Oregon Bioscience Association

Annual Report 2009 on Community, Collaboration and Commercialization

The Oregon Bioscience Association Works for You

Dear OBA members, sponsors and partners:

We are proud to report that 2009 was another strong year for bioscience in Oregon. Despite the economic spikes and dips on the local and international fronts, bio in Oregon remained recession proof with jobs, sales and company revenues holding steady, coming in at levels comparable to 2008.

We are also proud to report that the Oregon Bioscience Association (OBA) saw another year of service expansion, more networking opportunities and professional development events, more fertile engagement with policymakers, higher event revenue, increased membership, and more sponsorship support. Additionally, we launched and then greatly expanded the Web site to provide more products, services, and information that continues to place us as a resource for all things bio in Oregon.

As part of our continuous quality improvement efforts, during the fourth quarter we surveyed current and potential members to gain informative and useful insight to help drive "market-focused" decisions among the association's leadership. The response was strong; we learned that retaining employees and expanding into new markets are top priorities for this year and beyond.

During these times, we were not only able to grow membership but we grew our profile as the premiere trade and membership association for biotechnology and the life sciences in Oregon. With our active work this past year in advocacy and outreach, OBA's voice resounds to represent our industry's vital and growing presence. As always, we welcome your continued support and involvement.

John Tortorici, Executive Director Nathan Gibson, 2009 Chair

BioPro Workforce Training Program Helps Oregon Companies Excel

Precision Wire Components doesn't have to put its medical wire components through the U.S. Food and Drug Administration's approval process. Even so, a group of the Tualatin company's managers wanted to learn what that experience involves.

"We wanted to understand the process our customers go through, so three or four of us went to a BioPro training course on FDA approvals and it was wonderful," said Chief Executive Officer Todd Hill.

The FDA course was one of many attended by PWC staff in the two years since the Oregon Bioscience Association established its BioPro Workforce Training Program. BioPro's curriculum is designed not only to develop a more knowledgeable and skilled workforce and improve productivity, but also to meet the growing demand for trained biotechnology and life sciences workers in Oregon and support recruiting efforts.

Oregon's bioscience industry continues to grow rapidly, showing a statewide direct economic impact totaling almost $3.5 billion in 2007. Yet that year, dozens of Oregon biotech and life sciences companies identified training and development of the work pool as a key area that, if improved upon, could result in greater industry success and recruitment opportunities.

In 2009, BioPro's second full year, a total of 899 students from more than 70 Oregon companies participated in 94 classes since the program's launch. Last year, OBA received

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Bioscience draws hundreds of millions in research dollars to Oregon each year. Preliminary figures from the National Institutes of Health show Oregon received more than $336 million in federal research funding in 2009. Portland received the bulk of the funding with more than $236 million in research awards, followed by Eugene ($71.6 million) and Corvallis ($26.7 million).

From 2005-2009, NIH Small Business Innovation Research (SBIR) Grants for Oregon have totaled more than $94 million.

NIH AWARDS

FY 2009: $336,385,033 (preliminary)
FY 2008: $270,461,336
FY 2007: $277,283,116
FY 2006: $285,247,459
FY 2005: $275,962,818

NIH SMALL BUSINESS INNOVATION RESEARCH (SBIR) GRANTS FOR OREGON
FISCAL YEARS 2005–2009

2009:
34 awards=$14,676,618
2008:
41 awards=$18,492,384
2007:
46 awards=$19,275,725
2006:
56 awards=$20,388,939
2005:
39 awards=$21,072,264

AT A GLANCE

The Oregon bioscience cluster is built on the four-cornered foundation of Research, Workforce, Funding and Infrastructure.

In 2007, the bioscience industry in Oregon had a total economic impact of more than $6 billion and 37,000 jobs. This halo effect:

- Contributed $3.5 billion directly to Oregon's economy
- Employed more than 13,630 in direct professional, research and technical positions
- Paid Oregon biotech workers an average wage of $55,000
- Provided $800 million in personal income
- Received nearly $459 million in federal research funds
- Counted more than 600 private companies and research institutions

Between 2002 and 2007, growth in the bioscience industry was significant and far exceeded the growth rate for the Oregon economy as a whole. In these six years, the following growth in direct impact occurred cumulatively in Oregon bioscience's private industry and life science research:

- Growth in personal income: $313.8 million, or 64.6 percent
- Growth in employment: 3,009 jobs or 28.3 percent
- Differential in biotech worker income to average Oregonian's pay: 39 percent

Source: *Oregon Labor Market Information System* and *The Dimensions and Contributions of the Bioscience Industry In Oregon* report, published January, 2009.

a $200,000 grant from Worksystems, Inc. to continue underwriting the program. The grant amount was a 42 percent increase from the previous year and was due to the program's success and local employers' engagement.

