. Dir.

Foundation Program Director, "NSF - ATE Grants and Funding Opportunities" for

September 2014 Ray Cadmore, Australia January 2016 NCBW Executive Director Fulbright Scholar, "Integrating of Emerging His visit included an address by the Prime

February 2016 Roland Johnson, Founder and EO of Piedmont Pharmaceuticals & Animal November 2014 Biosciences Industry Health "An Innovator in Animal and Human

Hub lead institution, also home of

the NSF national Bio-Link center.

credentials, works to harmonize skill

Medical Devices Hub

Salt Lake Cit

New skill standards; stackable, latticed credentials wil

March 2016 Dr. Travis Russell Professor, Forsyth Tech "A Visit To Chernobyl - Past, Present & Future" YouTube Link January 2015 Dr. Ana S. Iltis. Director. WFU Center for Bioethics. Health, and Society September 2016 Patti Shugart, COO, Carolina Liquid

Health" YouTube Link

YouTube Link

jobs involved in biopharmaceutical development. Plus PDF

report available here: CCP@BIO 14

Carolina Liquid Chemistries" YouTube Link February 2018 Dr. Michael Batalia, Co-Founder, WideEy3D "Adventures October 2016 Dr. Ski Chilton, Professor, Wake Forest School of Medicine "Inflammation Nation & the "Stratosphere" YouTube Link Rewired Brain. YouTube Link

November 2016 Barry Slowey, President and Vihur Surti, Cook Medical Endoscopy Division "Medical Device Development" YouTube Link December 2016 Alan Beard, Chair, Forsyth Tech

Biotech Department "Retirement and Antibodies January 2017 Kim Westmoreland KeraNetics Confessions of a Serial Entrepreneur"

February 2017 Dr. Gregory Kucera, Professor, Biopharmaceutical Industry" YouTube Link Hematology and Oncology, Wake Forest School November 2015 Doug Edgeton, President & of Medicine "KPC-34 - a Co-Drug Combining a NA Damaging Agent with a Targeted Therapy CEO. NC Biotechnology Center presented Healing, Fueling, and Feeding the World: The

SciTech Celebrates 7 years and 50+ Programs March 2017 Dr. Amy Greeson -- the Russ Read, shared experiences as a speake ery first SciTech presenter-- returns with "A Passage To Biotech in India" at the 103rd oloring the World for Novel Medicinal Indian Science Congress at Mysore Universit Click on our online Flipbook to lear Minister of India and a welcome reception for more about each of the first 50 lectures

October 2017 Jason Gagliano & Malaysia Christian "How the Analytical and Molecular Training Lab at Innovation

Quarter is Used" You Tube Link

February 2018 Laura Deming, Director President, Forsyth Tech "Creating The Longevity Fund, "Using Biological Innovation Workforce YouTube Link esearch to Reduce or Reverse the Effects of Aging and Increase Longevity" January 2019 Bob Haack MBA on ""Ho mate Change Affects the Planet's Fini

February 2019 Jennifer Byrne Javar March 2018 Norman Fraley, co-lead Research on "A View of the Clinical Trial faculty in Science of Sustainability at Enterprise in the Twenty First Century" Wake Forest University "The Physical and YouTube Link Chemical Properties of Smoke"

Bioscience on: "Consumer Medicine -April 2018 Dr. Rohan A. Shirwaike Democratizing Health Care Decisions." hov genomic medicine personalizes treatmen and increases prevention. YouTube Link Engineering, NCSU "3D Bioprinting = Materials + Manufacturing + Medicine April 2019 Dr. Hariom Yadav, Molecular YouTube Link

treat and/or cure health ailments. Outcomes" YouTube Link You Tube Link October 2018 Jeff M. Sands, MD September 2019 Dr. Tracy Criswell Assistant Professor, Wake Forest School of Emory University "Physiological In Medicine on "Age and Sex: Implications for into Novel Therapies for Nephrogenia

September 2018 Ken Lane, experienced

computer software expert "How To

Achieve The Right Balance Between

Diabetes Insipidus" YouTube Link

SciTech Lecture Serie November 2018 Andrew Hebard President, Technology Crops International "Omega's From Soil to Oil" focused on Ahiflower® Oil. YouTube Link

Water Resources and the Need for New

Technologies to Im-prove the Aging Water

March 2019 Dr. Simon Selwood of SoBran

Medicine, Wake Forest School of Medicine

Infrastructure" YouTube Link

December 2018 Dr. Garv Green October 2019 Doug Price, MA, president and Alexis Gabard, MS, MBA, director, Clinical Inf on "The Ingredients for Innovation in Clinical Research" YouTube Link

2016

Improving Soft Skills to Thrive in the Bioscience Workplace" YouTube Link December 2019 Dr. Bryant M Moore Director of Strategic Partnerships, UNC Office of Technology Commercialization "The Necessary Interdependency Between Basi

November 2019 Dr. Brenda Summers

Director of Workforce Programs, NCBIO

Research and Novel Healthcare Products".

