

STATE BOARD OF COMMUNITY COLLEGES
BioNetwork Allocation Request for Host Colleges

Request: The State Board is asked to approve **\$4,200,000** to be allocated to the BioNetwork host colleges from July 1, 2015 through June 30, 2016. This amount represents the current operational funds for salaries, equipment, and other costs for the fiscal year (FY) 2015-2016.

Background: The NC Community College System (NCCCS) has been vital in supporting the NC economy through training and education programs that have consistently produced a steady stream of qualified workers and high quality training for new processes and technologies. As the manufacturing base of the state shifted from traditional to high-technology, skill-intensive biomanufacturing in the 1980s and 1990s, the NCCCS was at the forefront in supporting the rising preeminence of the bioscience industry with the establishment of BioNetwork in 2004. Originally funded through a Golden LEAF Foundation grant, BioNetwork was funded on a recurring basis by the NC Legislature in fiscal year 2005-2006.

The bioscience sector has flourished in NC through the help of BioNetwork. In 2015, Battelle, the world's largest independent, non-profit research and development organization, released a report for the North Carolina Biotechnology Center revealing that North Carolina experienced a 30.9% increase since 2000 in bioscience jobs, which is significantly higher than the 1% growth in the North Carolina private sector, equating to \$73 billion in annual economic activity. The report also reveals that nearly 50% of all "net" new jobs in North Carolina are bioscience jobs. (A "net" new job is a newly created position versus a replacement position.) BioNetwork has supported this growth through the provision of industry relevant, hands-on training at the industry-site and in strategically located BioNetwork laboratories, including a Natural Products Lab facility and Food Manufacturing Lab facility hosted by Asheville-Buncombe Technical Community College (A-B Tech), an Analytical Laboratory facility hosted by Forsyth Technical Community College, and a Biomanufacturing Lab facility, which includes an aseptic training center, a validation academy, and a microbiology laboratory hosted by Wake Technical Community College. BioNetwork also extends training and education for the bioscience workforce by hosting training and education workshops for students and teachers in K12 and community colleges. These engagement sessions include classroom visits, week-long and month-long faculty training workshops, and career and education fairs that help connect educational activities to the core skills needed in the bioscience industry. The engagement services, which also include a mobile training laboratory, are hosted by Pitt Community College. In addition to the direct, face-to-face industry training and the student and faculty industry engagement activities, BioNetwork also has a media development team, hosted by Gaston College, that supports both industry training and education-industry engagement through the development of virtual, interactive learning modules, 3-D simulations of actual industry training scenarios, and videos that support BioNetwork training services and NCCCS college programs. BioNetwork serves as the bioscience training component of NCWorks Customized Training and its services extend to all 58 community colleges.

BioNetwork serves as a key economic development resource by helping to produce and sustain a high-quality workforce for the bioscience industry. In the last year, BioNetwork partnered with economic development teams to lure an additional 1,300 bioscience jobs to the state. In addition, BioNetwork recently celebrated the opening of the first biofuels testing lab in the southeastern United States at the BioNetwork Natural Products Laboratory hosted by A-B Tech. With the current and expected growth in the bioscience industry sector, BioNetwork is poised to offer education, training, and laboratory resources to this critical North Carolina industry sector to help employers find qualified workers and to help individuals gain critical employment skills. In the 2014-15 fiscal year, BioNetwork conducted training for 2,361 individuals totaling 229,729 membership hours (contact hours multiplied by attendees) at 77 unique companies, which is a 49% increase in the number of individuals trained and a 45% increase in membership hours over the prior fiscal year. BioNetwork also hosted 213 career-focused workshops, educational activities, and public engagement events serving 48,402 K-12 and community college students and faculty as well as the general public. The recommended allocations will be used to fund personnel,

equipment, and operating expenses at the host colleges to ensure the responsive, qualified, and relevant service to North Carolina's growing bioscience workforce needs.

Method of Allocation: The recommended allocations are based on input from the BioNetwork host colleges, evaluation of the prior year's metrics, and industry growth projections derived from engagement with workforce development stakeholders. The proposed funding will enable the host colleges to meet their education and training needs for the 2015-2016 fiscal year. The Executive Director of BioNetwork and Life Science Initiatives reserves the right to recall unused funding for reallocation to other BioNetwork host colleges as needed.

