

Biotechnology and Life Sciences research workforce initiative

Activities and Performance Measure Report

Report for the quarter ending June 20, 2006.

Narrative Summary of Performance:

The memorandum of understanding (MOU's) have been distributed (by mail and e-mail) across the state of Texas to known industry cluster employers, EDP's, NPO's, and education institutions inviting these entities to join the consortium. This project is on track; the web-portal is active, see Attachment B for additional information. The Research about the industry cluster is progressing well; see Attachment C for update. In addition, progress is being made toward the establishment of meeting short term and long term training and education at the Baccalaureate level; see Attachment D for further information.

SECTION 4 - Award Specific Requirements

- 4.1 The Grantee shall be responsible for all performance under this award.
- 4.2 The Grantee shall establish a Memorandum of Understanding (MOU) between consortium partners including, but not limited to biotech/life science employers, Workforce Development Boards, education and training institutions, and local and State agencies with an interest in the biotech/life sciences field.
- 4.3 The Grantee shall complete a needs assessment of biotech/life science industries to:
Explore the issues and alternative ways of identifying skills, education and training needs in dynamic spot markets as part of Alliance activities;
Develop and test new models and/or proxy methods of assessing skills requirements in highly dynamic labor markets with an piloting initial focus only on the Houston Region;
Research and document implications of rapidly changing labor markets for other workforce development processes including career exploration, career planning, educational planning, workforce development, job matching, career management, and continuing education.

SECTION 5 – Activities and Performance Measures

Deliverables Description	Deliverable Target	Year to Date Performance	Deliverable Due	Date Deliverable Completed
<p>5.1 Establish a training and resource consortium composed of life science employers, universities, community colleges, the Texas Workforce Commission and other organizations</p>	1	<p>Continued networking with employers, economic development and education institutions. Initial distribution of invitations sent by 02/28/06. (see Attachment A)</p>	2/28/06	02/28/06
<p>5.2 Establish an internet web portal as an information resource and clearinghouse in support of the Project</p>	1	<p>Initial web portal published on March 1, 2006. Platform and Port # being upgraded on 03/15/06. (see Attachment B)</p>	2/28/06	02/28/06
<p>5.3 Submit to the Agency contract manager and consortium partners a report detailing: Results of the assessment of biotech/life science industries identifying; Possible approaches to industry skills assessments in highly dynamic labor markets such as biotech; Design and pilot testing of new approaches to identifying industry skills requirements in rapidly changing industries; Results of pilot test in Houston region; Discussion of implications for educational curriculum, workforce and economic development practices; Suggestions for further research; Best practices, and Available educational programs</p>	1	(See Attachments C & D)	8/31/06	

Name of Person Completing Report: Christopher L. Baca Aziz

XC: Fauzia

Attachment A

April

· The Center for Life Sciences Technology (CLiST) convened a representative group of people from a variety of interests on April 6, 2006 at the Tanox, Inc. Offices. In attendance were: Imee Liong, and May Nguyen, Jennifer S. Zuber Garrison, Kathleen Randall, Fred Welch, Janet Stoney and Doug Blanchard, Ron Bourbeau, Cindy Stanton and Katie Winslade, Jason Moore, Marilyn Stadler and Joel Wagher, Bill Lemons, Jonathan Ultis, and Chris Baca. Mr. Joel Wager, Labor Market Analyst, of the Gulf Coast Workforce Board presented his research on local industry and occupational information. Specifically, we examined what is available from corporate tax filings, in regard to the biotechnology field. Biotechnology has not yet been deemed to be an industry by the federal government, and the NAICS codes that are available caused some question as to how employees in various research and technology companies are counted. In the discussion that followed, there was great interest in developing an accurate picture of the size of the life sciences research and biotechnology market in the Galveston to College Station corridor.

· Texas Biotechnology Cluster Team meeting April 5, 2006 where Chris Baca and John Galitos presented recommendations about Metrics for Success. Discussion that followed included: Biotech priorities, targets of opportunity – innovations, Criteria for decisions, Market entry, dollars, Size of market, # of companies / locations, # of jobs. Things we are already good at / have resources for land, etc. Regional autonomy builds & leverages, resources, convergence of technology.

