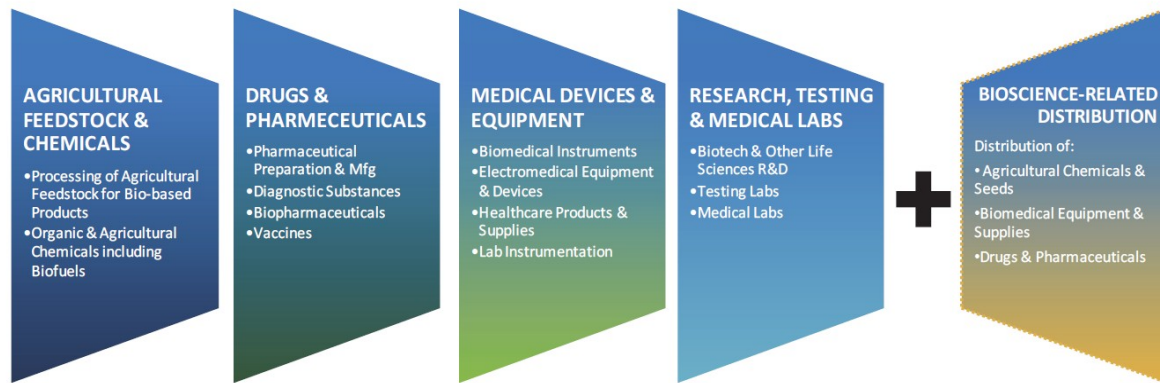


Life Sciences/Biotech Sector
San Diego and Imperial Counties Region
Labor Market Forum

A labor market forum for the Life Sciences/Biotech Sector was held on April 29, 2014 at BIOCOM. The effort was collaboration among four entities, including the CCC Chancellor’s office Economic and Workforce Development (Doing What Matters Initiative), the San Diego-Imperial Community College Regional Consortium, the San Diego Workforce Partnership, and the Center of Excellence. Participants included 16 members from the biotech industry and 3 CC faculty, among others. A synopsis of the presentation and discussion follows:

Previously the bioscience industry was defined as encompassing four main areas, including 1) Agricultural, Feedstock and Chemicals, 2) Drugs and Pharmaceuticals, 3) Medical Devices and Equipment, and 4) Research, Testing and Medical Labs. The updated definition now includes distribution of bioscience products. This new definition was used to frame the labor market analysis.



Source, Battelle, 2012

In addition, to life sciences/biotech companies that represent the sub-sectors shown above, colleges, universities, and professional schools, as well as employment staffing agencies were also considered to be employers of workers.

Industry Demand for Entry-level workers

An analysis of both traditional labor market data (EMSI) and real-time labor market information (Burning Glass) were used to determine the demand of workers with high school diplomas or 2 or 4 degrees.

Overview of Findings

- 6 occupational titles (up to B.A./B.S degree) 3,400 current jobs
- 28% 5-year growth projected
- \$21 median hourly wages
- 280 annual projected openings (EMSI)
- 560 online job ads in 2013 (Burning Glass)

Most Frequent Job Titles

1. Biological Technicians
2. Chemical Technicians
3. Medical and Clinical Laboratory Technicians
4. Quality Control Analysts
5. Manufacturing Production Technicians
6. Inspectors, Testers, Sorters, Samplers, Weighers

Top Employers

	Job Ads
Laboratory Corp. of America	59
UC San Diego	56
Dianon Systems Incorporated	24
Scripps Research Institute	21
Genentech, Inc.	16
Shire/Organogenesis	16
Scantibodies Laboratory Inc.	13
Life Technologies/ThermoFisher	12
Gilead Sciences	10
Becton Dickinson	9
Novartis	9
Affymetrix Inc	7
Sanford Medical Research Inst.	7

**Life Sciences/Biotech Sector
San Diego and Imperial Counties Region
Labor Market Forum**

In-Demand Baseline Skills (as categorized by Burning Glass)

<u>Baseline Skills</u>	<u>%Job Ads</u>	<u>Baseline Skills, continued</u>	<u>%Job Ads</u>
Quality Assurance and Control	37%	Detail-Oriented	18%
Communication Skills	31%	Microsoft Excel	17%
Writing	23%	Computer Skills	15%
Organizational Skills	22%	Troubleshooting	14%
Research	20%	Problem Solving	11%

In-Demand Specialized Skills (as categorized by Burning Glass)