February 2020 Jennifer Anderson, VP

Client Services Delivery, Intellect Resources

April 2020 Dr. Amy Greeson, Founder and

Natural Healing" YouTube Link

CEO. Natural Discoveries Inc. Pharmacy and

YouTube Link

January 2020 Dr. Daniel J. C. Herr. Professor Nanoengineering "Convergence in the Era of Intelligent and Cognitive Assistants" YouTube Link

"CyberBio in Healthcare" YouTube Link March 2020 Donald McCoy, STEM educatio onsultant, March 2020 Donald McCoy, STEM education consultant, Donald McCoy and Associates Stepping into the Biotech Future with Augmented and Virtual Reality YouTube Link

September 2020 Dr. Laura Kayanaugh, Senior Computational Biologist at Syngenta on Science Career -- From Johson Space Cente to Syngenta" YouTube Link

September 2020 Dr. R.B. D'Agostino Jr. & I August 2021 Dr. Mark Shaefer, Executive Director and Clinical Lead. Antivirals at HengRui USA on Options YouTube Link "My PharmD Career in the Biotech Industry" YouTube Link September 2020 Dr. Paul Allaire, CTO, Roto

Hearts" YouTube Link ficer at the Wake Forest Institute for Regenerative Medicine on "Regenerative Medicine irector of Cybersecurity, NC Central University and Workforce Development" YouTube Link Adjunct Faculty, Forsyth Tech

or, Digital World Biology on "Cyberbio Supply November 2020 Dr. Ronald Keeney, Presider Chain" YouTube Link Pharmaceutical Medicine Associates, Inc. "Mentors and Mentoring" YouTube Link November 2021 Dr. Jacob W. Surratt. Provost and Chief Academic Officer, Forsyth Tech Community

March 2021 Deb Newberry, CEO, Newberr December 2021 Aden Dauchess and Dhani Technology Associates "Nanobiotechnology o Biscocho, Carolina Biological Supply Company or Bionanotechnology: What's in a Name? earning Bacterial Transformation with the YouTube Link Carolina Biotechnology Simulator" YouTube Link

nd Maria Saucedo Lopez "NC STEM Alliance Medicine "Tissue Engineering and Regenerative Medicine: What is It, How Does it Work, and What's April 2021 Kristin Stumpf Lab Technician Wake Forest Institute for Regenerative Medicin ehruary 2022 Robert Elliot Founder of The Science Career: From Forsyth Tech to WFIRN Veteran's Farm of NC on "Nanobiotechnology and

achieving high student success and completion rates. Individuals gain educational opportunities to enhance their lives. Employers and indus-tries in the region gain a skilled work force they can count on thanks to excellent training programs Dr. Green helped to create. May 2021 Justin Campbell, WFIRM Cell Culture March 2023 Jennifer Coulombe, Forsyth Tech March 2022 Selena McHone. Senior Clinical

> Meets Artificial Intelligence" YouTube Link April 2022 Dr. Frin Falco, Principal Investigato Virtue Labs and Bill Jacobsen, Head of Operations Technologies Program, Sean Killebrew Virtue Labs on "Virtue Labs: How Teamwork Grows Career and Company Success YouTube Link his career. YouTube Link

September 2022 Dr. Gretel Mara Hunzicker Fulbright Scholar and Professor at the Institute of asic and Applied Sciences. Universidad Naciona le Villa Maria (UNVM) Argentina veloping a Globally-Educated Workford Through Cultural Exchange" YouTube Link

Specialist at VIZ.ai and Melissa Smith, FT MR

Careers on the Cutting Edge: Medical Imaging

rogram & 2022 NC Faculty Member of the Year

October 2022 Dr. Jason Gagliano, Kara Libby, and October 2021 Dr. Todd Smith, CTO, Direct Michaela Romero "Quantitative Time of Flight (QTOF)" YouTube Link

> December 2022 Kathy Proctor 2010 Forsyth Tech biotechnology program graduate on her life-

January 2023 Dr. J. Donald deBethizy discusse is experiences with Biotechnology in North Carolina and his current role as a Board Director at Argenx in

delivering therapies and single-use solutions to the medical field. YouTube Link February 2023 Dr. Steven R. Bauer of REMDO and March 2024 Devin Purgason, Forsyth WFIRM and former Chief of the Cellular and Tissue Tech Director of Marketing & Student Care

activities, and to review new BETA skill sets. improvement benefits bot h students and Browse the entire

Marks 100th Program!

nterviewing best practices and services

available to help students. YouTube Link

technology in the regenerative medicine field

February 2025 Bill Woodruff (Professo

Emeritus, Biotechnology, Alamance

Regenerative Medicine YouTube Link

March 2025 Dr. Pinar Mesci and Jana

Stoudemire discuss Axiom's work on in-

space biology/biotechnology. YouTube Link

genomic research, and RNA sequencing. October 2020 Russ Read NCBW Executive Director and Dr. Jason Gagliano. Coordinator for NCBW's Analytical & Molecular Skills Development Lab present virtually at the virtual

"Skills for Biomedical Emerging Technology Applications (BETA)" andi January 2025 Josh Tan, Atrium Health Wal Forest Baptist and Dr. Joshua Hunsberge "Using High-Resolution Mass Spectrometry to Develop Advanced Laboratory Skills showcase cutting-edge VR and AR

in Collaboration with Industry.

