



Oregon Bioscience Association

ADVOCATE. CULTIVATE. EDUCATE.

2014 funding for Oregon's bioscience research, innovation and technology transfer

In 2014, Oregon held steady with a 6% net increase in federal grants from several funding sources such as the National Institutes of Health (NIH), Small Business Technology Transfer Program (STTR), Small Business Innovation Research (SBIR), Department of Defense, and the National Science Foundation. This funding went to Oregon's labs, universities, startups and established, growing firms.

NIH Extramural Awards for FY2014: \$303,963,471

Of these NIH awards to Oregon firms:

- 673 grants were awarded to 42 firms
- The National Cancer Institute granted 62 awards totaling more than \$39 million
- Of Research Project Grants for SBIR and STTR, 43 awards totaled \$18.8 million

Department of Defense: Nearly \$3,000,000 was granted in Oregon.

The National Science Foundation awarded Oregonians \$60.3 million, for grants starting in 2014.

2014: The Thriving Bio Ecosystem

Dear Members and Community,

In 2014, Oregon Bio continued to expand its leading voice for the bioscience industry. With the help of several dedicated policymakers and together with Business Oregon, Oregon Bio became the first state to offer an applied STEM bioscience certificate program. The BioCatalyst program represents Oregon Bio's latest efforts to organically grow Oregon's pool of workforce talent. Since 2006, Oregon Bio has consistently boosted its training portfolio to more than 1,700 Oregon professionals in bioscience-specific topics that are critical to our members.

The year also exemplified community building and partnering. To help entrepreneurs and existing firms grow the growing digital health market, Oregon Bio and the Technology Association of Oregon (TAO) inked an innovative agreement to coordinate efforts in providing events and educational programs. This launched in a day of presentations at the annual conference, which was dedicated to biosensors and their market impact. National biosensor leaders like Kaiser Permanente, Intel, Nike, and Cambia gave the audience a glimpse of healthcare's digitally enabled future.

Oregon's entrepreneurial community remains vibrant with several Oregon companies taking the national stage. From Wilsonville-based RevMedx's selection by Science magazine as one of the top 100 new innovations of 2014 to Bend-based Amplion's success in raising capital, Oregon life science companies continue to make their mark. Supporting our next generation of companies, OTRADI has continued to attract resources to expand their facility another forty percent to make a home for even more exciting new companies. Oregon's future economic success depends on meeting the growing needs of these fledgling companies.

Perhaps there is no better way to summarize our 2014 accomplishments than to reflect on our annual conference dinner. Hosted at the newly opened Collaborative Life Science Building at Portland's South Waterfront our guest of honor Dr. Brian Druker profiled the instrumental role Oregon will play in diagnosing cancer at its earliest stages. By also highlighting the Knight Cancer Institute's progress to its billion dollar goal, it's clear how far Oregon has come in establishing its leadership in cancer research.

The backdrop of Dr. Druker's speech reinforced the importance of Oregon Bio's role in making connections that grow Oregon's bioscience industry. From workforce training to encouraging commercialization of Oregon life science innovations to fostering new markets, we are driven to cultivate a thriving bioscience ecosystem where the right people connect. With the help of our outstanding Board of Directors and the support of our members, Oregon Bio looks forward to achieving even greater milestones in the future.

Matt Smits, 2014 Chair and President, Medspire

Dennis McNannay, Executive Director

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"Greater Portland has signature bioscience assets, and there's tremendous potential to expand our bioscience capacity with the convergence of software, computer and electronics. The emergence of an innovative, health science and tech industry could propel our region onto a global stage."

- Janet LaBar, President and CEO
Greater Portland, Inc.

Advocacy highlights: 2014 session successful for bio firms in Oregon

Oregon Bioscience Association's advocacy mission is to be the industry voice proactively supporting the sector's growth, both from the state and national stages. We accomplish this by promoting industry collaboration/networking, offering workforce training and education, guiding effective advocacy programs and cultivating industry growth through innovation, strategic planning and economic development.