<u>Specialized Skills</u>	<u>%Job Ads</u>	<u>Specialized Skills, continued</u>	<u>%Job Ads</u>
Chemistry	22%	Validation	10%
Inspection	17%	Cleaning	9%
Good Mfg. Practices (GMP)	17%	Laboratory Equipment	9%
Biology	10%	Good Lab. Practices (GLP)	9%
Data Entry	10%	Calibration	8%

Community College Workforce Ready Candidates

College	Program/s	Award Type/s	Supply for Immediate Employment*
MiraCosta	Biotechnology – Research and Development	AS	26
	Biotechnology – Research and Development	Certificate of Achievement	
	Biotechnology – Laboratory Skills	Local Certificate*	
	Biotechnology – Bioprocess Technology Track	Certificate of Achievement	
Grossmont	Grant Funded	No Award	n/a
SD City	Applied Biology Track	AS	23
	Applied Biotechnology	Local Certificate	
SD Miramar	Applied Biology	AS	25
	Applied Biotechnology-Analytical Chemistry Track	Local Certificate	
	Applied Biotechnology-Molecular Biology Track	Local Certificate	
Southwestern	Biotechnology	AS	20
	Biotechnology	Certificate of Achievement	
Total			94

*Supply = the actual number of unique students who are *work-force ready* as determined by interviews of relevant faculty or department heads. Estimated supply does not include transfer students or incumbent workers.

Demand and Supply Comparison

DEMAND

Annual projected job openings (EMSI)	263
Annual job advertisements (Burning Glass)	560

SUPPLY

Community College Trainees	94
<u>CSUSM Bachelor's in Biotechnology</u>	<u>15</u>
Total job ready candidates	109

**Life Sciences and Biotechnology Gap Analysis
San Diego and Imperial Counties Region
Summary of Preliminary Results**

Key Discussion Points

- Actual job titles that employers are using when advertising their openings differ significantly from the standard occupational titles used by the U.S. Bureau of Labor Statistics and California's EDD. Titles that describe entry level biotechnology jobs include Laboratory Assistant/Technician, Research Assistant/Associate, Quality Control Technician/Assistant, Clinical Laboratory Scientist (CLS), Medical Laboratory Technician (MLT), Animal Technician, and others. ***It is important for community colleges in the region to make students aware of the actual job titles and job opportunities available to them.***
- Gap analysis suggests that the regional community college ***might need to increase their capacity/add programs to meet the demand of employers for entry level workforce in biotechnology.***
- According to official classification of the occupational titles considered, Bachelor's degree is a minimum required credential for most jobs. However, employer feedback and the analysis of job advertisements in the region suggest that employers value hands-on experience and skills more than a four-year credential. ***Employers confirmed that community college students who receive certificates and/or associate degrees and have hands-on laboratory training are desirable candidates for hiring.***
- Based on employer feedback, the colleges should make sure that their Biotechnology related programs are preparing students in: Good Manufacturing Practices (GMP), Quality Control, fundamentals of scientific knowledge ("scientific common sense"), as well as workplace skills and abilities. ***It is recommended that colleges review their programs for these knowledge/skill areas to make sure they are incorporated into curricula.***
- Certifications are not always required by employers (81% of the job advertisements considered did not list a certification requirement). However, employers prefer trainees with a certification over those without it when considering candidates during a selection process. Phlebotomy certification is important to employers. Employers noted that phlebotomy knowledge/skills are becoming increasingly important to biotech employers. ***Colleges should consider preparing students to take industry certifications.***

References and Collaborators

References

- Batelle/BIO State Bioscience Industry Development, 2012 (http://www.bio.org/sites/default/files/v3battelle-bio_2012_industry_development.pdf)
- Burning Glass Labor Insight, full year 2013(<http://burning-glass.com/>)
- EMSI (<http://www.economicmodeling.com/about-ems/>)

Collaborators

- Doing What Matters for Jobs and the Economy (<http://doingwhatmatters.cccco.edu/>)
- San Diego Imperial Counties Community Colleges Regional Consortium (<http://www.gcccd.edu/sdic-regional-consortium/default.html>)
- Center of Excellence (<http://coecc.net/>)
- San Diego Workforce Partnership, local Workforce Investment Board (<http://workforce.org/>)
- BIOCOM (<http://www.biocom.org/>)

Contact Information:

Sandy Slivka, Director Life Sciences/Biotech
Email: sslivka@sdccd.edu