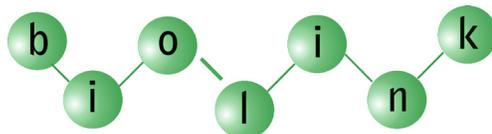




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# Seventh Annual Community College Program Day May 2, 2010 in Conjunction with BIO in Chicago

Three organizations combined to present the seventh Community College Program during the BIO global industry conference. Each is committed to doing what community colleges do best: quickly transfer skills for students to use and join the biotech workforce. With

more than twenty-five years of national biotech workforce program experience between them, the organizations – Bio-Link, NBC<sup>2</sup> and NCBW - joined forces for the full day’s event. About sixty professionals attended or participated in the Community College Program, held on May 2, 2010, in conjunction with the Biotechnology Industry Organization’s week long trade show and conference in Chicago. Panels presented experts leading in biotechnology workforce development - representing both industry and academia, from every region of the country. Because most of the people at the Community College Program (CCP) are creating and sustaining a qualified workforce, passionate about enabling

America’s biotechnology industry to continue to grow, there was also meaningful networking and heartfelt support exchanged.

Increasing numbers of successful graduates, those who have gone through biotech programs and found jobs in the industry - and who, in some cases, are really excelling - emerged at the top of a list of themes from this year’s event. Because workforce training graduates achieve

positions in the industry, they can become strong voices and advocates for these training programs. Graduates were featured at the CCP. People starting careers in the industry, such as the panelists in the popular Faces of Success segment - strengthen communication lines between industry and academia. They work as mentors to other students.

A recent study by the National Center for the Biotechnology Workforce (NCBW) followed up on early graduates of biotechnology training programs. “When we saw, thanks to this research, that many graduates desire continued, more advanced training within their subject areas, we focused our curriculum resources to go deeper into individual technician positions. This is how we’ve produced our new ‘monograph series’ for NBC<sup>2</sup> - the Northeast Biomanufacturing Center and Collaborative,” said Sonia Wallman. These new publications, in turn,

are shared through the Bio-Link network, contributing to the industry’s overall training goals. This is how all three organizations work together.



**Faces of Success - biotech program graduates now employed in the industry pose with educators during the Community College Program in Chicago.**

(see page two for details)

## Inside this edition:

**Faces of Success** moderated by Jo-Anne S. Hongo, Scientific Manager at Genentech.....Page 2 and Elaine A. Johnson, Director of Bio-Link with remarks from Gail Maderis, President & CEO of BayBio with panelists:

- Joseph W. Guillory, Research Associate, Genentech
- Camilo Rojas, Lab Assistant II, Scripps Florida Research Institute
- Kasey Schuster, Biotechnology Resource Coordinator for the State of Utah
- Mica A. Welsh, Research Associate, National Center for the Biotechnology Workforce
- Marilyn D. Johnson, Coordinator of Instructional Technology, Pasadena City College

**Emerging Biotech Programs** moderated by Russ H. Read, Executive Director of NCBW .....Page 3

- with panelists: Sandra J. Kattermann, Ivy Tech CC, Bloomington, IN, on Regulatory Affairs
- Bill Woodruff, Alamance Community College, Graham, NC, on BioInformatics in the Lab
- Alan Beard, Forsyth Tech, Winston-Salem, NC, on Bio-Nanotechnology
- Colette Rivet, BioTalent, Ottawa, ON, on BioTalent Canada Helping Students and Job Seekers Become “Job Ready”

**Regional Bioscience/Biomanufacturing Collaboratives** moderated by Sonia Wallman .....Page 4

- Executive Director of the Northeast Biomanufacturing Center and Collaborative (NBC<sup>2</sup>)
- with panelists: Sara Cote, Professor, Ivy Tech CC, Bloomington, IN, on Bioscience Alliance of Mid-West
- Elizabeth Herkenham, Executive Director, on The Albany Capitol Region Consortium
- Craig Caldwell and Vivian Ward, Professors, Salt Lake City CC, UT, on Utah’s StudentFactured, InnovaBIO, industry partnerships with hands-on experience
- Tim Pelletier, Outreach Coordinator, CC of Rhode Island on The Rhode Island Consortium