Clinical Trials course for colleges and STEM

November 2020 NCBW develops BETA February 2025 Dr. Ronald Hann Jr., Directo GMP course in cooperation with the NCSU of Technology Integration at WFIRM Capstone Center of Bio Network. discussed his work building collaborations a December 2020 NCBW develops new BETA community college grads YouTube Link

December 2020 Advisory Board members of Community College) led a discussion of the National Center for Biotechnology what's being done, what's possible, and the Workforce (NCBW), the Analytical Molecula Skills Development Lab (AMSDL) and the Forsyth Tech Biotechnology Program hold a ioint board meeting via ZOOM.

programs.

National Center for the Lecture Series, which in its first welve years has inspired and educated 3800 students and community members with 75+

local national and international

ugust 2021 With a \$441K grant from the National

nerative Medicine (WFIRM) REMDO Forsyth

ience Foundation. Wake Forest Institute for

ch/NCBW, and Simon G. Atkins High School

nch RegeneratOR workforce training network

October 2021 NCBW leads Industry Listening

Session on bioscience skills and needs, workforce

diversity strategies, and internships/other partnering

October 2021 Triad Today Show features NCBW's

January 2022 Forsyth Tech/NCBW collaborates with

colleges in California Washington Pennsylvania and

Massachusetts in National Institute for Innovation in

lanufacturing Biopharmaceuticals (NIIMBL) funded

national partnerships with U.S. employers and

colleges to develop innovative technical training

programs and the growth of the Triad region's

project to develop the first Skill Standards and

Curriculum for Cell-based and Gene Therapies.

February 2022 Forsyth Tech/NCBW, UNC Greens

team- up with BioMade to inspire students by making

tting-edge nanobiotechnologies available in

BCSI April 2022 The National Center for the

Biotechnology Workforce (NCBW) at

Forsyth Tech receives a \$ 112,834 grant

from NSF-ATE to develop and introduce

BETA Skills micro-credentials in partnership with the

Bioscience Core Skills Institute of Kansas (BCSI).

June 2022 Fleven college and K-12 instructors from

Skills Professional Development Program at Forsyth

nine states complete NCBW's first in-person BETA

piotechnology sector.

assrooms and labs.

Tech on June 19-24, 2022.

biotechnology workforce in Forsyth Tech's Our Stories website feature January 2024 NSF Director

Sethuraman Panchanathan professional development program Read more here

May - June 2024 NCBW launches BETA BAP, a experience for eleven U.S. college administrators.

workforce development in laboratory skills cybersecurity, and Biomedical Emerging Technology Applications (BETA) skills.

Download the full report here .

rofessional development program to introduce and pilot new

U.S. completed NCBW's immersive eight-week professional levelopment fellowship. Meet the fellows and host companies here

Biotechnology Workforce

ioined First Lady Dr. Jill Bider at Forsyth Tech on January 26th to launch the to provide an innovation ecosystem to stimulate workforce development, jobs, and economic growth

June - July 2024 BETA Skills Summer Industry Fellows and their host companies wrapped up their 8-week fellowship with presentations on Frida July 26 at the Wake Forest Innovation Quarter in

> website featured six U.S. instructors and host companies who completed NCBW's eight-week BETA Summer Industry Fellowships.

NCBW Laboratory Coordinator Analytical & Molecular Skills Medicine in K-12 Classrooms

July 2023 NCBW BETA Skills programwas showcased at the 2023 NSF ATE HI TEC event.

NCBW Enters its 3rd Decade! June 2024 NCBW Executive Director Russ Read

talks about his 20+ year NCBW career, his pharma background, and his vision for shaping the future

community college and K-12 bioscienc instructors from across the United States began the second InnovATEBI Bioscience Leadership Institute (BLI

AMSDL), and the Forsyth Tech

board meeting. Read more here

April 2025 A new \$3 million

Executive Directo

Ph: 336.734.7651

Community College Accelerator

nitiative announced by NSF and New

delopment via support to community

colleges like Forsyth Tech `are engage

ith NSF Regional Innovation Engines

Key Contacts for More Informatio

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America s strengthening workforce

Biotechnology Program hold a joint

March 2025 Advisory Board members of the National Center for Biotechnology Workforce (NCBW) the Analytical Molecular Skills Development La

October 2024 The North Carolina Biotech Center

October 2024 NCBW and Forsyth Tech teams joined 850 NSF ATE grantees and project partners Conference in Washington DC, leading sessions on developing industry partnerships to advance

December 2024 Co-led by Joan Schank WFIRM Chief Education Program and Russ Read, NCBW Executive Director, PTRME's Workforce Development team launched its -12 initiative via a short webinar Regenerative

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