

Bio-Link

Connection

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

BIO-LINK'S 13TH ANNUAL SUMMER FELLOWS FORUM

Bio-Link's 13th annual Summer Fellows Forum 2011 was once again hosted by the National Center located at City College of San Francisco (CCSF) from June 6 through June 10 at the Clark Kerr Campus conference site in Berkeley, California. Sixty-eight Fellows comprised of community college instructors and high school teachers from across the nation participated in the weeklong forum. The forum entitled "Expanding the Impact" consisted of a variety of concurrent workshops, informal meetings, and at the conclusion of the forum the elegant annual dinner banquet.

As in the past, the forum afforded each Fellow the opportunity to profile their

program at their school or college, to network, to share ideas and discuss issues that will continue to build the link between education and industry. Also for the first time ever, we hosted a special fellowship for those who were funded by the NSF Synergy Grant to participate at the forum (for more information, see the Synergy article on page 2).

The Fellows participated in workshops given by both bay area and national guest lecturers, who donated their time and supplies. Thank you to all the presenters – everyone appreciated your efforts! Once again this year, a complete list of the forum presenters and workshops, along with many of the workshop PowerPoint presentations, are available for review on the Bio-Link website.



Drs. Bart Gledhill and Elaine Johnson (left/center), Bio-Link Deputy Director and Executive Director present a plaque of appreciation to keynote speaker, Dr. James Dearing (right), at Bio-Link's 13th annual Summer Fellows Forum dinner banquet.

Thirty guests from CCSF and bay area industry also attended Bio-Link's 13th Annual Dinner Banquet on June 9. Dr. Elaine Johnson greeted and welcomed the Fellows and guests, and then introduced keynote speaker, Dr. James Dearing, Senior Scientist, Kaiser Institute for Health Research, who addressed the audience on "Designing for Diffusion of Innovations."

If you are interested in attending the 2012 Forum, save the dates of June 4 – 8 on your calendar and watch for upcoming announcements and registration information on the Bio-Link website or in the *Connections* Spring 2012 Issue.

- Lisa Huffman
National Center

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Fellows at the "Amylase Purification - Column Chromatography to Study Proteins" Lab Workshop presented by Elyn Daugherty.

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www.bio-link.org

The Value of Bio-Link



The Bio-Link Next Generation National ATE Center for Biotechnology and Life Sciences is now entering its third year as a Center of Excellence. In light of the extensive growth and dynamic, interdisciplinary nature of the bioscience industries, community and technical colleges face the challenge of

preparing students for employment. Bio-Link is committed to helping community colleges align with local workforce needs and recognizes the value of each member of the Bio-Link Community as well as the added value provided by its robust national network. In addition, Bio-Link is one of thirteen ATE Centers that is part of the Synergy Project for Research Practice and Transformation related to scale. With the lessons learned from this involvement, we are even better positioned to develop a national group of experts through

LeaderLinks who are available for consulting. This will serve to distribute leadership nationally, increase specialized local expertise, and promote the role of Bio-Link as a source of expert consultants. As part of its sustainability plan, Bio-Link will broker services that will serve the community at large. We also plan to have greater student involvement using a video contest and additional career exploration sources (more information may be found on the Bio-Link website). Please respond quickly and fully to the survey questionnaire. In order to serve each member of the community and to provide information to the National Science Foundation, we need data to support our requests and show that we are delivering quality products and services. We need responses (to a survey about to be distributed) from every biotechnology program at community and technical college in the nation. We began gathering data in 1999 and want to be able to provide every program with the information that shows the trends in biotech education. Bio-Link continues to represent efforts at major national conferences such as the STEM Learn and Earn Summit II in conjunction with the STEMtech Conference sponsored by the League for Innovation in early October. We are looking forward to a very productive year ahead.

Bio-Link's Synergy Project: Building a Bridge to Biotech Learning Community

Bio-Link received a three-year grant from the National Science Foundation to participate in the Synergy Project, which focuses on scaling up programs. Bio-Link's project is to scale up City College of San Francisco's (CCSF) Bridge to Biotech (B2B) program at community colleges across the country.