PWC's Hill said the program has benefited his company in several ways. Not only does PWC have access to a range of training topics through the BioPro program, but it makes training more cost effective and efficient.

"The classes are more affordable because OBA members often host them and don't have to rent space, plus the resources are local so we don't have travel costs. It's also less of a productivity burden because we don't have to send people away to a class," he said.

Trish Hennon, PWC's human resources director and a member of the BioPro Steering Committee, said the program serves not only the industry at large but also provides tailored courses for very specific audiences, such as a recent training for Vietnamese-speaking employees of one Oregon firm.

The ability to help craft training resources based on industry needs is another of the BioPro program's strengths, Hill said.

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Commercialization: Funding Cuts Initiate Innovative Business Model at OTRADI

The poor economy has dealt its share of challenges to the Oregon Translational Research and Drug Development Institute (OTRADI) since the non-profit scientific research organization was founded in 2007.

State funding fell far below expectations for the institute, which was created to foster research and drug development leading to the commercialization of therapeutics and bioscience technologies from biotech companies and research universities in Oregon.

However, a successful lobbying effort by the Oregon Bioscience Association helped convince the 2009 Legislature of OTRADI's importance to the state's bioscience community. Funding cuts also inspired OTRADI's Executive Director, M. Patricia Beckmann, Ph.D., to explore other avenues of fully funding this unique research facility.

In addition to accepting fee-for-service contracts, Beckmann has set up collaborative research proposals with partnering universities and biotech businesses, and OTRADI has launched its own research initiatives with an eye toward commercialization.

OTRADI also recently instituted a grants program. OTRADI Innovation and Commercialization Fund (OICF) awards are available to researchers from biotech businesses and universities to support and promote projects with potential for future commercialization and bioscience growth in Oregon.

"Initially, the goal was to revamp our business model because of the economic challenges. We're adding a new dimension to what the universities can tap into for bioscience development and commercialization," Beckmann said.

"OTRADI is a unique resource to help grow the start-up community and help universities and fledgling entrepreneurs compete in the bioscience industry," she added.

Through its new grants program, OTRADI provides Innovation and Commercialization Fund (OICF) awards to researchers from biotech businesses and universities to support and promote projects with potential for future commercialization and bioscience growth in Oregon.

OTRADI's plans for this year include upgrading a major piece of equipment that allows it to offer high-content analysis. The upgrade will allow OTRADI to provide enhanced quantitative analysis of individual cells and analyze cellular responses to drugs or biological conditions, thus increasing its ability to serve a broader market.

In addition, OTRADI's ongoing and future plans include raising money to establish an Oregon Bioscience Accelerator and Entrepreneur Center, which would be housed within the forthcoming OUS/OHSU Life Sciences Collaborative Building. Groundbreaking for the building is expected to take place in 2011.

"I think the ongoing success of OTRADI and the addition of a Bioscience Accelerator will not only bolster bioscience, but also speed economic development and create bioscience jobs for Oregon," Beckmann said.

Spotlight on Collaboration

As DesignMedix works to develop an oral treatment to combat drug resistance in malaria, its goal is simple but profound: To end the million deaths the disease causes each year, mostly among children and pregnant women in developing countries.

That mission earned DesignMedix top honors during the 2009 Angel Oregon Conference. The 4-year-old Portland company, which specializes in early stage drug development, was selected from a group of about 50 competitors.

Lynnor Stevenson, Ph.D., founder and chief executive officer, said the award increased DesignMedix's exposure, extended its range of angel investors and opened up new partnership possibilities.

"We have some exciting collaborations that we've been setting up," she said, noting DesignMedix is partnering with the Australian National University in Canberra on a research project involving its malaria compounds.

DesignMedix also is exploring a partnership with Walter Reed Army Institute of Research to test its compounds for various effects on malaria. The company plans to reach out to potential partners in China and India this year as well.

In addition, the company recently applied for orphan drug designation for one of its compounds. "While malaria affects a lot of people in the world, it affects less than 200,000 in the U.S. so it's eligible for orphan drug designation," Stevenson explained.

OBA Achieves Industry Gains Through Advocacy and Outreach

Key gains made during the 2009 Legislative session was the result of the Oregon Bioscience Association's successful advocacy and outreach efforts last year.