· BioLink/ Texas Skill Standards Board meeting with community colleges with biotechnology programs. One outcome will be the placement of the presentation by Ann Dorsey on the web portal. Additionally, during discussions, the following agreed to take the lead on gathering information for the web portal from Texas Community Colleges:

· Skill Standards curriculum implementation Anne Dorsey TSSB

· Curriculum sharing and development Larry Loomis-Price, MC

· Articulation Matrix Linnea Fletcher, ACC

· Joint Equipment James Salazar, Linnea Fletcher

· Surplus equipment Larry Loomis-Price, MC

· Distance Learning Katie Burrows Temple College

· ALiST – Workshops Chandra Mittal HCC

· College specialization gathering Linnea Fletcher ACC

· Text book Lab Manual usage and assessment Larry Loomis-Price, MC

· Confirmed MOU's by 03/20/06: **26** to date they include Industry 5, Education 11, EDO's 4, and other with 6 organizations.

· As member of BioHouston Business Retention and Expansion committee, have contacted by email and phone biotechnology employers within 770xx area of Houston. Contacted 45 biotechnology companies by email and phone to schedule appointments and discuss BRE survey.

May:

CLiST Consortium

Recruitment of members from 4 primary areas: employers, EDO &NPO's, Service Providers, education institutions including K-12, college and universities to address industry cluster workforce supply and demand issues.

Deliverables include membership growth of 27 from last reporting on April 20, 2006. Currently there are:

Category	Number of Member
----------	------------------

	Organizations
Accelerator	1
Biotech	10
Business Development	2
College	10
University	9
EDO	10
Placement	5

Project impact of success of milestone deliverables for the remaining period of the grant: Broader collaboration throughout the state to address the development of continuum education and training programs for new and incumbent workforce for the biotechnology and life sciences research industry cluster.

Further interactions with the EDP - Woodlands will result in a focus lunch meeting with the Woodland's biotechnology companies on June 29, 2006. At the invitation of the EDP – Woodlands, CLiST, WorkSource, and BioHouston will meet to discuss the industry cluster issues including workforce priorities with the biotechnology employers.

The College of Technology and On Assignment partner up. The third annual Chili Cook Off was held on Friday April 21st. The College of Technology and On Assignment collaborated in a team entry for this event which attracted over 400 biotechnology oriented attendees.

As a member of the BioHouston Business Retention and Expansion Committee, CLiST contacted biotechnology businesses in the Houston region.

CLiST Branding has been initiated through the UH in order to bring clearer identity to the efforts of the CLiST Consortium. This new look will be applied into the web-portal and used for brochures and presentations.

CLiST participated in the May 4th TX Distance Learning Association and the Greater Houston Education Collaboration program. By participating in this education activity, CLiST gained new exposure among the education community in the Houston area.

Issues Report – There were two abnormalities in our progress this month: The first was introduced by two biotechnology organizations who have complained about the legalities of the Memorandum of Understanding. This has slowed the recruitment and generated a good deal of additional work. The second occurred as the ALiST executive committee attempted to meet to discuss plans for the ALiST Fall Workshop. A mutual time to meet could not be identified as the executive committee members were overburdened with teaching commitments.

As member of BioHouston Business Retention and Expansion committee, have contacted by email and phone biotechnology employers within 770xx area of Houston.

June:

CLiST Consortium

Recruitment of members from 4 primary areas: industry cluster employers, EDO & NPO's, service and support providers, education institutions including independent school districts, college and universities to address industry cluster workforce supply and demand issues.

Deliverables include membership growth of 6 from last reporting on May 20, 2006. Currently there are 54 organizational members in the CLiST C. See web-portal for consortium members:

<http://bio.tech.uh.edu/web/guest/consortium>

Category	Number of Member Organizations
Accelerator	3
Biotech	11

College	10
University	8
Research Institute	2
EDO	10
Service	5
Support	4
Pre-Venture	1

Project impact of success of milestone deliverables for the remaining period of the grant: Broader collaboration throughout the state to address the development of a continuum of education and training programs for new and incumbent workforce for the biotechnology and life sciences research industry cluster.