**External “Accreditation / Certification” for Biotechnology– A Goal or a Digression?** .....Page 5

- moderated by Lisa Seidman, Director of the North Central Region of Bio-Link
- with panelists: Karen Hicks, Vice President, Human Resources, Targacept, Winston-Salem, NC
- Linda Rehffuss, NBC<sup>2</sup>, Dean, Mathematics, Science and Advanced Technology, Montgomery County Community College, Blue Bell, PA
- Jodi L. Wesemann, Assistant Director for Higher Education, American Chemical Society
- Michael Kostrna, Electron Microscopy Program Director, Madison Area TC, Madison, WI
- Linnea Fletcher Program Director, National Science Foundation, Division of Undergrad Ed

## Themes of this year’s CCP event:

**Graduates** - as more students complete biotech programs and take rising positions in the industry, their value is validated and they work to mentor those following them.

**Entrepreneurs** - creative spirit motivates new programs, such as StudentFactured in Utah.

**“Local is global”** - the focus is on the individual schools and model programs as networks share benefits and scale outward, and beyond.

**Support** - communities, on-line and otherwise, help connect people with resources; together we avoid reinventing the wheel.

**Innovation** - dynamic changes in a growing industry spark quick adoption of new ideas. Awarding high school teachers college credit for conducting biotech workshops, such as “Protein is the Cash,” creates win-win motivation and results for all.

**Certification** - a majority of participants agreed, a standardized test for an individual’s core biotech skills is coming.

# Seventh Annual Community College Program Day

## FACES OF SUCCESS: Our Graduates on their Careers

Moderated by: Elaine Johnson, Director of Bio-Link and Jo-Anne Hongo, Genentech



**Elaine Johnson**

**A**nouncing, to applause, a renewed five years of funding, **Elaine A. Johnson**, Ph.D., Executive Director of Bio-Link - a National Science Foundation Advanced Technological Education Next Generation National Center for Biotechnology and Life Sciences - based at City College of San Francisco, said "We're expanding and we're adding leadership, we're looking at each of you in this room as potential leaders in the strong networking that has always been Bio-Link."

**Jo-Anne Hongo** was hired by Genentech twenty-five years ago. She told the crowd, "I promised a mentor who helped me get the job that I would do the same thing for others, I would 'pay it forward'." She told about how she met Elaine Johnson and started teaching and helping biotech students at San Francisco City College. "I had the chance to design a pilot program to reach out to the African American and Hispanic communities, to get them in touch with coming opportunities in biotech." Currently manager of a team of four in the department of Antibody Engineering, Hongo says she keeps a picture of students in that first graduating class on her desk, to remind her about paying it forward. And she continues to teach and mentor students at CCSF in the evening and on weekends.



**Jo-Anne Hongo**

**Joseph Guillory** earned a Certificate in Biotechnology at City College of San Francisco in 2006. He joined Genentech in July 2005 and is currently a research associate in the Department of Molecular Biology. "I came back last year to teach in the same class I took, guest lecturer in DNA sequencing. It was fantastic, everything came full circle for me. Now at our Genentech lab we look at resumes for positions. I helped someone else from City College, I'd known her in class. Since I have the same kind of background, we don't just cast people out for not having a Stanford degree."



**Joseph Guillory**



**Mica Welsh**

**Mica Welsh** was a truck driver before she entered the biotechnology program at Forsyth Technical Community College in Winston-Salem, NC. She earned an associate's in biotechnology in 2007 and transferred to Salem College, where she graduated with a bachelor's in biology with a minor in chemistry in May 2010. "Forsyth Tech gave me the opportunity to try out my leadership skills, I became student body president. I also worked

doing a study on student outcomes, to find out how our students were doing, making contacts with people who didn't complete the program. Working with Russ Read, I did research to track our graduates, to find out what they need from us and if they are experiencing success or not. I helped generate surveys, called people and interviewed them. We generated a model through which we could maintain contact and now I am the graduate liaison and on the communications team for BioNetwork. I'm grateful to be here. If it had not been for the community college, and the chance to try on different hats, I wouldn't be where I am."



