

The NC BioNetworker

News about growing the biotech workforce from the National Center for the Biotechnology Workforce and the NCCCS BioNetwork

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**Biotechnology
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PREPARING A WORLD-CLASS BIOTECH WORKFORCE

North Carolina
Community College System

Triad Biotechnology Graduates - Their Experiences, Futures and Opportunities *Biotech Workforce Experts Meet November 12, 2008*

Workforce experts in biotechnology training met with North Carolina training program administrators, educators and recent graduates on November 12, 2008. Focused on tracking graduate outcomes, the group discussed how to use and share their experiences and resources in addressing workforce challenges.

Hosted at the Piedmont Triad Partnership in Greensboro, North Carolina, the event produced responses that will aid the industry's future and help create more jobs.

Investments and innovations in biotechnology training have been put in place, so an important focus for the meeting was to connect with graduates and those experienced in biotech training to obtain data about their job outcomes for a new Tracking Model Study.

A roundtable panel discussion among invited experts and stakeholders including two prominent NC Community Colleges Alamance and Forsyth Tech program chairs was followed by a gathering, open to graduates. Program participants were encouraged to share experiences, both positive and negative, and network with biotech alumni.

Russ Read National Center for the Biotechnology Workforce Director outlined the program and discussed the new initiative, supported by a grant, to develop models that will work to track biotech training graduates and results. Read introduced Tracking Model Study Coordinator Bob Haack, who will be working with Forsyth Tech graduate Mica Welsh, administrator Mona Cofer and others to survey, extract, tabulate and report on this data.



Theresa Reynolds, Russ Read, Bill Woodruff



Gwyn Riddick: "We need a ready biotech workforce..."

Pointing out the stakes involved, **Gwyn Riddick** Piedmont Triad Director for the North Carolina Biotechnology Center said "If we don't have educated workers at all levels we're in trouble. If a new plant is coming in with 500 jobs, you need to be able to tell them what kind of workforce you have, what kind of student population you can provide. Gathering data like this is important."

BioNetwork Director Matthew Meyer said: "Our new system president Dr. Scott

Ralls wants to re-energize emerging technology fields such as biotechnology and position NC Community Colleges to create success for our students and life science industry. We recognize that life sciences make up an important, near recession-proof industry in growing North Carolina's economy. Among the ways the United States can stay ahead of low wage competitors like India is to ensure our current students are more productive and creative than the graduates who came before them. We haven't done as well as we can in learning from our past students. We want to learn to do this."



Matthew Meyer

Meyer sees the Tracking Model Study as a step in the right direction. "Our president wants to know exactly how much demand for workers is out there. We want this model so we can use it systemwide, apply it across sectors. The aerospace industry, the energy field - they seek work-ready graduates as well. We're glad to have Russ Read and the NCBW helping us with this groundbreaking program."

Theresa Reynolds, Senior Vice President with the Piedmont Triad Partnership and Project Manager for the DOL Workforce Innovation in Regional Economic Development (WIRED) grant recommended Connect Inc. (www.connectinc.org) as a North Carolina resource in developing the Tracking Model Study. "They're a call center. They surveyed 13,000 working poor, for example. They ask 'what are your barriers?' Educational levels? Hopes? Fears? Gaining this data can help employment security and avoid dislocated workers. As a non-profit, they are dedicated to advancing North Carolina."

www.biotechworkforce.org

www.ncbionetwork.org

National biotechnology training experts joined North Carolina educators and recent graduates of leading NC biotechnology training programs to discuss experiences to date and future workforce challenges and responses. The floor was opened to give and take discussions. A reception followed.

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Kathleen E. Kennedy, Ph.D., Vice President for the Education and Training Program of the North Carolina Biotechnology Center said. “We have often tracked education and employment needs from the industry point of view—from the demand side. We need



Dr. Kathleen E. Kennedy

to look at the supply side also, and your study will help address that.”

Dr. Kennedy described other efforts she’s involved with along these lines. “The Center commissioned a consulting firm to do a workforce supply study for biopharma in N.C. This was non-academic, with a firm that typically works doing site selection for industry. We wanted to see how we looked through their lens. This study

tracks the ‘labor-shed’ in different areas. I love that word, it’s like watershed. If you’re thinking about locating a plant in an area, you want to see it’s complete educational profile, which takes in a lot of factors, including commuting times.”