The OBA's four-point legislative agenda included sales tax apportionment, funding for the Oregon Translational Research and Drug Development Institute (OTRADI), opposing prescriber data bans and reporting mandates, and support for the OUS/OHSU Life Sciences Collaborative Complex in Portland's South Waterfront district.

"For big companies, the sales tax issue was one of most impactful," said John Bial, chief executive officer of Yecuris and chair of the OBA's Government Affairs and Advocacy Committee. "We opposed it and it didn't go through. It shows that policymakers are starting to listen to us now, which we appreciate."

The OBA's successful lobbying effort also helped convince the 2009 Legislature of OTRADI's importance to the state's bioscience community. OTRADI was founded in 2007 to foster research and drug development leading to the commercialization of therapeutics and bioscience technologies from biotech companies and research universities in Oregon.

The Life Sciences Collaborative Complex, set for groundbreaking next year, will provide an instruction and research facility for bioscience, medical device/diagnostics, and medical and pharmacy faculty from OUS institutions working collaboratively on life and bioscience issues with private-sector partners.

Bial said these successes are a direct result of outreach efforts that began in 2009.

"A big part of what we did last year was an awareness campaign in Salem to show data about what the industry does," Bial said, noting Oregon's biotech industry consists of about 600 life science companies, medical devices makers and research organizations that had a direct economic impact totaling almost $3.5 billion in 2007.

"I got a great response from legislators I talked to last year, and they are really interested in this industry. It fits so well culturally with the Northwest because it's green, it's high growth and it has a highly educated workforce," he added. "Our voice is stronger than ever and I think things are looking up for us."

TINIEST PATIENTS INSPIRE INNOVATION AT BEEVERS MANFACTURING

More than 20 years after launching Beevers Manufacturing, Inc., it's still "all about the babies" for founders Kate and Tim Beevers.

Kate, a respiratory therapist, and Tim, a former engineer and R&D project manager for Hewlett-Packard, launched their McMinnville company in 1987 with the invention of the Tilson Trach Guard, which prevents blockages in pediatric trach tubes.

Since then, the Beevers have developed a product line centered on neonatal and pediatric respiratory care. All Beevers products and components are assembled and manufactured in the United States and sold in over 30 countries.

By 2009, Beevers' products had helped an estimated 250,000 babies worldwide. The company has averaged 20 percent annual growth over the last three years, and sales projections call for continued annual growth of up to 25 percent over the next five years.

That growth will be driven in part by Beevers' most recent invention. In 2009, the company introduced Mini Whiskers, the first cannula securement product tailored specifically for babies weighing less than one pound.

"Our primary mission continues to be developing products that make the interface between babies and technology optimal in a clinical setting and enhance the delivery of certain neonatal therapies," Kate Beevers said. "And with the new Mini Whiskers, we continue to design into our products the flexibility and usability that enables caregivers to provide the highest quality patient care."

Eugene Facility Helps Drive Life Technologies' Global Success

From innovation in cancer detection and therapy to protecting the nation's food safety, Life Technologies lives up to its mission of shaping discovery and improving life through its biotechnology tools. The company's facility plays a crucial role in that daily endeavor.

Headquartered in Carlsbad, Calif., Life Technologies was established in 2008 through the combination of Invitrogen Corp. and Applied Biosystems, Inc. Its customers' work ranges from research that advances medicine and regenerative science to agricultural and environmental research and 21st century forensics.

Life Technologies' sales topped $3.3 billion in 2009, with revenues driven by global demand for its H1N1-related products and new products such as its Dynabeads® SSEA-4, which separates differentiated stem cells and addresses a key challenge in translational research.

Last year was a landmark one for Life Technologies in other ways as well. The company introduced a new generation of forensic DNA kits with chemistry reagents that enable faster recovery of more DNA results from a wider range of samples.

Life Technologies' Eugene campus also recently launched a cutting-edge flow cytometry system that is designed to use sound waves to precisely control cell movement. The launch of this instrument represents entry into the $1.4 billion flow cytometry market.

With about 9,000 employees in 160 countries, Life Technologies currently possesses a rapidly growing intellectual property estate of approximately 3,900 patents and exclusive licenses. The company achieved over $100 million in synergies last year.

Also in 2009, *Newsweek* magazine listed Life Technologies among America's 500 largest green corporations. Life Technologies earned the Frost & Sullivan Drug Discovery Technologies Company of the Year and CEO of the Year awards last year as well.

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