Further interactions with the EDP - Woodlands will result in a focus lunch meeting with the Woodland's biotechnology companies on June 29, 2006. At the invitation of the EDP – Woodlands, the CLiST, WorkSource, and BioHouston will meet to discuss the industry cluster issues including workforce priorities with the biotechnology employers.

As a member of the BioHouston Business Retention and Expansion Committee, CLiST contacted biotechnology businesses in the Houston region.

CLiST Branding is underway, contracting with Minor Design completed through the UH Marketing processes. This new look will be applied into the web-portal and used for brochures and presentations, and other consortium materials.

CLiST participated in the June 20 Small Business Summit thanks to the invitation by CenterPoint Energy. The Governors' Office held the Small Business conference at the Galleria Westin.

CLiST presented an update discussion to the Bio/Medical Technology Club of Houston on June 6th, see BMTCH information at <http://www.bmtchouston.org/contact.asp>, slides from presentation are available at <http://bio.tech.uh.edu/web/guest/news/publications>.

CLiST prepared an application in response to the TWC, "Meeting Industries' Critical Workforce Needs", RFP issued on May 15 and due on June 12, 2006. The TWC will review the applications and award grant by early July. (See attachment D for further information)

CLiST is a member of the Houston Community College NE Campus Biotechnology Advisory Committee. The AC met on June 15, 2006 with HCCS Biotechnology program faculty. <http://www.hccs.edu/discipline/Bitc/bitc.html>

Attachment B

Web-Portal

April

Web portal content

The web portal content has been improved and expanded this month. Content has been added and reorganized in nearly every major area of the portal to better reflect the ongoing addition of relevant content. This includes numerous publication downloads, more RSS news feeds and job feeds, links and documents for career and educational resources, curricula from several Texas colleges, and several press releases.

Web portal Phase II design

We have begun the design for the second phase of the web portal. The second phase will incorporate a more sophisticated job search engine that can then hopefully be repurposed for use in the educational item search as well. We are preparing requirements and design documents for bids and outsourcing some of this work. We have also begun preparation for the meeting with Valley Forge consulting to talk about proper branding for the CLIST program, which will then be incorporated in phase II of the portal.

Web portal migration

I am still working on issues related to the migration to the Linux server. Also, as discussed earlier, this migration will involve the implementation of the Alfresco content management system (Alfresco CMS at www.alfresco.com). This CMS should simplify the daily maintenance of the portal content.

To Do Items

1. Finalize the design and requirements document for the job search engine, obtain bids and then begin work on that development.
2. Complete the web portal migration to the Linux server cotweb.
3. Continue refinement of the content of the web portal

May:

Web portal content

The content of the web portal continues to be updated and improved. The consortium membership pages have been updated according to the expanding membership and logos have been added for each organization. Job feeds have been added from Monster.com, HotJobs.com and Indeed.com for the Texas region. Additional resources have also been added in other parts of the web portal.

Web portal Phase II design

We finished the initial design documents for phase II of the web portal, which will incorporate a more sophisticated job search engine. We have talked with several groups and individuals concerning the possibility of outsourcing much of this task. We are currently investigating the possibilities for outside help within the guidelines of UH policy for outsourcing.

Web portal migration

The web portal has now been transferred to a new server using the Linux operating system. This provides improved security and also provides greater freedom to use other software packages in conjunction with our portal, as this server is primarily dedicated to running the bio.tech.uh.edu domain. In addition, this migration allowed us to solve the previous issue with having to use port 8200. Now the bio.tech.uh.edu domain uses the standard port 80 and so should not have any problems with firewalls blocking the site.

To Do Items

Begin working on the job search engine, hopefully with some outside programming help. Investigate additional add-on packages for the web portal, such as the open source Alfresco content management system (www.alfresco.com). Continue updating and refinement of the web portal content.

June:

Web portal migration

The infrastructure of our web portal has been upgraded to version 4.0 from version 3.61 of Liferay. This new version has better aesthetics and provides more stability and capabilities than the previous version, including an improved Content Management System (CMS). Also, it was thought that since we are going to be creating new portlets for the job search engine (see below), it would be advantageous to build these portlets based on the latest version of Liferay.

