

bio-link i-l-n Connection

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Newsletter of Bio-Link • The National Advanced Technological Education Center for Biotechnology

Where in the Heck is Worthington Minnesota?

I heard about Worthington BiO from Kathy Whelchel. She told me this was the 11th year for the conference, it was the best ever and I should attend. Then Elaine Johnson encouraged me to attend. I looked Worthington up on Google and realized it was a dot on the map – roughly 9 square miles, population 13,000 – located on Interstate 90 just east of South Dakota and barely north of the Iowa border. What could possibly make this tiny place a destination for biotech? I soon found out.

The people of Worthington have invested in bio development for over a decade. They made the decision this would be the life blood of their community and through the Worthington Regional Economic Development Corporation (WREDC) they have succeeded. Their U.S. Senator, Amy Klobuchar (keep an eye on this lady – she is a dynamo) made a surprise guest appearance and said Minnesota is the home of Post-it Notes, pacemakers and now polyphenols. Yep, polyphenols. Worthington's own Dr. Randy Simonson formed Grazix Animal Health, a company that uses polyphenols extracted from green tea and pomegranate to decrease scour (that's diarrhea brought on by environmental stress) in baby pigs, which

Elaine Johnson Named AAAS Fellow

It was a bright, beautiful morning in San Jose, CA on February 14, 2015, when several hundred of the worlds brightest and best gathered for breakfast to honor slightly over 400 individuals selected worldwide as the 2015 class of Fellows, American Association for the Advancement of Science (AAAS).

And Bio-Link was there! En mass! And for good reason! Elaine A. Johnson, Executive Director and PI of Bio-Link was to be inducted as an AAAS Fellow. Elaine was one of two Community College members selected in the 2015 class receiving this prestigious honor and recognition.

A Fellow is “a member whose efforts on behalf of the advancement of science or its applications are scientifically or socially distinguished”. Elaine was cited for her many years of leadership, inspiration, and successes in providing exemplary service to the field of education, particularly workforce development, instructor training, and STEM opportunities in biotechnology.

Next time you see Elaine, ask her about the Fellowship Rosette—it symbolizes the honor that AAAS bestows upon its members whose efforts on behalf of the advancement of science or its applications in service to society have distinguished them among their peers.



– Bart Gledhill
Bio-Link Co-PI

Congratulations Elaine!

is a huge problem in animal husbandry and production. In other words, it is a non-antibiotic treatment for a common problem, important to both farmer and the consumer who is seeking antibiotic-free food. The company is investigating Grazix effectiveness in cows, deer, dogs and cats. My inquiring mind went straight to my irritable bowel and I have been drinking lots more pomegranate juice since.

Yes, Worthington is a small city with a big biotech bang. They are concentrating on encouraging local entrepreneurs who in turn provide STEM jobs for the local population. As Marc Freese, Chief operating Officer of Prairie Holdings told those of us on the tour of the business incubator, the WREDC welcomes locally grown business because it is much easier than recruiting it from elsewhere.

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From the Director | Dr. Elaine Johnson



As Bio-Link continues its 17th year of National Science Foundation funding, we are celebrating many major accomplishments thanks to the leadership team and the active involvement of interested parties across the nation. The Bio-Link Community continues to grow and expand. The

Bio-Link National Visiting Committee (NVC) met on April 24, 2015 and was updated on the activities of Bio-Link intermingled with dynamic discussion. The NVC members identified a list of strengths and pointed to the recent accomplishments of the newly proposed website, the strong social media presence, and the excellent Bio-Link Career Site and increased website traffic. The NVC also commented on Bio-Link collaborations that continue to expand.

There have been some major recent collaborations. Bio-Link partnered with the California Centers of Excellence and Cal Biotech Careers to produce a labor market study on the middle skills workforce. Bio-Link co-hosted a regional

workshop and poster session with CCURI (Community College Undergraduate Research Initiative), co-organized a day-long community college forum at the AAAS International Annual Meeting in February, and was one of the sponsors of the 11th Annual Worthington BIO Conference in Minnesota.