Sonia Wallman, Ph.D., Director of the Northeast Biomanufacturing Center and Collaborative, also directs the Great Bay Community College Biotechnology Training Center in Portsmouth, N.H. She is involved in many national projects in biotechnology training. “I’m working with North Carolina to survey industry in skills standards in biomanufacturing. With help from Kathleen Kennedy we’re doing skills harmonization with industry, including a meeting in Indianapolis with 16 companies, 20 educators, with representatives from Ireland. These standards are currently being used as bases for curriculum. They can help take training one step further with SOPs or powerpoints for custom classes.”



Mindy Feldbaum (left) chats with Forsyth Tech biotech graduate Jim Crawford and Dr. Sonia Wallman.

Mindy Feldbaum, Director of Workforce Development Programs at the Academy for Educational Development, a large non-profit organization that works on a variety of educational, environmental, global health and workforce issues worldwide. Plus, with more than ten years experience at the Department of Labor, including the President’s High Growth Job Initiative, she shared valuable experiences and strategies in addressing workforce training challenges. “How do we measure employment outcomes for capacity building activities such as curriculum development and new equipment? We’ve struggled to measure impact and number of job placements does not reflect the broader effort of building program capacity.”

Russ Read, NCBW Director said “Some of our graduates may be one conversation or one course away from a job. We might need a broader range of courses, we might need a few more to be adaptable, for example, in corn products, or analytic chemistry for wastewater treatment. We’re in the starting stage and we may need to raise our horizon to a Piedmont definition. Tracking students can help us target goals.”

Lucas Shallua, V.M.D., Ph.D., Forsyth Tech Biotech Program Director, agreed. “We need to hear what can we do for current students, or those looking for jobs, what kinds of skills do they need to be more marketable. For example, one of our graduates may have 60 or 70 percent of the skills needed to work in a medical lab. How can we offer training like histology, hematology, or urology, without changing our or other departments? Some companies do tissue engineering, this might be another way forward. We don’t want to step on toes, but we may only have a short time to adapt these skills.”



Bill Woodruff (left) Dr. Lucas Shallua, Russ Read

Bill Woodruff, Director, since 1985, of the state’s longest running biotech training program at Alamance and the Southeast Director of Bio-Link, understands the challenges. “We’ve had 200 graduates as of this year, and we have high success rates, 95 percent of our graduates get jobs. But there is a strong trend now making it harder to get jobs, it can take longer to find what you want. I’m glad we’re reaching out to ask, ‘What can we do to make you more successful?’ My students hear me say this a dozen times ‘be flexible - one thing’s for sure, you will not end up where you think you’re going.’ Students gain overlapping skills in a ‘biotech toolbox.’ The skills sets are for a vast array of possibilities, but students must keep their minds open. I’m interested in what we can offer to keep people in contact, or increase skills, we have updated DNA sequencers, for example.”

Feldbaum outlined a new study she’s proposing. “We are proposing to work with process technology community college graduates who will work and study in the same state (Texas) and biomanufacturing community college graduates in a multi-state region (New Hampshire and Massachusetts) who may be educated in one state and may work in another. This way we can demonstrate how community colleges can work in a variety of regions with their workforce investment systems to be able to track graduate data and determine how the skills and competencies of these graduates translate into labor market success. If we can understand, we can follow up with program improvements.”

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Matthew Meyer talked about using social networking sites, such as Linked-In or Facebook, along with other technology related to tracking students. “Futures is a life science based site being developed to connect students and qualified job seekers with industry. Students can pick companies and give access to their profiles,” said Meyer. He also suggested getting high schools involved, mentioning a Career Readiness Certificate (CRC) program that’s had success in reducing worker turnover. Reynolds agreed, saying WIRED did a CRC pilot program in Randolph.

Mona Cofer talked about her experience with high school student dual enrollments.

Nick Meacham, communications specialist with BioNetwork, favors giving students a clear “graduation path” that includes better access to career advisor resources.