Outside Support

We have made an initial agreement with Cathy Burkholder's programming support group at UH to begin helping us to build the job search engine portlets. They will begin as soon as the money has been allocated from the budget. Their estimated completion time for building the job search engine portlets is approximately 13 weeks. Also, we are in the process of interviewing some part time help for updating the content of the web portal. In addition, we have contracted with Minor Design for the re-branding of our web portal and program.

Web portal training

I completed 3 days of training in Los Angeles on the workings of the Liferay portal software, learning more details about the portal architecture and the programming of custom portlets and custom themes.

To Do Items

Provide any guidance needed for Cathy Burkholder's group in the creation of the job search engine portlets.

Oversee the temporary help in updating the content of the web portal.

Integrate the new branding from Minor Design into the look-and-feel of our web portal.

Begin investigating further portlets or capabilities of the web portal

April

Goals from March 15, 2006 report

- Ongoing lit review and preliminary report drafting
- Schedule and conduct approximately 20 interviews with
- Workforce development/economic development sectors
- Educational community
- Employers
- Thought leaders from outside fields: futurist, supply chain

Activities this period

- Completed four interviews – revealed gaps in lit review
- Added new areas of lit review – empirical studies, theoretical work on
- Theories of cluster development in economic development
- Role of education, workforce development in cluster development
- Themes
- Presence of cluster, university research capabilities are necessary but not sufficient drivers of regional cluster development – active employer participation is necessary.
- Creating pool of workers ahead of the labor market will not stimulate cluster growth
- Educational models for rapidly changing sectors
- Applications to Houston

Activities planned for next period

- Continue interviews
- Educational community
- Employers
- Thought leaders from outside fields: futurist, supply chain
- Report drafting ongoing

May:

Goals from April 15, 2006 report

Report drafting ongoing

Planning, scheduling interviews

Educational community

Employers

Activities this period

Drafting key sections of literature review in order to revise final interview protocols

Data analysis of Houston employer data, occupational data to develop models of Texas Gulf Coast Sector

Interview planning for employer interviews.

Variations from Plan

Educator interviews pushed back in order to revise protocols and plans for employer interviews.

Plans for employer interviews have changed from individual to group interviews with mixed stakeholders. These changes may impact Human Subjects Review requirements of the University of Houston Institutional Review Board. Seeking clarification whether this will require formal review.

Plans for next period

Meet with addition parties to be involved in employer interview discussions to discuss roles, craft agenda, review proposed interview protocol and questions.

Revise employer interview protocols based on outcomes of discussions with other stakeholders and Human Subjects Review requirements.
Continue drafting lit review, analysis and development of Houston biotech company cluster data and occupational models.
Schedule and plan employer group interview for late June.

June:

Goals from May 15, 2006 report:

Meet with addition parties to be involved in employer interview discussions to discuss roles, craft agenda, review proposed interview protocol and questions.
Revise employer interview protocols based on outcomes of discussions with other stakeholders and Human Subjects Review requirements.
Continue ongoing work on lit review, analysis and development of Houston biotech company cluster data and occupational models.
Schedule and plan employer group interview

Activities this period:

Data analysis of Houston employer data, occupational data to develop models of Texas Gulf Coast Sector
Planning for employer interviews

Plans for next period:

Conduct employer group interview June 29, 2006.
Complete employer analysis and create cluster model.
Complete area occupations analysis and create occupational model
Continue drafting final report

Attachment D

Curriculum Development – Workforce Training

April

Short Courses

- Meeting with Darrell to discuss diagrams for Biotechnology Techniques
- Collaborating with Darrell on line delivery of Biotechnology Techniques.
- Attended Webinar on GMP regulations

Biotechnology Program

Meeting with Mike Gibson to discuss Biotech degree Program

Meeting with Jerry Pyka to discuss integration of CoT courses into the biotech degree

Meeting with Susan Miertschin to discuss the degree plan

Meetings with Katherine Frazier to discuss University, college and Biotech core courses

Prepared interdisciplinary Biotechnology degree plan (see attached), with a bioinformatics and biomanufacturing track.

Presented Biotech. Degree plan to NSM and CoT faculty.