Recommended Host College Budget Allocations:

Asheville-Buncombe Technical Community College	\$1,092,582
Focus Area:	Industry Training - Food, Beverage, and Natural Products; Engagement
Location:	A-B Tech's Enka Site

The BioNetwork staff in the Food, Beverage, and Natural Products industry sector provides relevant onsite and industry-site training and education through NCWorks Customized Training in addition to continuing education short courses. The Natural Products Laboratory has become a national center for natural products innovation where researchers and entrepreneurs can find start-up information, educational programs, support coordination, mentoring, and referrals to launch their enterprise. BioNetwork also operates a Food Laboratory for quality testing of food products and the Southeast's first Biofuels Laboratory offering analytical quality testing on finished biodiesel. A-B Tech's BioNetwork staff also assists the North Carolina Community College System (NCCCS) Small Business Center Network (SBCN) and offers a variety of seminars and workshops on biotechnology and life science topics for industry, educators, and NCCCS students.

Forsyth Technical Community College	\$479,540
Focus Area:	National Center for Biotechnology Workforce; Analytical Laboratory
Location:	Wake Forest University's Innovation Quarter

The National Center for the Biotechnology Workforce (NCBW) represents, enables, and provides leadership at the national level for the biotechnology workforce with compatible organizations, educational, and training institutions. The NCBW currently manages two federally funded programs that highlight career pathways and connect technical skills with educational activities. The US Department of Labor Trade Adjustment Assistance Community College and Career Training (TAACT) grant created the Community College Consortium for Bioscience Credentials, which identified core technical skills in biomanufacturing and created relevant learning modules that can be used by community college faculty in related life science programs. The National Science Foundation Advanced Technology Education (ATE) grant created the Biosciences Industrial Fellows Program, which immerses educators in a month-long workshop that includes industry visits, laboratory skill development, and classroom learning designed to enhance the participants' knowledge of industry-relevant core skills. The NCBW currently receives approximately 49% of its salary and benefit costs through funding from national grants, but gap funding is provided for the remaining salary and benefit costs as well as operational costs through BioNetwork. Funding for Forsyth Community College also includes operational costs for the Analytical Laboratory, which provides hands-on training and lab services for biotechnology and life science industry training.

Gaston College **\$729,046**

Focus Area: Technology Services and Media Development
 Location: Gaston College Campus

The BioNetwork staff hosted by Gaston College creates videos; interactive, electronic modules; and virtual learning objects that are utilized by the NCCCS colleges in NCWorks Customized training projects, continuing education short courses, and curriculum courses. The virtual media products are created in partnership with companies and consist of 3-D simulations of industrial processes, environments, and equipment; educational modules that incorporate video demonstrations, interactive simulations, and assessment tools; and virtual learning tools, such as the virtual microscope, that can be used in a variety of educational and training sessions. In addition, the BioNetwork staff at Gaston College maintains the Web presence for BioNetwork.

Pitt Community College **\$614,683**

Focus Area: Education and Industry Engagement; Biomanufacturing Industry Training; Mobile Training Laboratory
 Location: Technology Enterprise Center

The activities at Pitt Community College focus on developing and coordinating statewide education and industry engagement activities. Educational engagement includes training community college faculty to understand and incorporate learning tools within their curriculum to advance the knowledge and skills of their students for successful entry into the biotechnology and life science workforce; developing and delivering presentations that help K-12 and community college students connect educational pathways to career goals, and presenting workshops and seminars to help educators and students understand the benefits and the variety of careers in the life science sector. The staff also provides biomanufacturing industry training and host the Mobile Training Laboratory, which provides 650 square feet of mobile laboratory space that can be customized for specific industry and education training.

Robeson Community College **\$5,377**

Focus Area: Food Manufacturing
 Location: Robeson Community College Campus

Previously Robeson Community College hosted an Industry Trainer that supported the food manufacturing industry. The activities of the Industry Trainer included providing industry-site training, curriculum development, and subject matter expertise to support the NCCCS colleges that are involved in offering education and training to local companies that serve the food manufacturing industry. Robeson Community College no longer hosts this position. The requested allocation is provided to support close out costs associated with not continuing this position.

Wake Technical Community College **\$1,278,772**

Focus Area: Industry Training - Biomanufacturing; Engagement
 Location: BTEC on NCSU's Centennial Campus

The BioNetwork Capstone Center focuses on offering hands-on, short course training in biomanufacturing and pharmaceutical operations to incumbent workers, new hires, and community college students in a simulated cGMP (current Good Manufacturing Practice) facility. The activities of the Capstone Center include providing biomanufacturing training through NCWorks Customized Training and providing continuing education short courses, workshops, and seminars to industry, educators, and NCCCS students.

Fund Source and Allocation Period: Funding is contingent upon approval of the FY 2015-2016 State General Fund appropriations for BioNetwork. The allocation time period is July 1, 2015 through June 30, 2016.

Contact Person:

Maria Pharr

Executive Director of BioNetwork and Life Science Initiatives