**I**ndustry veteran **Gail Maderis** gave opening remarks. From 2003 to 2009, she served as president and CEO of Five Prime Therapeutics, successfully leading its rapid growth. Today she is president and CEO of BayBio - Northern California's life science association. She shares a deep motivation to give back to the industry. "I have been personally touched, I wouldn't be standing here today, I mean literally standing and not in a wheelchair, because of a biotech drug that wasn't there when I entered the industry," she said.



**Gail Maderis**

**Kasey Schuster** started biotechnology in his junior year of high school at the Jordan Applied Technology Center (JATC). After graduating, he was hired by Salt Lake Community College (SLCC) as a biotechnology lab manager. While working, he went to school at SLCC and earned an associate's in biotechnology degree. He then earned a bachelor's in biotech at Utah Valley University. His job now is to assist high school biotechnology instructors all across Utah. "I assist in lesson planning, troubleshooting, also building relationships among them. Many of our high schools are scattered about so I let them know they're not alone. I also try to find industry resources, I just got eight pallets of pipettes donated."



**Kasey Schuster**

**Camilo Rojas** earned his associate's degree in biotechnology at Palm Beach Community College. He did a three-month internship at Scripps Florida Research Institute. Now he is a full time employee in its neuroscience department, working to understand how synaptic proteins contribute to memory formation and storage with a goal to discover compounds that can restore memory in persons with Alzheimer's disease.



**Camilo Rojas and Libby Handel his biotech teacher from Palm Beach Community College.**

**Marilyn Johnson** gave concluding remarks. She joined Pasadena City College after 25 years as a human resources specialist. She returned to her local community college to update her computer skills and discovered the joy of working with changing, hopeful faces among community college students. Her position enables her to develop Student Success programs directed toward STEM majors, designed to address student barriers and challenges. Johnson is also an adviser to committees that gear attention to the needs of diverse college students. "Students can do anything if we tell them they can do anything," she says.

# Seventh Annual Community College Program Day

## Emerging Biotech Programs

Russ H. Read, Executive Director of the National Center for the Biotechnology Workforce

**R**uss H. Read, Executive Director of the National Center for the Biotechnology Workforce, a North Carolina Community College System BioNetwork Center based at Forsyth Technical Community College in Winston-Salem, NC, works to build up biotechnology business in his position as Chair of the Piedmont Triad Biotechnology Advisory Committee of the North Carolina Biotechnology Center. He moderated this session focused on emerging trends in the industry.

Many emerging biopharmaceutical products face strict and complex regulations as they make their ways into biomanufacturing production.

**S**andra J. Kattermann is an expert in the challenges of working with federal, state, and local regulatory agencies on issues affecting this business. She joined the Biotechnology Department at Ivy Tech, Bloomington, IN in 2008, as an Assistant Professor of Regulatory Affairs. She spoke about how regulatory climates and required compliance can affect drug production. Kattermann has a Masters' of Science in Jurisprudence, Pharmaceutical Health Law, from Seton Hall, School of Law. She is a diversified, seasoned professional from the industry, acquiring experience working with Johnson and Johnson, Pfizer, Knoll, Biotechnology General, Inc. and Bayer Consumer Care. "One of my goals was to establish an associate in science with regulatory affairs concentration." With industry support, including Eli Lilly, Kattermann was able to develop five different classes and, in 2008, an RA certificate program. "I'm very happy and proud that 42 students obtained certificates and this year we have the first graduate with a regulatory affairs concentration - one."

**B**ill Woodruff, instructor and head of the Department of Biotechnology at Alamance Community College in Graham, NC, since 1987, is also director for the Southeast Region of Bio-Link as well as director for the southern hub of the Northeast Biomanufacturing Center and Collaborative (NBC<sup>2</sup>). In the face of changing technology and employer requests, his program has maintained the cutting edge needed to train skilled employees for both the R&D and biomanufacturing areas of the industry. His presentation featured a discussion on a new course he developed to use advanced equipment in his lab, called Advanced Molecular Techniques. "It has a six hour lab done all on the same day so students see a continuous project through to the end," he said. Available as a unique modular lab series from BioRad, Woodruff produces many of the required materials in house. Students are guided through an innovative research workflow identical to those performed in genomics labs worldwide. This enhanced training combines traditional and cutting

edge molecular biology techniques with bioinformatics to clone, sequence and analyze a house-keeping gene (GAPDH) from a plant not yet studied, ensuring each class produces unique and novel data. "What's proven to be one of the most important aspects of the course

is the experience of troubleshooting. We've had a couple of failures and before we go on and just re-do, we talk about what could have gone wrong. When you're working in a process with ten or twelve steps, the equipment itself, reagents from different sources, it gets involved. We've spent two or three hours brainstorming, then run it next time, it works. Thinking on your feet, recognizing when

something is wrong, this is very important on the job in a team."

