

FEATURE ARTICLE

# BioNetwork: Biotech's Human Resource Specialists

Story by Fatima Khan

**"Most companies don't realize that BioNetwork acts as a free 'add-on' for them."**

– Doug Drabble, BioNetwork Pharmaceutical Center Manager

**"Biotechnology** is the industry of the 21st century," said *Stephen Wallace*, Training Manager for Covidien, a healthcare company in Raleigh, NC. "Not only is biotechnology replacing old industries, but it is spawning new industries and products. It is critical to take training to another level to be able to keep up with the 10 to 15 percent rate of new job production in this area."



**Training lab at the Golden Leaf Biomufacturing Training and Education Center at NC State's Centennial Campus.**

BioNetwork, created in 2004, pulls together the assets of one of the world's largest educational systems, North Carolina's 58 community colleges, to serve just that purpose. "BioNetwork's goal is to act as a catalyst for economic development by providing organized and effective solutions to the life science industry's most pressing training and education needs," said *Matthew Meyer*, BioNetwork executive director.

BioNetwork managers specialize in delivering training to corporations, on or off-site. By accessing the academic resources powering North Carolina's community colleges, BioNetwork offers businesses a systematic, functional and proven system without huge costs. Industries can also profit by having employees re-trained with new skill sets.

"The life science industry, like other manufacturing sectors, is beginning to feel the stress of the graying of

the workforce," Meyer said. "In North Carolina, the biopharma industry through BioNetwork has access to solutions to combat the loss of experienced workers due to retirement."

BioNetwork helps companies install employee development and training systems. In this way, BioNetwork acts as a human resource company. Many pharmaceutical companies are taking advantage of what BioNetwork has to offer. Merck, a company with a diverse workforce that includes many baby boomers as well as younger workers, sent 45 of its Durham-based employees to BioNetwork's Capstone Center on NC State's Centennial Campus for training courses.

"By not investing in the upgrade of skill-level standards, companies jeopardize their best abilities to meet the continual regulations of industry, thus opening the biotech market to out-of-state and foreign markets," Wallace said. "We have to keep up with training. We don't ever want to compare the biotech industry in North Carolina to the downfall of Michigan's once-thriving auto industry. If North Carolina can allocate more training funds to biotechnology boosters such as BioNetwork, it takes the burden off companies, whose resources become tied up by having to provide in-house training. Companies could apply those freed-up dollars towards their internal product development and research."

When a community college is asked by industry for incumbent worker training in biotechnology and the college doesn't have the resources or faculty at hand BioNetwork's Bioprocessing Center prepares materials and "trains the trainer," as it did when Talecris Biotherapeutics in Clayton, NC, went to Johnston Community College (JCC).

"Talecris wanted to offer their employees training relative to their job positions," said *Leslie A. Isenbour*, BioAcademy Coordinator at JCC's Workforce Development Center. "Using Bioprocessing in the Workplace® modules, BioWork modules, and other modules created specifically for Talecris, we were able to instruct related coursework."

Approximately 475 workers went through the three-week training. Employees were grouped according to their departments and a grid was created to track training for each individual. Several buildings in Johnston County were utilized to conduct the training, including the Mobile Laboratory from BioNetwork's Capstone Center.

*"The goals of industry and BioNetwork are the same: both try to pull together demonstrated best practices and make courses available to employees and students that are both affordable and effective."*

– Stephen Wallace, Covidien Training Manager

"The benefit to Talecris is that their workers are better trained for the jobs that they perform. Often times, workers who have been employed for many years will have the skill set to do the job, but often lack the knowledge to realize why they have to do certain tasks," explained Isenhour.

## QUICK RESPONSE

Because industry representatives sit on several BioNetwork advisory boards and BioNetwork personnel serve on both industry and community college advisory boards, BioNetwork receives consistent feedback on the needs of employers. When several companies stated that new employees in the biotech arena lack math skills, the Bioprocessing Center responded by developing a biotech focused math course. They've developed more specialized courses such as microbiology for DSM Pharmaceuticals.

