

ON THE COVER

Let There Be Jobs

“All through the hard knocks . . . I knew I could do better. The only thing stopping me was fear. Now, I enjoy coming to work every day, and this is just the beginning.”

– Reginald Holt, employee development coordinator for Merck and graduate of NC Central University’s BRITE program

Kelly Turner and Reginald Holt have never met. Turner lives in Wilson, NC with her 12-year old daughter; Holt in Raleigh with his wife, 15-year old daughter and 10-year old son. They are two of the people behind the statistics that state leaders tout when promoting the biotechnology and life sciences industry. Statistics like North Carolina is number one in Contract Research Organizations, number two in agricultural biotechnology research and number three in biomanufacturing (after Massachusetts and California) in the U.S.



Kelly Turner and daughter, Elizabeth.

From those statistics leaders have drawn an ambitious vision backed by an extensive strategic plan entitled *New Jobs Across North Carolina: A Strategic Plan for Growing the Economy Statewide*. The plan, published by the North Carolina Biotechnology Center, includes the creation of 125,000 biotech jobs by 2023, the wooing of biotech companies to invest and build in the state, the formation of a highly specialized biotech workforce, and the strengthening of public educational institutions from which the research and study of biotechnology is expected to soar.

Reaching the job projections for biotechnology depends on a skilled and educated workforce. With the additional education Turner and Holt have pursued, they both fit the bill for the type of workers that are becoming a hallmark of North Carolina’s life sciences industry. For them, biotechnology’s been a route to better jobs and a higher standard of living for their families.

ADVERSITY TO ADVANTAGE

While working as an administrative assistant in the engineering department at VFJeanswear (formerly Wrangler Jeans) in Wilson, NC, *Kelly Turner* realized she wasn’t going anywhere within her company. “I wanted more,” she said, “but I saw there was no room for me to grow.” Always wanting to go back to school, she enrolled in classes at her local community college.

Signing up for those classes was fortuitous. The company announced its decision to outsource jobs to cheaper labor in Honduras and Costa Rica. In the course of a single day, Turner’s life irrevocably changed. Her livelihood suspended; her future on hold. The layoff affected her marriage, and within a year, 37-year old Turner found herself divorced and a single mom to her 12-year old daughter.

“During the divorce, I often thought going to school wasn’t worth it,” Turner said. “But inside, I knew the long-term outcome would be valuable, and I just had to get through the short-term suffering as best I could.”

Turner turned adversity into advantage. When VF-Jeanswear informed her it would pay for her classes as part of the NC Trade Adjustment Act, she knew she had found the silver lining. The critical question facing her was what to focus on in college - something that would not be victim to downsizings and outsourcings. Something that reflected her passion, allowed for personal and professional growth, and was financially lucrative. The answer was biotechnology.

“Most people think biotechnology is limited to the pharmaceutical industry,” Turner said. “I enjoyed

science in high school. I learned that by entering the world of biotechnology, I could work in industry in manufacturing, be a lab technician, or I could research tissue cultures. I was unlimited.”

In 2003, she entered Wilson Community College’s “1 Plus 1” program, where she took her prerequisite classes. The last year of her two-year associate degree was conducted at Pitt Community College in Greenville, where she took more specific courses in Cell Culture and Genetics. Turner graduated with a 3.6 GPA and was inducted into two honor societies.