**F**orsyth Tech, in Winston-Salem, is home to the only degree granting nanotechnology program in the state of North Carolina. **Alan Beard**, cofounder and chair of the Forsyth Tech Biotechnology Department, presented an overview of the collaboration that has worked to create an elective on bio-nanotechnology. Results to date include a \$500,000 grant to establish an atomic-force microscopy laboratory on Forsyth's campus. Wake Forest played a critical role in creating Forsyth Tech's nanotechnology program, investing both money and time into this innovative effort. The proposal is to create a nanomedicine facility in Winston-Salem.

**C**olette Rivet is the Executive Director of BioTalent Canada, a national non-profit organization which acts as a unique bio-economy HR "hub" linking employers, job-seekers, students, educators and government. Their HR expertise and resources are focused on determining which specific skills and human resource strategies Canada's bio-economy needs to be globally competitive. Rivet spoke about the challenges she faces. "When we asked companies, thirty percent said that their current staff do not have the right skills. Manufacturing companies would hire high school graduates but they need reading and writing skills. A recent survey again found, that unfilled biotechnology positions are still at thirty percent. All our surveys are available on our website ([www.biotalent.ca](http://www.biotalent.ca)). We are in the supply and demand arena trying to help industry. The federal government is telling us that internationally educated professionals will compose the new entrants in our workforce. The Aboriginal People in Canada have the youngest group and they are growing in numbers but they are not studying science. Canadian school boards are reporting greater than 45 percent drop-out rates. We need to focus on the supply side for the Canadian bio-economy. How can we get more students interested in science?"



Panelists (from left) Colette Rivet, BioTalent Canada; Alan Beard, Bio-Nanotechnology; Bill Woodruff, Bioinformatics in the Lab; Sandra J. Kattermann, Regulatory Affairs; Russ Read, moderator.

# Seventh Annual Community College Program Day

## Regional Bioscience/Biomanufacturing Collaboratives

Sonia Wallman, Executive Director of the Northeast Biomanufacturing Center and Collaborative (NBC<sup>2</sup>)

**S**ara Cote, professor of biotechnology at Ivy Tech Community College in Bloomington, IN talked about the formation of the Bioscience Alliance of the Mid-West. “We’re seeing growth in biotech in our region. The Mid-West doesn’t only have biopharmaceuticals, we have biofuels, medical device manufacturing, other sectors. We wanted to form an alliance to include all these. We started working with Indian Hills CC and other industry partners. Working with NBC<sup>2</sup> we started a certificate program aimed at preparing individuals to gain employment in the biotech industry. We want career pathways appropriate to the Mid-West to be useful in high schools and middle schools and encourage more people into the industry.” Plans are to become a Bio-Link regional center.



(from left) Tim Pelletier, Vivian Ngan-Winward, Craig Caldwell, Elizabeth Herkenham and Sara Cote

**E**lizabeth Herkenham is founder and executive director of the Workforce Consortium of Emerging Technologies in the Albany region of upstate New York. They connect students, educators, community members, and business people in projects to enhance education and workforce training. The goal is a globally competitive workforce in a wide range of emerging technologies. This strengthens the region’s position within emerging sectors for science, technology, engineering and math (STEM) driven economies. She spoke about welcome growth in the region - one global manufacturer is building the largest, at 270,000 square feet, clean room manufacturing plant in the world nearby.

“I’m really excited about our new Greater Capital Region Career Pathways Consortium to address workforce needs, including biomanufacturing. Our goal is to secure the STEM workforce in our region, building from what’s already been developed in Albany, not re-invent the wheel. We have a great program in New York State called BOCES that connects us to the state education department, connected to all the school districts in our eleven counties, plus all the colleges and resources for advanced education and workforce development. We build career pathways that support community colleges. We want to strengthen industry partnerships and the network, and we really enjoyed being part of the annual BIOMAN conference in Rochester last year.”