"Most companies don't realize that BioNetwork acts as a free 'add-on' for them, and we try to educate them about the benefits they can reap when working through us and the community college system," said *Doug Drabble*, BioNetwork Pharmaceutical Center Manager in Winston-Salem, NC.

One benefit that BioNetwork provides is information gathering and analysis of industry trends. In the constantly developing field of life sciences, standards change quickly. "We monitor FDA (Food and Drug Administration) regulations and how they pertain to companies operating in North Carolina. Our job is to operate on the forefront of technology," Drabble said.

Up-to-date requirements are incorporated into customized training programs for industry. When a local pharmaceutical company preparing for an FDA audit wanted a training program in place within two weeks, Drabble and his center delivered six courses with four instructors in two separate locations in one week for new hires and upper management.

"We also developed an annual training program for 586 employees for another pharmaceutical company that needed to meet their annual cGMP (current good manufacturing practices) requirements outlined by the FDA. We provided 19 sessions in a facility that allowed for a maximum of 75 people at a time," he said.

Drabble keeps his eyes on new technologies, such as simulated and virtual training, the development of an Analytical Center of Excellence for instrumentation training in the life science and environmental sectors and the emerging markets in nanobiotechnology and biofuels.



BioNetwork mobile lab.

“When new FDA regulations involving the dietary and herbal supplements industry were issued, we had course materials prepared, instructors available and courses delivered at Asheville-Buncombe Technical Community College within a few months of the new regulation being issued. The material was presented to approximately seven different companies in a classroom environment,” Drabble said.

The harmonious relationship between industry and BioNetwork is reflected in a project Drabble is working on with pharmaceutical giant GlaxoSmithKline (GSK). “Doug brings considerable industry experience and understands the challenges of the biopharmaceutical industry,” said *Frank Martin*, Training Team Leader at GSK in Zebulon, NC. “We are working on the establishment of a PharmaWorks certificate program. Doug is gathering materials for the curriculum, which will consist of short courses for half a day, one or two days, for people in pharmaceutical manufacturing. We want these courses to be taught to employees on-site at Zebulon.”

Drabble is also involved in acquiring equipment for a solid dose formulation production lab at BTEC, located on North Carolina State University’s Centennial Campus. BTEC – the Golden LEAF Biomanufacturing Training and Education Center – is a \$50 million facility located at BioNetwork’s Capstone Center on NC State’s Centennial Campus. “The possibility of having benchtop equipment for a solid dose formulation production lab at BTEC enables us to have GSK employees, outside vendors as well as students all at one site, learning together, saving time and money,” said Martin.

### TEAMWORK AT ITS BEST

Wallace, training manager for Covidien, is responsible for training compliance and wants his employees to learn different skills as the need arises. “In this regard, BioNetwork has been indispensable. BioNetwork had customized courses when we needed them, quickly and conveniently,” he said. “Expedited training results in a quicker launch time for companies like us, potentially saving millions of dollars. Doug Drabble has been instrumental in helping Covidien develop a breakthrough in training by creating exclusive courses and then leveraging the course and training costs. The goals of industry and BioNetwork are the same: both try to pull together demonstrated best practices and make courses available to employees and students that are both affordable and effective.”



Interior of the BioNetwork mobile lab.

BTEC is the epitome of collaboration. The BioNetwork Capstone Center operates in BTEC, and offers incumbent workers, new hires and community college students hands-on, short-course-based training in biopharmaceutical operations in a simulated cGMP (current Good Manufacturing Practice) facility. Both the community college system (represented by BioNetwork) and NC State collaborate under one roof at BTEC, which comprises 82,000 square feet of highly specialized pharmaceutical manufacturing space.


“BTEC and BioNetwork work together to provide industry a full range of education and training,” states *Rick Lawless*, associate director of strategic support at NC State. “While BioNetwork provides education to associate degree candidates and graduates, NC State provides education and training to bachelor of science candidates and industry professionals with undergraduate and graduate degrees. Together, we provide a wider scope of training. Our industry partners make sure our equipment and curriculum will produce the trained employees that they need.”