Mica Welsh, Forsyth Tech Biotechnology program graduate and senior at Salem College, discussed her experiences and work on the Tracking Model Study. “Like most community college students, I came for my career or to get a better job, not to make friends or a network of buddies. At all community colleges it’s the same thing - once the students are gone, they’re gone. Alumni relations have trouble keeping track, it’s a difficult communications issue.” Among her numerous activities, Welsh designed a survey to use in contacting graduates. “I’m excited to build this model. We need to create ways to keep in contact. As I do phone surveys with people, I hear they do favor taking more courses to become more marketable. Their hope is still there to advance.”



The wide-ranging discussion produced ideas for success in the new Tracking Model Study



Scott Barton, one of the first graduates of the Forsyth Tech biotech program in 2004, was among the former students who addressed the group. He spoke about his own experience obtaining a biotech job. “Offer to do a free internship, do a temporary job as a lab tech. That’s the way I got in. Dr. Shallua will tell you, I’ve always been able to talk to people and network. I took two part time jobs at a research hospital, with no benefits. I made lots of contacts, gained experience. I got into neurology, and I’m in digestive health today. It probably won’t be my last stop. Networking is what you need to do, while shopping, at church, anywhere you go. Tell people ‘I’m looking, biotechnology is what I want to do.’”



Russ Read, opening the public portion of the meeting, addressed the biotechnology graduates. “Mostly we want a link to *you*, we want to know how *you’re* doing. We’d also like to know what might make you interested in continuing your education beyond where you are. If you’re employed maybe your employer might pay for continuing education. What is the formula to keep you wanting to be connected? Is it only a wish and hope of ours, or is it something you need? Would you be interested in coming back to college for a couple of hours to train on new equipment? Or maybe lab training can come to you at your workplace. We will try to understand your needs better and articulate a response to those needs. We will create a more formalized model to find facts and track progress.”



Kelli Hinson, a July 2008 grad of Alamance biotech : “Companies need to know about our program. Most places think they want a bachelor’s graduate. But they don’t know about my background. We have learned. I can use a pipette. We can do the work.”

Alumni programs will continue with future “Networking and Learning Forums”

Information and knowledge gained from the Nov. 12, 2008 event will be extremely useful as we move forward to design a model for tracking biotechnology alumni. Using the networking theme as a launch pad, it would be of potentially significant benefit to establish a series of regular, ongoing “*Networking And Learning Forums.*”

These forums, consisting of panel and open discussion, would be held in conjunction with the ending of each semester and open to new graduates and alumni alike. Each forum would feature guest speakers and experts including those from the alumni community who are established in biotech careers, workers and business professionals from biotechnology companies, and scientists engaged

in biotech and life sciences research, along with experts and/or “coaches” versed in career networking techniques. Additionally, interested alumni could serve as volunteer mentors to new graduates.

The **Networking And Learning Forums** would provide alumni with valuable information and updates regarding biotech careers, trends and developments in biotechnology, programs for continuing education, and a resource for honing and practicing their networking skills. The forums would also serve as a catalyst for establishing and cultivating alumni contacts and relations, provide incentive for further alumni participation, and yield valuable tracking data.

KEY POINTS

From Speakers and Graduates:

- 1. Networking is a Top Priority for successful job placement.**
- 2. Continuing Education should be made available for graduates to diversify their skills through specialized training.**
- 3. Close Partnerships between colleges and employers is very important.**
(Tell us what you need and we will supply.)
- 4. Effective Dialogue between college and employers is essential.**
(Tell us what positions you have available and what type of employees you are recruiting.)
- 5. Career Lattices in the field of Biotechnology should be made available to students nearing graduation. Having a Biotechnology degree does not mean you have to work in a laboratory: lattices extend far and wide and intertwine with other professions.**
- 6. Portability of Skills is very important! Showcase your diverse skills and be willing to relocate, or if you are unable to relocate, be willing to take an entry-level position just to get your foot in the door.**
- 7. Career Packages should be made available for students nearing graduation. Set up “Trial Run” interviews with students to enhance interviewing skills. Assist with preparation of resumes. Call in placement companies to meet with students before graduation.**
- 8. Biotech Graduate/Employer MatchMaker: Have a designated individual to match students with employers. The software package, CONNECTINC, is a possible resource in this matching. Allow access to employer and student profiles.**

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Sonia Wallman, Ph.D., Director of the Northeast Biomanufacturing Center and Collaborative, also Director of Great Bay Community College Biotechnology Training Center in Portsmouth, N.H.