**C**raig Caldwell, Ph.D. and Vivian Ngan-Winward, Ph.D., biotechnology professors at Salt Lake City Community College in Utah discussed expanding life science training programs, strengthening partnerships with area high schools, and developing transfer opportunities for community college students.

“Flexible college internships amplify classroom activities but you need robust projects, you don’t want students just copying papers. Many biotech companies around us are small, so internships are hard. We created Innova Bio to meet this need in house. We ask companies to bring projects to us. That’s what we look for, back-burner biotech projects. We get to educate and the company might get some good data. It’s working quite well. Good to find an industry champion who will work with you. For one, we cloned and purified a protein, a couple vials the students made. It has a market value around \$100,000 – so there’s real value there.

“My partner and I created a new manufacturing program, StudentFactured, it uses GMP, very important. We focus on supplying our own training market. Those of us teaching biotech know about the costs. I just authorized \$750 for protein markers to run on gels. The students do it all: manufacture, package, market. We serve an important group. And everyone has the cleanest, best products made to high GMP standards.”

**T**im Pelletier is coordinator for the Rhode Island Education and Outreach Center for Biotechnology at the Community College of Rhode Island (CCRI). The Center is funded by a National Science Foundation Experimental Program to Stimulate Competitive Research Grant (through the University of Rhode Island). He spoke about his current concentrations: teacher training, workforce development, and curriculum development at both college and high school levels. “We’re able to use grant funds to build capacity in the college’s biotech certificate. Credits are now applied to the associate’s degree in science, and they weren’t before, so students would take one and move on. Now we can keep them. We expect that the two year degree in biotech will be approved. We do networking to increase CCRI presence in STEM training throughout state. We’ve been to many schools, including those in urban environments with little STEM exposure. We bring teachers to workshops and training programs, including BIOMAN, and we just held the ‘Protein is the Cash’ program. We’re trying to get industry more involved, it’s a struggle in Rhode Island, but it’s getting better. We’ve opened avenues to bring students to tour some companies. We do outreach to create a larger network. There are biotech people living ten minutes apart who are now communicating, and prior to our program, did not know each other. That says a lot.”



Sonia Wallman

Sonia Wallman, Ph.D, executive director of the Northeast Biomanufacturing Center and Collaborative (NBC<sup>2</sup>) since it first received funding from the National Science Foundation Advanced Technological Education program in 2005, conducted a ground breaking conference among industry leaders and educators. It succeeded in “harmonizing” biotech skills standards. Now the NBC<sup>2</sup> has experts authoring a series of lab manuals and other materials available on the web site. She opened the panel with an upbeat report. “More

and more of our graduates are getting good jobs and rising in the industry to validate our programs. The industry knows us, respects us, calls on us to solve training issues. Industry supports our program, “Protein is the Cash,” with materials and resources across all the states. Teachers love it. Students get excited and learn the value of their results. One important component is that teachers can get graduate credit for it. This builds ties for our consortium across universities, colleges and K-12. Most importantly, it is done in small scale. And it can apply across the globe; what’s right for Kansas works equally well elsewhere – local is global.” Dr. Wallman pointed out Bristol-Myers Squibb is hiring about 260 new people this year in Massachusetts. “The investment states make in workforce development is producing. Development accelerates with more new products that need biomanufacturing. Biotech drugs will account for fully 50 percent of the top one hundred drugs in 2014, compared to only 28 percent last year and eleven percent in 2001. Biotech jobs are coming, we need to build the workforce together, now.”

# Seventh Annual Community College Program Day

External “Accreditation” and/or “Certification” for Biotechnology - A Goal or a Digression?  
Lisa A. Seidman, Director of the North Central Region of Bio-Link

**L**isa A. Seidman, Ph.D., with more than twenty years experience teaching industry required biotechnology skills – to both students and teachers - was a good moderator for this difficult subject. She is an instructor with the Biotechnology Laboratory Technician Program at Madison Area Technical College in Madison, WI and directs the North Central Region of Bio-Link. She is co-author of the textbook Basic Laboratory Methods for Biotechnology. “For the purposes of our discussion, we define ‘accreditation’ as the external evaluation of a program and ‘certification’ as an external evaluation of an individual,” announced Seidman right off the bat. While most agree that some sort of approval process for training programs and students is needed, how to craft a “one size fits all” set of criteria in a dynamically growing industry, may not be feasible. “There are no boundaries in biotech. We have folks working in research, development and projects all the way into the clean room ‘bunny suits’ of biomanufacturing. A biotech program may serve one sector, or two, or all,” said Seidman.