The 2014 Oregon Legislative Session was brief but effective, given the Oregon Bio team's impact in several areas including:

- Extended Oregon research and development tax credits
- Successfully opposed GMO Labeling ballot measure
- Continued funding of OTRADI and the incubator
- Advocated for expansion of SBIR matching fund

Oregon Bio's influence was most influential in the passage of Senate Bill 1527, in which the Legislature appropriated \$250,000 in funding to establish a pilot program designed to upskill 100 Oregon workers for the bioscience and advanced manufacturing industries. Working in conjunction with Business Oregon, which allocated an additional \$75,000, this pilot program, also known as Applied STEM Worker Training Pilot, builds the skills of mid-level workers (e.g. engineers, and project managers, etc.). See more about the BioCatalyst program in the adjacent article.

Oregon Bio worked on federal efforts including lobbying on Capitol Hill to reverse the medical device tax, in conjunction with national trade association partners BIO and AdvaMed.

In these efforts, Oregon Bio continued its success to influence pro-industry initiatives and increased funding, while further educating policymakers and key deciders bioscience's economic footprint in Oregon. •

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BioCatalyst Professional Certificate Program

Last December, bio industry employee Emily Ediger of Portland experienced a difficult layoff as her company suddenly downsized. Not having any idea of how to resume her career, she applied and was accepted into January's cohort of the Oregon Bioscience Association's BioCatalyst Professional Certificate Program.

"I have a technical background and a scientific degree, but was not qualified for many of the jobs offered at local biotechnology companies," Ediger explained. "Oregon Bio and the BioCatalyst program were instrumental in me regaining hope and finding a path to my next job in Oregon."

The BioCatalyst Professional Certificate Program, conceptualized a few years ago by Oregon Bio's executive director Dennis McNannay in discussions with member companies, offers industry-specific bioscience training to unemployed and underemployed workers with bio career experience.

"By supporting Oregon bio companies and providing the extra training and resources of the BioCatalyst program for potential employees, our member companies don't have to hire from outside the state."

— Julie Black, Director of Member Services and Business Development, Oregon Bio

After Business Oregon added \$75,000 and joined forces with Oregon Bio to secure legislative funds for the program in 2014 – capturing a \$250,000 appropriation – BioCatalyst offered its inaugural coursework last October.

The training program, which targets mid-career workers, has awarded professional certificates to 63 graduates in "Quality Assurance" and "Medical Device Foundations" cohorts. It features two-to-three-week applied STEM modules that include specific training vetted by

Bio workers and employers share enthusiasm, putting BioCatalyst on the industry map

Oregon's bioscience companies, job-hunting resources, hands-on collaborative projects and industry networking opportunities. Continuing cohort, offered in 2015, will emphasize biotech, big data and pharmaceutical foundations.

When workers acquire their certificates, Oregon Bio manages an online directory to alert Oregon's bio-employers of the availability and professional profiles of BioCatalyst graduates seeking new employment.

"The creation and implementation of the BioCatalyst program allows our Oregon companies to hire suitably trained, dedicated employees within Oregon's communities," said Julie Black, Oregon Bio's director of member services and business development.

"When companies learn of job candidates who've fully committed themselves to BioCatalyst's intensive coursework, who've successfully completed the tests and who've used every industry job resource available, those employers know they're hiring from a pool of local and very dedicated talent."

BioCatalyst training
cohorts to date

4

36%

BioCatalyst hires
to date in 2014

Karen Wilde Goddin, Assistant Director of Business Oregon, said, "The Biocatalyst Program is a perfect example of the benefits of a public-private partnership to find a solution to a shared problem. We have workers unemployed or underemployed with a core set of some bioscience skills. We have private industry telling us there's great need for workers with some unique sets of advanced bio training. We can put together some funding from the state to stand up a program to bring those things together.

"The Biocatalyst Program develops curriculum and train workers that can meet that industry demand, while adding higher wage jobs to the state and helping bring increased prosperity to the newly trained and employed workers and their families. The Oregon Bio BioCatalyst program sounds complicated, but that's what it boils down to. It's working with industry to meet a common need, resulting in Oregonians adding new work skills that bring them better jobs while strengthening an Oregon industry across the board." •

OTRADI launches mentoring, learning lab and funding campaign statewide

When it comes to the expanding OBI BioMentoring network, the highly in-demand Oregon Bioscience Incubator, or the brand new partnership with Oregon State University the word “collaboration” comes to mind.