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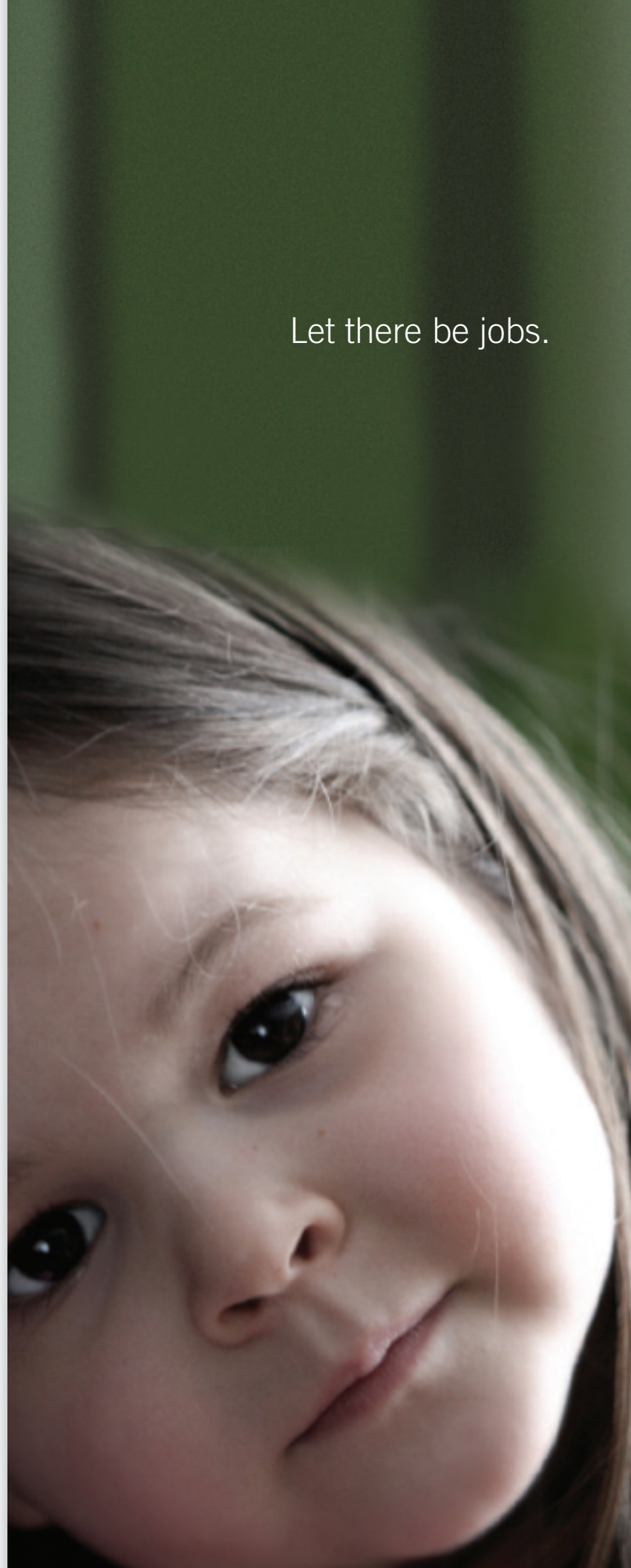
– Kelly Turner, course developer at BioNetwork’s Bioprocessing Center and graduate of the NC Community College System’s biotechnology training.

Her success story does not end there. In 2007, she landed a job as Course Developer/Writer at the BioNetwork Bioprocessing Center in Greenville, NC. BioNetwork is the North Carolina Community College System’s (NCCCS) training and education arm for the biotechnology and life sciences industry. Together with Manager Bill Cooper and Curriculum Coordinator Greg Smith, she develops a variety of courses based on the needs of both the community colleges and industry.

Turner’s career change into biotechnology has already paid dividends, and she sees no reason to stop moving forward. She has submitted her application for entrance into East Carolina University’s four-year BSIT (Bachelor of Science in Industrial Technology) degree programs, with a concentration in bioprocess manufacturing. On-line courses make the BSIT program friendly to those with families and full-time jobs.

“My daughter, who wants to be a forensic scientist, has been the driving force behind me,” Turner said. “I wanted to show her that you can be successful by getting good grades and going to college instead of just getting by and settling for less.”

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Reginald Holt at work at the Merck Vaccine Facility in Durham, NC.

IN MOTION

Reginald Holt is an employee development coordinator for Merck, a global pharmaceutical company with manufacturing facilities in Wilson and Durham, NC.

He completed a degree in biology with a concentration in biopharmaceutical science in August 2008 from the *BRITE* (Biomanufacturing Research Institute and Technology Enterprise) program at North Carolina Central University in Durham, NC. He started full-time with Merck the next week.

Holt graduated from high school in Raleigh in 1982. He attended college but didn't finish a degree because, he said, he "didn't have any kind of work ethic (then)." He journeyed in life from a laborer to a career in retail sales where he held a management position and earned top sales awards. His career in biotech grew from a quest that started as a goal of improving physically by earning a black belt in martial arts to a mission to improve his quality of life.

"My intelligence hasn't increased. My work ethic increased. My morals and values changed. I became a husband and a father. I had people depending on me," Holt said. "I worked late nights, weekends and holidays. I did what a man was supposed to do to be a good husband and father. It left a void. I used to get pictures of what my wife and kids did on the weekends. I was never there."