**J**odi Wesemann, Ph.D., is the Assistant Director for Higher Education at the American Chemical Society. She coordinated publication of the ACS Guidelines for Chemistry in Two-Year College Programs. She also served as PI for ChemTechLinks, an NSF-ATE project. She related her experiences with the Chemical Technology Program Approval Service – a type of accreditation program her agency started in 1991 and ran for eighteen years. “This is a story of how pursuit of a goal, which I think was a very worthwhile goal, ended up becoming a digression for us in the chemistry world,” said Wesemann. “What worked? We had a self-evaluation process with a third party stamp of approval, flexible criteria, and the work we did was synergistic with the skills standards and the on-line gap analysis platforms. The program was good for ACS too. We increased our volunteers and our relationships with programs, our contacts with industry. But there wasn’t a long term sustainability plan. The board of directors was concerned with the low number of approvals, only twelve, about ten percent. The silver lining was the reallocation of funds that went to support all the two year college programs.” Wesemann concluded with lessons learned. “Focus continuously on expansion, make sure you articulate the benefits, and carefully consider your landscape.”

**L**innea Fletcher, Ph.D. started the biotechnology department at Austin Community College ten years ago. She is presently a rotating program director at the National Science Foundation in the Division of Undergraduate Education. She offered her experiences with certification in Texas. “Texas Skills Standards are housed in the government, under the governor’s office, there’s a lot of funding involved,” she said. “When Bio-Link was funded twelve years ago, Texas utilized it in promoting the industry. There were few programs, so people were willing to adopt standards. The industry organization Texas Health Care and Bioscience had a good relationship with Washington and knew they had state-funded standards done at Shoreline Community College. They brought in large



(from left) Karen Hicks, Linda Rehfuss, Linnea Fletcher, Lisa Seidman, Jodi Wesemann

partners in the biotech industry and decided to adopt them. They didn’t ask the community colleges, this was totally industry driven. They asked us later if we thought it was a good idea. We said ‘it’s okay.’ We picked six core courses and embedded the skill sets in with activities and learning outcomes. We wanted a student product who could go anywhere in the state and be hired using the same skills. As new biotech programs come on board they work with us to gain approval. I like that the state runs this. Say if our industry needs a real time PCR machine, all the certified programs will get preferential treatment in obtaining one. We work hard to share everything and we do that through Bio-Link. We try not to hoard anything.”

**L**inda Rehfuss, Ph.D. is the Principal Investigator on a \$2.7 million National Science Foundation grant entitled the Northeast Biomanufacturing Center and Collaborative (NBC<sup>2</sup>), funded through 2012. She’s been Dean of the Mathematics, Science and Advanced Technology division at Montgomery County Community College (MCCC) in Blue Bell, PA, since July 2006. Prior to becoming dean, Dr. Rehfuss served as assistant professor and program coordinator for Biotechnology at MCCC. She has developed biotechnology programs and several biotechnology courses. In the NBC<sup>2</sup> she works for an industry-wide biotechnology certificate. “For us certification is not a digression. We are pursuing it in the second phase of our NBC<sup>2</sup> grant program. It has the endorsement of our visiting committee and our local

advisory boards.” She specified they are not pursuing accreditation. “Accreditation makes programs go into described buckets. There isn’t a lot of flexibility in the curriculum. It’s also costly to pursue accreditation. For biomanufacturing, the certification is what we are moving to; that is the formal recognition of a graduate’s skills, expertise, and comprehension of a specified body of knowledge. The good news from the harmonization conference with industry is that the required skills have, essentially, been validated. This first and key step is completed.” Now attention turns to learning outcomes. “What does the graduate know how to do? We are working on an assessment blueprint. Core competencies, sample questions, the items must be pretested, then we analyze, assemble a test, and run them at a whole battery of test sites. At the end of this, the certification exit exam will bring employers much greater levels of confidence.”