Bio-Link continues to be major partner in the c3bc TAACCCT round 2 Department of Labor award to Forsyth Tech in North Carolina, a sponsor of HI-TEC in Portland, and of the Community College Program in conjunction with the BIO (Biotechnology Industry Organization) International Convention in Philadelphia. Planning and preparations are already underway for BIO 2016 in San Francisco! We are very excited to collaborate with the CSBI (Coalition of Bioscience Institutes). Bio-Link also participates in both MentorLinks and Mentor-Connect and continues to scale the Bridge to Bioscience and work on the sustainability of the National Center as well as the expansion of the Equipment Depot.

There are areas where you can provide assistance and guidance. The NVC had concerns about sustainability of the Center, succession planning for key personnel, marketing and outreach to defined audiences, and how to collect additional information on stackable/latticed credentials. Whew! We have plenty of work ahead and look forward to some exciting times.

Worthington Minnesota, cont.

One after another, we heard presentations from small companies like Grazix that used bio research to become successful and keep jobs in Worthington and the surrounding small towns. Randy Simonson's Grazix is his third successful company. The first two were purchased by large biotech firms – one by Merck Animal Health – and remain in Worthington employing the local population and drawing their college graduate children back home.

Worthington nurtures their children in STEM in what appears to be excellent public and private educational systems, as evidenced by the group of middle school Science Club students who exhibited posters of their own research projects. Their biology teachers, Tim Doeden and Kathy Craun are to be commended for leading a great group of kids into the fun of science. We need more of this informal type of STEM education in America. And let's not forget the enjoyable, informative and challenging keynote address from our own Jim DeKloe, Director and founder

of the Industrial Biotechnology program at Solano College, California. It's hard to pass up a presentation by Jim, an avowed supporter of kids and kids' doing science.

Building relationships is a lesson we in biotech education can do better. Rekha Ganaganur, from Minneapolis Community and Technical College, gave a wonderful presentation showing the methodical building of the biotechnology program there, only to end on a sad note that the program was being closed by administration due to low enrollment, which was nearly 100 students – not low enrollment at all for many of us. So what is the problem? This is the third community college biotechnology program to be shut down recently. An important realization for us is that it isn't low enrollment that kills a program. It is lack of relationships.



Although many community college programs survive or fail at the discretion of elected boards and/ or administrators, there is something to be said for those programs that survive in spite of what may be deemed low enrollment. What do these colleges and communities that encompass them do to ensure their success and maybe more important, define their success in terms of social capital and economic impact rather than FTEs? A look at what is happening in little Worthington Minnesota is a must-see for people who believe training our kids to be successful in STEM is better than just a bottom line. We all must engage in economic development and get small, medium and large companies involved in our biotech programs in all sorts of ways.

With this kind of support, there is no turning back. Seek relationships, build the pathway for success of students, engage the economic development authorities in the program and embed the program in the community. Chances of failure are much lower then. Just ask Worthington, Minnesota.

– Eilene Lyons
Bio-Link Consultant

New \$4.9 Million Biotech Lab Expands Student Internship Opportunities



The small, but real, work projects Sonja Lopez-Tellez (above) completed as a biotech student at Austin Community College (ACC) in Texas helped her succeed in two internships, with the second at XBiotech leading to a full-time job. Authentic work experiences are something ACC biotech students will get a lot more of when the college opens a new \$4.9 million biotech research wet lab with business incubator space. ACC is the first two-year college to receive such significant funds from the Texas Emerging Technology Fund Research Award program. The ACC Biotech Department's application with the support of a dozen community and corporate partners is a bold effort to address the shortage of wet labs that biotech start-up companies need to fine-tune their new products and production processes for them. "Once a company has discovered the value of using our interns to do projects, they ask for more. That is the bottom line ... because we get things done for them that would normally cost them quite a bit of money. And we can accelerate their product development," said Linnea Fletcher, chairman of the ACC's Biotechnology Department.

