

# National Center for the Biotechnology Workforce

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



Forsyth Technical Community College, NC

NH Community Technical College, NH

Indian Hills Community College, IA

Bellevue Community College, WA

Miracosta Community College, CA

Combining strengths of five premier community colleges from around the nation for new learning models to build our biotech workforce

## NCBW Helps Sponsor Statewide Council for Entrepreneurial Development BIOTECH 2008 Conference May. 19-20, Winston-Salem, N.C.

### Financial Community Joins Life Sciences Community, Education Emphasized For More Success

**S**uccess is raising the stakes in North Carolina's booming biotech business. Panelists, keynote speakers - including former Governor Jim Hunt - as well as participants in conversations up and down the aisles at this premier venture capital conference kept giving a lot of credit to the state's educational resources in fulfilling the promise of Biotech.

But the 700 industry-associated participants in the Biotech 2008 event sponsored by the Council for Entrepreneurial Development (CED) on Monday and Tuesday, May 19 and 20 at The Benton Convention Center in Winston-Salem, N.C., also heard about how efforts to improve training and ready the workforce must not let up.

While the gathering's primary focus was on strategies for financing - and profiting from - biotechnology development, crucial workforce and training issues emerged in the course of the packed two-day program.

Governor Hunt, now counsel with Womble, Carlyle, Sandridge & Rice, led the charge for a better workforce as he addressed the conference in a keynote. "I want to thank all of you involved for making us the third largest biotechnology state in the nation," said Hunt to loud, emotional applause. "We can keep it up if we do it right with homegrown companies."

#### He recounted accomplishments

strengthening community college and other biotech education networks in the state during his terms in office. But he called for renewed efforts. "We're not doing well enough in science education, we're not doing well enough in preparing the workforce - for them or for the nation. To compete today with Europe, China, India, we need a scientific trained workforce. Only 25 percent of fourth graders are proficient today; 47 percent of eighth graders are below proficient. This is the most important field for our future. We need people who can think, for new ideas, to invent. It starts with learning the basics."

Then he put his words to action and conferred awards to outstanding students in the field of biotech to more audience applause.



Action around the NCBW booth with **Mona Cofer** displaying colorful products and informative posters.



**Dr. Esther Alegria** (above, left), vice president of manufacturing and general manager of Biogen Idec's Research Triangle Park site, and **Mike McBrierty**, Biogen Idec public affairs manager, greet **Russ Read**, executive director of the National Center for the Biotechnology Workforce on the exhibition floor.

That evening Dr. Alegria emphasized Biogen Idec's commitment to education when she announced a new \$25,000 donation to NCCCS BioNetwork to help 25 students pursue two year degrees in the life sciences.



**Thomas Powell IV**, treasurer of Carolina Biological Supply Company (left) with **Richard Franks**, C.B.S.C consultant, are strong partners with Russ Read and the NCBW in preparing the biotech workforce. They help provide teacher education kits and equipment for schools and hands-on training.

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See list of high school biotechnology project award winners on next page.

**To harness the power of biotechnology industry potential** - with a skilled, ready workforce - the U.S. Department of Labor Employment and Training Administration created the National Center for the Biotechnology Workforce in 2004.

Because community colleges are actively involved in meeting the needs of workers and industries in their communities, the National Center focuses energy and investments on five community colleges with different but congruent strengths in the biotechnology industry to create new curricula and infrastructure models that can easily be shared and replicated.

## Financial Community Joins Life Sciences Community, Education Emphasized for More Success

**N**ow in its 17th year, the Council for Entrepreneurial Development's Biotech Conference unites the life science community and brings top-notch industry executives, the region's most innovative biotech entrepreneurs; major pharmaceutical companies; life science research leaders; policy makers; and nationally prominent investors together.

The National Center for the Biotechnology Workforce (NCBW), a lead sponsor of the event, displayed its work. A steady stream of attendees viewed NCBW posters, took publications, and engaged in some lively conversations about issues in the biotech workforce.

Entrepreneurial investing in North Carolina biotech companies is good for everybody. Biotech companies here raised more than \$900 million in venture capital in 2007, up 72 percent versus 2006. Meanwhile, investments nationwide increased at "only"



**Charnelle Wilson of Sanderson High School accepts her Excellence in Science Education Award presented by Biogen Idec and James B. Hunt, Jr, former NC Governor at CED's BIOTECH 08**

16 percent (*source: CED Venture Report*). This strong entrepreneurial spirit among the financial community fuels the pioneering research and development that's currently employing 57,000 people in 450 companies statewide.