After learning about the biotech industry through the media, Holt decided to attend Wake Tech Community College in Raleigh where he earned a two-year degree in industrial pharmaceutical technology. After a year in an entry level biotech position, he decided to look for other opportunities. He wasn't planning on those opportunities including two more years of school until he decided to enter the *BRITE* program where he received a scholarship and work aid.

"When opportunity knocks you have to walk through the door . . . because if you're not in motion you go stagnant," Holt said. "I didn't want to go back to school. After one more year, it (school) really paid off." The pay off was being chosen for a Merck internship during the summer of 2007.

During the internship, Holt performed cost analysis and equipment drawings, work that is used "still today, so it was something meaningful."

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– Reginald Holt, Merck

"When I accepted the full-time position, I found out I'd be an employee development trainer," Holt said. "It fit my personality and background. It worked out to be perfect. I do training modules for the employees, associates and technicians. I keep up with SOPs (standard operating procedures) writing training qualifications."

Holt credits his family for much of his success. "Fear is what stops you from going into action. I had to be honest with myself. I didn't want to fall on my face in front of my family. After all, as a husband your wife looks up to you. You're supposed to be strong – well, maybe physically strong – but when you're taking quantitative analysis, physics, and biochemistry, man, that's some tough stuff," he said. "I have children. I tell them you must do well in school. Then I put myself out there. They wanted to know, 'what's your test score, Daddy? Let me see your report card, Daddy.' Children listen to what you say, but they pay more attention to what you do. I made up my mind that failure was not an option."

Beyond life experience and the right education, Holt brings a good attitude. "It's been a long road, and it's been tough. I wouldn't have it any other way. When

you have to go through something you appreciate it more. When it's just given to you, you don't appreciate it as much," he said. "All through the hard knocks of doing the physical work, environmental testing, construction, the entry level jobs, mopping and emptying the trash, I knew I could do better. The only thing stopping me was fear. I just had to go and do it. Now, I enjoy coming to work every day, and this is just the beginning."

BENEFITS ABOUND

As much as biotechnology and life science education and training programs help families, they bring returns to corporations and the state's economy.

"The work Reggie does is extremely important not only from the stance of employees being successful in their jobs, but it's a requirement for us," said Merck Public Affairs Manager *Agnes Speight* of Holt's role as a trainer. "When we get an inspection from the Federal Food and Drug Administration (FDA), they look at training methods. Training is part of what's required to make our products. Reggie understands how important every step in what we do is. Our training and having good people doing the training- it's critical."

The emphasis on training in the NCCCS and North Carolina University System is a critical factor in Merck's ability to produce childhood vaccines and other pharmaceutical products that they manufacture in North Carolina. Workforce development and training weighed heavily in their decision to build their new plant on a 262-acre tract of land in Durham instead of moving to another state. Already Merck is expanding the Durham plant and planning to hire over three hundred technicians and biologists in the next several years.

"That was the final selling point for this site," Speight said. "We had sites in other states. They were all pretty much the same until we got to workforce development. This area is doing so much in terms of training for biotech and making sure we have a workforce. That was the tipping point that kept us here in the state."

When Merck conducted meetings to assess potential sites, NCCCS BioNetwork staff explained what they could offer. Merck then sent two of their worldwide trainers from West Point, PA, to take an Asceptic Manufacturing Level I class at the Capstone Center that operates inside the Golden LEAF Biomanufacturing Training and Education Center (BTEC), located on

North Carolina State University's Centennial Campus. The BioNetwork Capstone Center 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 practices) facility. Merck trainers were impressed enough to recommend the course for all of their employees.

According to Speight, many of Merck's employees have a Bioworks certificate from the BioNetwork program. The certificate, she said, has given them the basics on working in a facility like Merck's. Merck engineers and operators also support BioNetwork by reviewing new course curricula.

"One thing we wanted to do when we came here was to take advantage of the Community College system, universities and their intern base. We all knew BioNetwork and the whole system would be good for us. We were still surprised at the caliber of people that we could get through those programs," Speight said. "When we started looking at interns, Reggie came highly recommended. Everyone was just wowed. He solidified for us that this workforce development is what we thought and is going to work for biotech companies."

As much as corporations benefit, Turner and Holt are proof that biotechnology education and workforce development programs can benefit families bringing them stable employment and new opportunities. **1**

– Fatima Khan contributed to this article.



Reginald Holt during his 2007 Merck internship.