The B2B program at CCSF has proved to increase under-prepared student continuation and success in community college biotechnology programs. The CCSF B2B is a semester-long program which primarily targets socio-economically disadvantaged and minority students and consists of three linked courses in Introductory Science, and contextualized Math and English for Biotech.

The B2B Learning Community, which includes five adopting colleges planning to launch their program in Spring 2012: St. Louis Community College (MO), Gwinnett Technical College (GA), Athens Technical College (GA), Universidad del Turabo (PR) and Tompkins Cortland Community College (NY), initially met at the Summer Fellows Forum in June 2011 to discuss the CCSF B2B model.

B2B adopters subsequently met online through Webinars to discuss their plans for adapting the B2B program to their region and college, the challenges they are facing in the first phases of development and the successful practices identified through prior experiences.

A second cohort will join the B2B Learning Community in March 2012, and some have begun attending webinars as observers. Interested colleges should visit the Bio-Link website, under "Projects: Bridge to Biotech" (www.bio-link.org/home/bridge-to-biotech) and complete our Needs Assessment Survey or contact Laurence Clement at lclement@ccsf.edu.

- Laurence Clement, Ph.D.
City College of San Francisco



HI-TEC 2011 HI-LIGHTS

The third annual HI-TEC Conference took place at the Hyatt Embarcadero in San Francisco, California from July 25-28. HI-TEC is a National Conference on Advanced Technical Education where technical educators, counselors, industry professionals, and technicians can update their knowledge and skills. HI-TEC uniquely explores the convergence of scientific disciplines and technologies. It is an opportunity for community and technical college educators and stakeholders seeking professional development opportunities, education materials, collaborative ventures, and insights into emerging market trends to develop and advance the technical workforce of the 21st century.

Bio-Link presented the back-by-popular-demand session “NSF: Forum on Technological Education” that featured five technical professionals from different fields who provided insights into their technical education. The “fishbowl” session was introduced by Elaine Johnson of Bio-Link and moderated by Terryll Bailey of The Allison Group.



The five highly energetic and informative panelists/fish were:

- Jennifer Ausland - Technician, Texas AgriLife Research Center
- Jennifer Blancas - Student, Biotechnology Program, City College of San Francisco
- Brandon Harris - Process Engineer/Equipment Tech, NACK/Fairchild Semiconductor
- Christina Partin - Student, Bluegrass Community and Technical College, and Intern, AMTEC/Toyota
- Anthony “TJ” Ross - Student, University New Mexico, and Technologist, Sandia National Labs

All spoke candidly about their previous education and careers, skill preparation, about technical careers and what is important for educating the technical workforce.

Bio-Link was once again a Co-Producer for this year’s conference and also exhibited at the two-day Technology Showcase. HI-TEC will be held at the Denver Marriott Tech Center in Denver, Colorado from July 23-26, 2012 and planning is already underway. For more information visit the HI-TEC website at highimpact-tec.org.

- Lisa Huffman
National Center



Fellows Forum Highlights



Summer Fellows Forum Participants

Northeast Region

Virginia Balke
Joan Barber
Rhonda Doll
Sara Hooshangi
Mary Jane Kurtz
Alicia Manfre
Uma Narayanan
Brandon Shaw

North Central Region

Sengyong Lee
Jeanette Mowery
Lisa Seidman
George Twaddle
Kathie Whelchel

Northwest Region

Bridgid Backus
Warren Coffeen
Sandra Porter
Patricia Willy

Southeast Region

Keith Allen
Deborah Davis
Marisol de Jesus Berrios
Michelle Evans
Barbara Hunnicutt-Greenwell
Tammy Liles
Toby Mapes
Larry Porter
Janie Sigmon
Robin Willoughby
Bill Woodruff