An informal audience poll taken during the Q&A section of the certifications panel revealed strong support for certification, weaker support for accreditation and some articulate opposition, although in the minority, to both.

# Seventh Annual Community College Program Day

**K**aren A. Hicks is Vice President of Human Resources for Targacept, Inc., a Winston-Salem-based biopharmaceutical company engaged in the design, discovery, and development of NNR Therapeutics™, a new class of drugs for the treatment of multiple diseases and disorders of the central nervous system. The company has compounds in clinical trials, including partnerships with AstraZeneca and GSK. Hicks spoke from the point of view of a research and development company advancing its drug candidates to commercialization. In remarks at the opening of the Community College Program, she said about her company, “We are expanding once again, with planned occupancy of another floor in our building located in the Piedmont Triad Research Park.” She cited a long relationship with Forsyth Tech Community College. “Dr. Gary Green is a visionary, and when he approached us about establishing an associate’s degree in biotechnology, we helped put the biotech program curriculum together. That was 2001. We recruited our first interns in 2002, three women minority students. And they were not running errands, they were contributing to scientific research in a meaningful way. By 2004 we had two Forsyth Tech interns at Targacept. We hired intern Regina Whitaker as a full time Targacept employee. And we just hired our second FTCC intern last week. We’re not interested in moving from Winston-Salem, we’re satisfied with our community presence and impact given our stage of development, and we’re getting the right talent when we need them. Thirty new employees will join Targacept this year, and we’re having great success in bringing them on-board.”



**Targacept Vice President of Human Resources Karen Hicks rises to participate in a lively question and answer session during this year’s Community College Program at BIO.**

**A**t the conclusion of the panel on certifications, Hicks spoke again, bookending the conference with her impressions from an industry perspective. “Working in human resources I know the pros and cons of accreditation and certification. Anyone willing to extend themselves, who shows the desire to become certified in a specialty area, we think that speaks to their behavioral disposition. If they’re willing to stick to it and see it through to the end, that fits with our culture here at Targacept. We want not just an instrument or equipment operator, but someone who has troubleshooting skills, who can get things done proactively. Problem solving is important. There’s no doubt someone with a certification has a leg up on competition and is more appealing to human resources practitioners. But we also must be careful not to go in with a lot of pre-requisites - you might end up with no viable candidates in the talent pool. It’s best to leave a way out by identifying that certification is ‘preferred.’”

Helping to prompt a lively question and answer discussion, Hicks asked, “What do you do when new things come along? What about recertification requirements? I’m brainstorming from a human resources point of view.” The lively discussion that followed involved many audience members.

Themes of this year’s Community College Program at BIO in Chicago:

- Graduates
- Entrepreneurs
- “Local Is Global”
- Support
- Innovation
- Certifications



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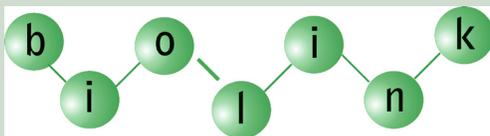
## VISION

To be the nationally recognized center of excellence that develops a world-class sustainable biomanufacturing workforce to improve the quality of life.

## MISSION

To coordinate local and regional efforts into a national biomanufacturing education and training system to promote, create, and sustain a qualified workforce.

NSF Awards 0501953 and 0903208



[www.bio-link.org](http://www.bio-link.org)

Bio-Link is a National Advanced Technological Education (ATE) Center for Biotechnology that originated in late 1998 with a grant from the National Science Foundation. The ATE program was created to improve and expand educational programs that prepare skilled technicians to work in the high-tech fields that drive the U.S. economy.

Bio-Link enhances and expands biotechnology education programs by providing cutting edge professional development for instructors, by improving curriculum, by making use of technologies and by creating a system that promotes the sharing of information.

NSF Award 0903317



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*The mission of the National Center for the Biotechnology Workforce is to represent, support and provide leadership at the national level with compatible biotechnology workforce organizations, education or training institutions and support NCCCS BioNetwork, Forsyth Tech, North Carolina and the Piedmont Triad Biosciences community.*



[www.ncbionetwork.org](http://www.ncbionetwork.org)