The authentic biotech lab experiences Sonja Lopez-Tellez had as an ACC student will become more plentiful when the college opens a \$4.9 million biotech research wet lab in 2016.

New Wet Lab Focuses on Biotech Industry

The new lab was announced in February and is scheduled to open in Fall 2016 on its Highland Campus. The campus is an old mall that ACC is renovating for classrooms, labs, and innovative programs like the biotech incubator. The 8,400 square foot biotech space will accommodate two-separate 400-square-foot labs that will meet regulated workspace standards. There will also be space for other laboratory benches, a cell culture room, microbe facility, storage, offices, and a conference room. The \$4.9 million award will cover the salaries of a director, lab manager, and administrative assistant and about half of the facility's equipment costs. The rest of the high tech equipment and the training to use them will be covered by a \$650,000 Wagner Pysner grant, funded by the U.S. Department of Labor and distributed by the state of Texas. Fletcher plans to offer a cell culture course and a biomanufacturing course in the evening at the new lab. Both courses are currently available only during the day at another ACC campus.

In addition to expanding the on-campus internships available for ACC students,

Fletcher hopes that having multiple companies "rent" bench space will create opportunities for dual-enrolled, high school biotech students to work in the facility with researchers and biomanufacturers. She also hopes to develop a program with the University of Texas at Austin for its biotech graduate students and post-doctoral fellows to gain project management experience supervising students in the new lab. Fletcher has a long list of companies interested in utilizing the biotech lab and its expensive equipment, but, in order to be selected, companies will have to agree to provide meaningful internship experiences for students, who will receive course credit. "We find start ups to be the best because they are so small they have the students do everything ... they learn so much more in these start-ups," she said. ACC's biotech program currently enrolls 100 students in associate degree, certificate, and post-baccalaureate programs. About 30 biotech students graduate each year.

- excerpted by Madeline Patton from ATE@20 website (<https://atecentral.net/ate20>)

CCURI and Bio-Link Co-Host Regional Conference and Poster Session

This report documents the proceedings of a regional conference and poster session, co-hosted by the Community College Undergraduate Research Initiative (CCURI) and Bio-Link from November 20-23rd, 2014 at Gaston College in Charlotte, North Carolina. This first of its kind joint convening of the CCURI and Bio-Link networks provided the opportunity for members of both organizations to share best practices related to designing and implementing undergraduate research programs at community colleges.

The report features community college student voices as they describe the impact that conducting undergraduate research has had on their education and how it has influenced their career goals. Recommendations are also proposed regarding next steps that CCURI and Bio-Link could pursue together in promoting a broader adoption or scaling of undergraduate research programs at community colleges across the country.



- John Carrese
Bio-Link Project Manager

Register Now!

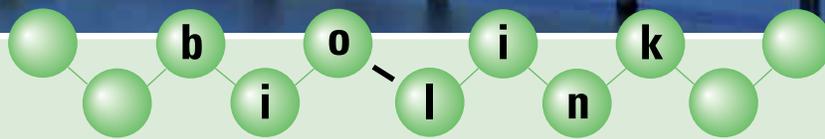
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City College of San Francisco • 1855 Folsom Street, Suite 643 • San Francisco, CA 94103 • 415-487-2470

Dr. Elaine Johnson, Executive Director – ejohnson@biolink.ucsf.edu

Dr. Bart Gledhill, Deputy Director – bgledhill@biolink.ucsf.edu

Co-Principal Investigators: Dr. Linnea Fletcher – linneaf@austincc.edu

Dr. Sandra Porter – sandy@bio-link.org • Dr. Lisa Seidman – lseidman@madisoncollege.edu

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Bio-Link is committed to program improvement, instructor enhancement, communication, program assistance, and supporting school-to-career activities in the biotechnology area.

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