Following a North Carolina Biosciences Organization meeting held during the conference, including ratification of a new slate of directors, a panel discussed North Carolina Biotechnology Center's new statewide biotech initiative, the "Centers of Innovation."

The state's General Assembly set aside \$3 million in annually recurring funds, starting in fiscal year 2007-08, to create six centers by 2012. Directors of the centers from multiple regions and industry concentrations (such as medicinal plants, nutraceuticals, agbio, biofuels, etc.) compressed a tour of all five Tar Heel State regions into one engaging panel.

**"For every job created** in biotech, there are five more jobs created in support," said Gwyn Riddick, director of the North Carolina Biotechnology Center Piedmont Triad Office, illustrating the economic snowball biotech's become in the state.

Representatives from support industries, including clinical trial software, sterilization services, intellectual property procedures, and more, were in attendance at the exhibition.

Gathered around elegant place settings in the North Main Hall of the Benton Convention Center at closing of the first day's events, representatives of biotech entrepreneur firms, law offices, investment institutions, major pharmaceutical companies, life science research labs plus community leaders, government policy makers and nationally prominent investors were buzzing. Everyone was ready to hear incisive examination of biotechnology industry financials, trends and issues through the eyes of featured speaker Frederick Frank, vice chairman and a director of Lehman Brothers, Inc.

Preceding this keynote, Dr. Esther Alegria, vice president of manufacturing and general manager of Biogen Idec's Research Triangle Park site, climbed to the podium. She returned this high flying financial group to a serious issue facing the industry on the ground. Dr. Alegria announced a new \$25,000 Biogen Idec donation to NCCCS BioNetwork to assist deserving students in completing their educations in biotechnology. To enthusiastic applause she emphasized the importance of a ready workforce.

She seemed to echo the words of Governor Hunt, heard earlier in the day: "We depend on what we produce in our schools. Let's push for sciences in the K-12 schools, Smart Start, hands-on kits, let's explore. Why don't we join forces and change our schools, make our sciences first rate. We can do it."

### Outstanding High School Biotechnology Projects

*Excellence Awards at Council for Entrepreneurial Development BIOTECH 08*

Name	Project Title	High School
Nancy Wang	The Effect of Berberine on <i>Bacillus subtilis</i> and <i>Escherichia coli</i>	East Chapel Hill High School
Andrew Lomax	Bio-remediation - Cheap, Easy and Effective	East Bladen High School
Sajith Wickramasekara	Loss of Rpb1 Induces G1 Arrest in <i>Saccharomyces cerevisiae</i>	NC School of Science & Math
Yukun (Lucy) Yoa		
Alexander Amaya	Identifying Impurities and Ion-exchange Purification for the Production of Biodiesel	J T Hoggard High School
Austin Garrido	A Biologically Based Artificial Neural Network for Image Recognition Using Reinforced Hebbian Learning	Gaston Day School
Jialiya Huang		NC School of Science & Math
Soyeon (Amy) Kim	The Synthesis and Functionalization of Hydroquinone Undecanethiolate-Protected Gold Colloidal Nanoparticles	NC School of Science & Math
Melony Ochieng	The Heat of Formation on Iodoethylene Studied by Threshold Photoelectron Photoion Coincidence Spectroscopy	C.E. Jordan High School
Amanda Reams	The Development of a Hydrothermal Method for Synthesizing Zinc Oxide (ZnO) Nanowires and Nanoflowers	Chapel Hill High School
Kara Tinker	The Effects of Exposure to Waterborne Acetaminophen and Ibuprofen on <i>Daphnia magna</i>	NC School of Science & Math
Melaine Wiley	The Effects of Reaction Conditions on Alexa Fluor Labeling of Alpha-Synuclein	NC School of Science & Math
Charnelle Wilson	The Effects of Dicyclopropenylmethylxane on the Counteracting Responses of Ethylene in <i>Musa paradisiacal</i>	Sanderson High School
Nancy Yang	Z-DNA Binding Domains in <i>Strongylocentrus purpuratus</i> RNA Adenosine Deaminase	NC School of Science & Math
Laura Lee	The Vital Role of Caveolin-1 in the Hepatic Acute Phase	Mirkwood High School

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