Everyone wins at BTEC. Students can choose from courses that will fully prepare them for the job market or enhance their professional development. By having access to both intermediate and full scale state-of-the-art equipment, they are exposed to a variety of hands-on laboratory experiences. BTEC can offer more courses for less money since NC State and Wake Tech Community College share faculty and equipment.

“Collectively, we are synergistic,” said *Len Amico*, director of Aseptic and Laboratory Operations at the Capstone Center. “NC State offers their students an opportunity to get close to and operate pilot-scale equipment supportive of all the engineering theory they learn. It expands their academic experience. The instructors bring industrial experience into the classroom. On the other hand, the community college system focuses on the short course, hands-on format, which lends itself well to meeting the needs of the incumbent worker, who is required to have annual training per FDA guidelines.”

BTEC helped identify NC State students for newcomer Novartis, an innovative healthcare products company. They hired 13 engineering graduates to help startup various parts of their facility. Those graduates continue to work with BTEC to learn bioprocessing techniques and recruit additional employees. Since BTEC's opening in July 2007, BioNetwork's Capstone Center has supported approximately 252 students through various training courses. Of these students, approximately 60 percent are industry incumbent workers, and 40 percent are people re-tooling from other careers and curriculum based students.

BTEC provides yet another advantage to industry and educational partners through its Validation Academy, a collaborative effort between BioNetwork, the International Society for Pharmaceutical Engineering (ISPE) and the NC Department of Commerce. Created to help improve the economic and workforce development of the state, the Validation Academy is first of its kind in the world.

"The biggest benefit of BTEC is that we offer world-class training right here in NC, thereby saving travel expenses for our local companies," says Lawless. "Cross-training is going to become even more important, and we are building a global network as we speak. No other state is doing what we do." 

## ABOUT BIONETWORK



NCCCS BioNetwork is a statewide initiative that connects community colleges across North Carolina, providing specialized training, curricula and equipment to develop a world-class workforce for the biotechnology, pharmaceutical and life sciences industries. All Community Colleges serving the pharmaceutical and biotechnology sector are part of BioNetwork. BioNetwork offers specific programs and services through the Capstone Center and Validation Academy, Raleigh; Bioprocessing Center, Greenville; Pharmaceutical Center, Winston-Salem; Bio-Agriculture Center, Lumberton; and BioBusiness Center, Asheville. For more information about BioNetwork, please visit [www.ncbionetwork.org](http://www.ncbionetwork.org).

## NEW HAMNER-UNC CENTER FOR DRUG SAFETY SCIENCES



The Hamner Institutes for Health Sciences and the University of North Carolina at Chapel Hill announced they are establishing a joint Center for Drug Safety Sciences that will be led by Dr. Paul Watkins, one of the world's leading experts in drug-induced liver injury. As founding director for this innovative new research center, Watkins will develop new drug-safety initiatives with academic partners, the biopharmaceutical industry, the National Institutes of Health and FDA. He will retain his position as the Verne S. Caviness Distinguished Professor of Medicine at UNC Chapel Hill.

The Center for Drug Safety Sciences is a unique collaboration between The Hamner Institutes, a private nonprofit translational research organization in Research Triangle Park, and the School of Medicine and the UNC Eshelman School of Pharmacy at UNC Chapel Hill. The Hamner Institutes and the University have committed to spend at least \$10 million over the next three years to launch the center and its research and training programs. A new 14,000 square-foot, state-of-the-art research laboratory that will open in early 2009 at the Hamner Institutes is included in the funding commitments, along with several new joint faculty appointments from the schools of medicine and pharmacy at UNC Chapel Hill.

The Center for Drug Safety Sciences is the first initiative resulting from a memorandum of understanding that The Hamner Institutes and the University signed on April 18, 2008. This agreement was established to guide innovative collaborations in translational research and to provide new opportunities for The Hamner Institutes to work with the university's Office of Technology Development and Kenan-Flagler Business School on business development and scientific entrepreneurship projects.

**For more information, visit [www.thehamner.org](http://www.thehamner.org), [www.unc.med.edu](http://www.unc.med.edu) or [www.unc.pharmacy.edu](http://www.unc.pharmacy.edu).**