“Oregon’s bioscience industry continues to raise its stature with so many experienced people willing to help grow the industry and help entrepreneurs throughout the state,” said Fox, executive director of the Oregon Translational Research and Development Institute (OTRADI) – the organization driving the initiatives. “Our bio community’s notorious spirit of collaboration underscores the amount of influence we each can have, even when funding for certain efforts isn’t available. That collaboration allows Oregon to compete.”

“Our goal is to help more Oregon’s entrepreneurs – helping them with identifying grants and resources as we reach out to more and more areas of the state. I think the thing we’ve been best at is reaching the most people possible.”

– Jennifer Fox, Ph.D., Executive Director, OTRADI and OBI

In a collective approach to growing the bioscience landscape and further raise its profile among the global industry, OTRADI recently launched a \$1 million fund campaign to fuel the institute’s priority initiatives. This past year it expanded the Oregon Bioscience Incubator to 16,000 square feet after earning \$325,000 from the

governor’s strategic reserve fund, allowing five startups to join the original six early-stage companies.

OTRADI continues in expansion mode in creating OTRADI South, a learning lab in Corvallis at the Oregon State University’s College of Pharmacy. In Central Oregon, OTRADI is launching a BioMentoring program to spur more incubation.

“Bend is a very entrepreneurial city with an abundance of bioscience professionals in most market sectors. Many of the professional Biomentors are very willing to assist young startups and also have direct access to other specialists and experts that are available for consultation.”

– Les Mace, Senior Advisor, Focus Investment Banking, Co-Chair of Bend Bio and Bend mentor

Says Focus Investment Banking’s Les Mace, senior advisor to medical device companies and part of the Bend mentoring effort, “The bioscience industry is highly competitive, specialized, segmented, regulated, subject to market fluctuations and political pressures. Entrepreneurs with brilliant product ideas entering this industry without prior experience are easily overwhelmed with the high barriers of entry. Experienced mentors can accelerate their knowledge base about the many aspects of constructing and running a start-up bioscience business, which in turn, enhances long term success and growth of their businesses.” •

Central Oregon: Bio hotspot

Since partnering two years ago, Bend-based tech start-up Amplion Research co-founders—CEO John Audette and Chief Science Officer Adam Carroll, Ph.D.—focused on developing a product that enables drug and diagnostic developers to mine and accumulate biomarker data more effectively and efficiently.

Rather than spending hours or days collecting, sorting and assembling data from public sources like ClinicalTrials.org or PubMed.gov, Amplion’s BiomarkerBase provides users with a knowledge base that includes every validated biomarker in clinical use and more than 2,000 emerging biomarkers in clinical trials.

From the successful introduction of their first product to winning the top prize at the 2014 Bend Venture Conference to the triumphant close of a \$1 million seed round, Amplion

continues to make waves in the Oregon bioscience community.

During his successful 10-minute pitch to a crowd of more than 400 investors and attendees at the venture funding event, Carroll explained, “Biomarker information, like so much information in modern biology, has absolutely exploded since the completion of the human genome project. There is an enormous amount of information, but the tools to make sense of that information are not expanding at the same rate.”

According to marketsandmarkets.com, the biomarkers market is forecast to reach \$40.8 billion within three years. And Amplion Research is poised to meet take advantage of the opportunities this field offers. •

Innovation center proposed at OSU-Cascades campus

Oregon State University’s Cascades campus in Bend currently houses degree programs including 18 undergraduate majors, and 30 minors, but has begun an exciting effort toward a full, four-year university, beginning Fall 2015.

Adding to this effort, Jeff Gautschi, chemistry instructor at OSU-Cascades, is working closely with local bioscience leaders and the Bend Bioscience Consortium (Bend Bio) to facilitate the proposed bioscience incubator to be built within the new Innovation Center for Entrepreneurs on campus. While fostering collaboration and innovation, the new center aims to spur local economic development in high tech and bioscience.

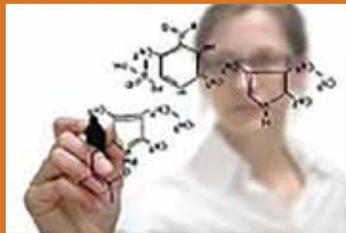
It is estimated that there are now as many as 700 bio jobs in Bend and many believe that number will only grow. “The bioscience industry in Bend is quite exceptional for a town this size,” says Gautschi, pointing to local firms Bend Research, Agere Pharmaceuticals, Grace Bio-Labs, VR Analytical and others. “We anticipate that a new regional bioscience incubator located at Oregon’s newest four-year university is the right model to enhance this economic sector.”