South Central Region

Leigh Brown
Samantha Croft
Linnea Fletcher
Rob Hatherhill
Daiyuan Zhang

Southwest Region

Golnar Afshar
Claudette Bruno
George Cachianes
Jim DeKloe
Bob Del Vecchio
Bart Gledhill
Tamara Goetz
Andrea Goldfien
James Harber
Elaine Johnson
Katherine Krolkowski
Dave Menshew
Vivian Ngan-Winward
Susana Oliú
Khin Nu Thein
Joan Vreeburg
Amelia Wing

Synergy Fellows

Barry Bates
John Carrese
Susan Cerretani
Laurence Clement
Stacy Edwards
Glenda García
Philip Gibson
James Jacob
Edie Kaeuper
Nancy Kruger
James Lewis
Eilene Lyons
José R. Pérez-Jiménez
Olga Quintero
Jeff Rapp
Mel Wong
Rob Yung
Carin Zimmerman





Virtual Enterprise's National Push

In August of 2011, the Institute for Virtual Enterprise (VE) at the City University of New York announced the Virtual Enterprise Fellows Program. The first cohort of Fellows are collecting data about VE's impact on students' soft and entrepreneurial skills and how the pedagogy provides students with a breadth of perspective on science and technology industries. The Fellows are also charged with expanding the program through mentoring new implementers, developing instructional materials for dissemination and writing scholarly articles.

The Institute and its fellows continue to expand the VE program through new projects. This summer marked the start of a planning grant by the National Science Foundation for the National Center for Technological Entrepreneurship. The CUNY Institute for Virtual Enterprise has been repeatedly funded by the National Science Foundation's ATE program (DUE-0501711, DUE-0802365, DUE-1104183) to work on educational programs that infuse entrepreneurial skills and experiences into STEM classrooms. The simulation pedagogy, Virtual Enterprise, has students in STEM classrooms building simulated businesses that coincide with the learning done in their major. The success of the STEM Virtual Enterprise has led to the funding of a planning grant for a National Center for Technological Entrepreneurship.

In the coming months, the Institute will propose two large media projects. The first is a reality-style web-video series that follows four student teams' science and technology businesses, from different parts of the country, through their development lifecycle. The second is a rich-media entrepreneurship component to several e-textbooks. For more information about the STEM Virtual Enterprise of the VE Fellows Program, visit www.ive.cuny.edu or email contact@ive.cuny.edu.

*- Press Release Submitted by Edgar Troutd
For The CUNY Institute for Virtual Enterprise*

Save the Date!

Bio-Link's 14th Annual
Summer Fellows Forum

June 4-8, 2012

Clark Kerr Campus, Berkeley, CA

Info and Registration at
www.bio-link.org

Biotechnology at Oklahoma City Community College

Enrollment at Oklahoma City Community College's (OCCC) Biotechnology Program has increased to 10 students who are pursuing either an AAS degree or a Certificate of Mastery in Biotechnology. This is the largest class since the program started over 10 years ago. Many students are drawn to the program because of the success of the biotechnology internship that many times provides students with employment opportunities in the area.

OCCC Biotechnology held its second annual workshop for the incoming graduate students of the nearby University of Oklahoma Health Sciences Center GPiBS (Graduate Program in Biomedical Sciences) program in August of 2011. Twenty-two students spent a week in the biotechnology lab at OCCC learning new techniques and procedures as well as refreshing and refining basic and advanced laboratory skills that they will encounter during their graduate school career, including real-time PCR and mammalian cell tissue culture. Fabiola Janiak-Spens, Director of Biotechnology at OCCC, taught the workshop.

The week-long boot camp has been offered based on a request by the OUHSC to provide the new graduate students with an introduction to and refresher of techniques commonly used in research that they may not have been exposed to in their undergraduate studies. The size and availability of the OCCC biotechnology lab and its up-to-date equipment were the key factors in setting up this collaboration.