Contacted TAMU faculty to discuss possible collaboration for incorporating environmental biotechnology into the lab and lecture curriculum

Sustainability

Working on submission to ATE and CCLI

Submitted abstract for biotech training program center

Activities for Next Period

- Continue working on CCLI and ATE
- Collaborate with Darrell on developing the on line Biotech tech course.
- Meet with Katherine to discuss prerequisites for the newly proposed biotech courses.
- Incorporate changes/suggestions to prepare new draft of the degree plan.
- Continue developing course outline, course description, learning objectives for GMP

May:

Short Courses

Continue working on the GMP short course

Meeting with Steve Pondell and Terry Framer of Encysive Pharmaceuticals to discuss course content for GMP course. Both Steve and Terry will assist in developing course content that is aligned with industry needs.

Biotechnology Program

Incorporated changes, suggestions in the new degree plan.

Prepared two versions of the undergraduate degree plans.

Meeting with Dean Fitzgibbon to discuss two versions of the plan and facilities and equipment for the program

Meeting with Larry Williams and Roger Tilley of NSM to discuss collaboration for the biotechnology program. Dr. Tilley will assist with testing of lab modules for biotech I lab.

Extensive discussions with Dr. Melinda Wales to incorporate her and Dr. Wild's research into undergraduate laboratories.

Discussions with Dr.

Presented Biotech. Degree plan to NSM and COT faculty.

Contacted TAMU faculty to discuss possible collaboration for incorporating environmental biotechnology into the lab and lecture curriculum

Sustainability

Submitted NSF ATE pre proposal

Submitted NSF CCLI

Working on Texas Workforce Commission

Activities for Next Period

Work on the TWC grant

Collaborate with Darrell on developing the on line Biotech tech. course

Meet with Katherine to discuss prerequisites for the newly proposed biotech courses.

Continue working on undergraduate degree program for approval by the undergraduate committees.

Continue developing course outline, course description, learning objectives for GMP.

June:

Sustainability: worked primarily on TWC RFP # 06-04 submission for development of undergraduate biotechnology program and short courses for incumbent and dislocated workers in the biotechnology industry.

Extensive discussions and meetings with Mr. Christopher Baca, Mr. Craig Cassidy, Dr. Heidar Malki, Dr. Miguel Ramos on Texas Workforce Commission grant submission

Meeting with Dr. Pete Linkins ASSETT, to discuss outreach collaborations.

Meetings and discussions with community college (Dr. Salazar, Galveston college and Dr. Susan Hoyne, Shoreline Community, Washington State) biotech industry, Texas Heart Institute, UTMB for collaboration and program discussions.

Presentation at the Houston Galveston WorkSource regarding the interdisciplinary biotechnology program at University of Houston.

Extensive discussions with Dr. Melinda Wales of Texas A & M University and Chief Scientific Officer of Reactive Surfaces to incorporate her and Dr. Wild's research in environmental biotechnology into undergraduate laboratories. Dr. Wales is collaborating to develop a project based curricula for the biotechnology degree program. This curriculum will cover basic and applied biotechnology and introduce students to the principles and concepts of bio processing, nanobiotechnology and its applications in biosensors.

Conference: Attended Summer Fellows Bio-Link Conference, June 3- June 8, Berkeley, California

Attended biomanufacturing quality and regulation workshop presented by Mira Costa College

Meeting with Mike Fino to discuss the biomanufacturing tract of the Biotechnology program.

Attended "Preparing for the diversity needs for the 21st century" workshop presented by the National Center for Biotechnology Workforce.

Meeting with Joe Mattoon, forum presenter on designing and using learning objects in biotechnology curricula.

Discussions with Dr. Susan Hoyne, Dean of Math and Science, Shoreline Community College, Washington State on collaboration to develop environmental biotechnology programs. Dr.

Hoyne has provided a letter of support and intent of collaboration for the recently submitted TWC grant to develop a biotechnology program and short courses for students of biotechnology.

Texas has adopted the Skills Standards in biotechnology created by Washington State, which will strengthen the bonds and shared goals of both institutions. This collaboration has a great potential of serving as a model for environmental biotechnology nationally. (the support letter is below)

Activities for Next Period

Continue to collaborate with Mr. Darrell DeMartino on developing the on line Biotech tech. course

Work on prerequisites for the newly proposed biotech courses.

Incorporate changes/suggestions to prepare new draft of the degree plan.

Continue developing course outline, course description, learning objectives for Biotech Regulatory Environment.