The new concept, with co-located faculty, programmatic endeavors, and potential early financial support from OTRADI, is leaning heavily on growing relationships with regional and statewide industry. The center will comprise 8,000 square feet for private sector leases, student learning, and mentoring, including shared work spaces, an instrumentation room, an open-format shared science laboratory and a separate, secure lab space.

More funding is being sought and a potential opening day is yet to be determined.

“Growing the biotechnology industry and entrepreneurship in Bend is on par with Central Oregon’s access to an expanding infrastructure, well-trained workforce, incentive packages, and business tax environment,” said local biotech leader Kate Ryan, who works closely with Gautschi, co-chairs Bend Bio, and serves as an advisor for local firm Amplion. •

OR Bio Women CONNECT



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Oregon Bioscience Association Staff

Dennis McNannay, Executive Director
Julie Black, Director of Membership Services
Mark Saltveit, Program Coordinator,
BioCatalyst Training
Cindy Lum, Administrative Assistant

Contributors to this report:

Dianne Danowski Smith
Pat Coussens
Jody McNannay
Milaina McNannay
Arianna McNannay

www.oregonbio.org

Oregon Bio launches women's collaborative

Despite a perception the STEM (Science, Technology, Engineering and Math) field remains a strictly male domain, Oregon Bio and the relatively new Oregon Bio Women CONNECT group are eliminating this stereotype. CONNECT provides networking opportunities and professional development to support women and students engaged in science and technology.

The challenges to advancement are numerous, regardless of gender. In the past, women lacked many of the networking opportunities open to men. According to Steve McDonald, assistant professor of sociology at North Carolina State University and author of a networking study, "Previously, researchers have argued that women face lower wage payoffs than men with similar work experience because the women have fewer opportunities to develop job skills. But this study suggests that a lack of useful social connections may also be driving the gender wage gap."

Few people understand this better than Allison Fryer, Ph.D., an OHSU Associate Dean of Graduate Studies in the School of Medicine and a Professor of Pulmonary Critical Care Medicine and Physiology and Pharmacology.

With close to thirty years spent working in areas ranging from neuroscience and pharmacology to molecular and cellular bioscience, Dr. Fryer understands the importance of fostering further growth for women in science, particularly given the tight-knit nature of the bio industry. "The bioscience community is not an industry of six degrees but instead, it's maybe two. Knowing someone or a friend of someone is extremely important."

As a founder of Oregon Bio Women, Emily Stump of Commissioning Agents, Inc., explained when CONNECT was conceived two years ago, the group "...supports and promotes women within this dynamic and challenging field."

The group, which meets twice each year, selling out both events in 2014, and garnering

more than 70 attendees at each event. "We've enjoyed enormous early success," notes Stump. Gatherings offer ample time for attendees to connect and have included a variety of formats—from keynote speakers to round-robin, skill-building sessions.

"Our success has really demonstrated the need to continue to foster collaboration, education, and networking among the female leaders and soon-to-be leaders in our industry. I'm looking forward to seeing these efforts result in a more educated, empowered, and effective female workforce."

- Emily Stump, a founder of CONNECT Oregon Bio Women, and Director of Operations, Pacific Northwest, Commissioning Agents, Inc.

Kate Ryan, Ph.D., who co-chairs Bend Bio in Central Oregon, agrees. Whether working in her former roles as design engineer for Northrup Grumman or Executive Regional Scientific Manager for AstraZeneca Pharmaceuticals, Dr. Ryan has experienced first-hand the benefits of networking. "I have gained almost everything from networking—connections, clients, insight, knowledge, friends, confidence, and the ability to not take myself too seriously."

Within the dynamic, fast-paced bioscience arena, causes like CONNECT and OHSU's Women in Science are providing the strong professional network and support crucial to long-term success, regardless of gender.

And the future looks bright. "In 2015, we look forward to building on our success as interest and participation in Oregon Bio Women CONNECT continues to grow," said Anne Carlson, Oregon Bio's 2015 Events Chair. "Through both networking and educational events, we look forward to providing women in the local scientific community with opportunities to develop their skill set, increase exposure to mentoring and expand their potential." •

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2828 SW Corbett Avenue, Suite 115 | Portland, OR 97201