*- Fabiola Janiak-Spens, Ph.D.
Oklahoma City Community College*

Bio-Rad Laboratories Presents at Austin Bio-Link Meeting

The Austin Community College (ACC) Bio-Link meeting was held from August 15-19, 2011 at the new Roundrock Biotech Lab, where the workshop highlighted three days of higher education and two days of high school curriculum. Damon Tighe, Leigh Brown, and Jose Lopez of Bio-Rad Laboratories showed off the new Protein Expression and Purification Lab. This curriculum will enable colleges to teach upper level protein techniques to make all of our students a level above the competition. The ACC Biotechnology Staff taught high school focused labs highlighting basic laboratory skills, pGlo transformation, a bioinformatics activity, and PCR. Bio-Rad's Leigh Brown was gracious enough to lead the workshop on Friday using the Bio-Rad Biofuel Kit. With funding by the Texas Education Agency, participants of the high school workshop received a P20 and P200 Micropipettor. Workshop participants reported a great experience and ACC looks forward to hosting additional workshops in 2012. Watch for future announcements on the Bio-Link Events Website page.

*- Steven Spurlock
Austin Community College*



Southeast City College of San Francisco (CCSF) staff member Marlene Walker (left), and CCSF Biotech Club Co-President and Bridge to Biotech (B2B) graduate Jennifer Blancas (right), pose in front of scientific posters of current B2B internship students on display at the seventh CCSF B2B Internship and Networking Event held in May 2010 at the CCSF Mission Campus.

Minnesota State University Moorhead and North Hennepin Community College Work Together to Offer B.S. Degree in Biochemistry and Biotechnology

Through a unique partnership of Minnesota State University Moorhead (MSUM) with North Hennepin Community College (NHCC), MSUM is offering students in the Twin Cities region the opportunity to earn a Bachelor of Science in Biochemistry and Biotechnology without leaving the NHCC campus. Students are dually-enrolled at the two institutions, and complete a wide variety of foundation courses from the community college, followed by upper level courses in biology, chemistry and biotechnology from university faculty who are also based on the community college campus.

This program fills an unmet need for affordable biotechnology training in the urban area of the Twin Cities, more than 200 miles away from the main campus of MSUM. Nearby institutions that offer comparable B.S. degrees are private colleges or the traditional large public university. Thus, the program is exceptional, providing access to small class sizes and a familiar campus for students whose finances restrain their options to local, public institutions. The non-residential, age-diverse atmosphere of the “two-year” campus makes this a comfortable fit for nontraditional students tied to the area through work and family obligations.

The special relationship has been particularly successful because the faculty and administrators at the two schools share a strong commitment to undergraduate research. Students design and carry out semester-long research

experiments in several courses, and at the same time gain a firm grounding in a wide variety of modern techniques. Students take three dedicated lab “block” courses to practice skills particularly desirable for those entering industry or further graduate training, such as techniques in cell culture, protein purification and RNA work.

In their last year of the program, students undertake a yearlong project, beginning with submission of a detailed proposal and ending with attending and presenting data at regional or national conferences. Students benefit from a great deal of personal mentoring from the faculty. The underlying goal is to develop critical analysis skills so that



students become confident in their ability to ask meaningful questions and formulate well-designed approaches to answer them.

MSUM’s first “Twin Cities” graduate completed her degree in 2009, and recently enrollment has increased sharply, with all courses at or above their capacity this year. As students graduate, they are finding themselves well prepared for entry into industrial laboratory research programs, graduate and professional programs.

For more information:
www.mnstate.edu/msumtwincities.

- Tamara Mans, Ph.D.
Minnesota State University Moorhead



HI  TEC

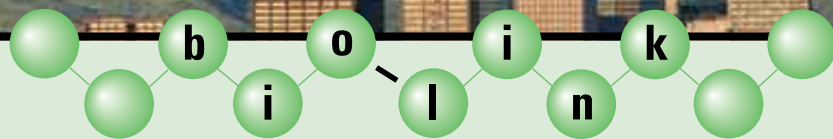
Save the Date!

High Impact Technology Exchange Conference

Educating America's Technical Workforce

July 23–26, 2012 • Denver Marriott Tech Center • Denver, Colorado

www.highimpact-tec.org



National Center

Dr. Elaine Johnson, Director • Dr. Bart Gledhill, Deputy Director • Lisa Huffman, Project Manager

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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.

For information on

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