Tech Transfer

Intellectual property at University of Oregon turns into thriving, growing local businesses

By Tracy Ilene Miller

Oregon is generating an abundance of innovation based opportunities, largely because of initiatives established by the state’s public universities in the early 2000s. One of the most recent examples of Oregon’s success in building its innovation ecosystem is its first national NSF Center, the Center for Green Materials Chemistry, a collaboration between UO and OSU that was funded this summer. Locally, there has been consistent, substantial growth of companies supported by the University of Oregon and its entrepreneurial programs that link students, faculty, investors and other business interests to develop innovations, evaluate new technologies and launch startups. In 2001, the Eugene/Springfield area had two such companies; today, there are 17.

These companies have been supported and nurtured by resources and individuals coming from the UO, but also from funds made available through government grants of the Small Business Administration and the City of Eugene. As General Manager Paul Holman of Electrical Geodesics, Inc. (EGI) says, the company and Eugene are almost synonymous.

“The company focuses on high-end science and it’s a profitable business, but the core is helping people” Holman says. A common theme in Eugene, he says, is a business sense that transcends mere profits. “Everyone who works here has a strong commitment to providing solutions, whether it’s learning disabilities or epilepsy — it goes beyond the bottom line and making a profit.”

EGI, which developed dense array electroencephalography (dEEG) technology now
widely used in human neuroscience research, will mark next year its twentieth anniversary and consistent growth over the past five years. Since 2006, employee numbers have doubled from 35 to 70, and so have revenues, from $5 million to $10 million.

The company has expanded by broadening its customer base internationally and for use in clinical applications, not only research. International sales now constitute 50 percent of the business, Holman says.

To achieve that growth, EGI has enjoyed “a relationship with the university that is both beneficial and symbiotic,” Holman says.

That relationship started with EGI’s chief executive officer, UO psychology professor Don Tucker, who developed the technology to launch EGI. Like many of the companies initiated at the UO, EGI started with the work of an individual professor and his or her research group, which then led to placement at the UO Riverfront Research Park, technology and licensing agreements with the UO and the start of other business ventures.

In EGI’s case, an additional venture was launched in 2003, when Tucker joined another UO professor, Allen Malony of the Computer and Information Sciences Department, to found the UO neuroinformatics Center (nIC), starting with a $1.1 million grant from the national Science foundation to build a supercomputer cluster. EGI and the University of Oregon then established a separate company, Cerebral Data Systems, to facilitate the commercialization of the technology coming out of nIC. The University of Oregon holds a modest equity stake in Cerebral Data Systems.

A profitable summer

Few college students walk away with a summer project that has the potential to clear $1 million, which is the projected earnings in 2011 for Eugene-based floragenex.

floragenex started as a summer project in 2006 with a team of UO business students participating in The Technology Entrepreneurship Program, where business, law and science graduate students evaluate new technologies for their commercial potential and develop business plans around them.

Nathan Lillegard, now president and chief executive officer of floragenex, was one of the students then introduced to UO associate professor of biology Eric Johnson. Johnson, now chief scientific officer of floragenex, had the previous year, in 2005, filed a patent for a ground-breaking process of identifying strings of plant genomes for genetics research.

At the end of that summer project, floragenex became official, with space at the UO Riverfront Research Park and a new service offering to researchers. Researchers send DNA to floragenex to process the material and produce data analyses. In addition, UO and floragenex participate in a number of collaborative research activities that continue to push the frontier of the underlying science. A relationship of mutual benefit, of
the ground. It's a lot easier to sell to academics when you are a part of academics.

The future of education

Academics. Learning. They go together. Bring a research element to the learning, and a whole new way of assessing language proficiency in students supports a major goal of universities, to improve teaching and student learning.

But how to get that into the hands of teachers and students? It took a partnership between Carl Fallegir, director of the UO Center for Applied Second Language Studies, and investors Sheila and Dave Bong to form Language Learning Solutions in 2001, which is now Avant Assessment.

As the name suggests, the company is associated with the avant-garde, a foreword way of thinking to better assess student learning. “This is not a standardized test,” says Michael Patterson, chief executive officer and president of Avant Assessment. “The goal is to measure how well a student, a child or an adult uses language in real-world situations. The test questions are built from real-life data brought into the classroom to base learning on real-world situations. In addition, Avant is developing a platform that moves away from test-taking toward a paradigm shift where students provide evidence of their learning through multiple modes, so teachers are put in more of a coaching role and students get the expertise they need to succeed.”

Additional University of Oregon Portfolio companies

- CCR Consulting
  CCR Consulting offers a wide variety of computer consulting and training programs specifically designed to meet clients’ requirements. www.ccrconsulting.net

- Cascade Prodrug, Inc.
  Cascade Prodrug, Inc. is a revitalized pharmaceutical company developing targeted prodrug therapies for the treatment of hyper-proliferative diseases. The company’s initial disease focus is on a pipeline of prodrugs that are activated in abnormally low oxygen concentrations found in most solid tumors. www.cascadeprodrug.com

- Crystal Clear Technologies, Inc.
  The Crystal Clear Technologies mission is to bring to market a low cost water purifier technology affordable to the majority of the world’s population. www.smplycleanwater.com

- Dune Sciences, Inc.
  SMART Grids simplify name and bioanalysis by changing the rules of sample preparation. SMART Grids are smart because biological and nanomaterials are attracted to and self-assemble on the grid surface via an active interface. www.dunesciences.com

- Educational Policy Improvement Center (EPIC)
  EPIC’s mission is to improve educational policy and practices which will increase student success, particularly with students historically underrepresented in public schools. www.epiconline.org

- Eugene Health and Performance Foundation (EHP)
  Eugene Health and Performance Foundation (EHP) works to help people live healthier, more productive lives. Its goals are to teach students, guide runners, coach athletes, share knowledge, disseminate research, and to conduct studies. www.eugenehealthperformance.org

- Eugene Software Solutions
  Eugene Software Solutions is the exclusive provider of a proven, powerful, scalable and fully customized education software called GradWeb that was developed at the University of Oregon over a period of three years. www.eugeneeducational.com

- Insignia Health LLC
  Insignia Health helps health organizations understand patient’s self-management ability as revealed by the Patient Activation Measure assessment. This helps health organizations and caregivers to go beyond deficit based education to also address the underlying competencies that drive poor self-management. www.insigniahealth.com

- MitoSciences, Inc.
  MitoSciences is a leading developer of mitochondrial antibodies and mitochondrial assays. Their broader focus is to provide the most comprehensive set of antibody and assay kits for studying metabolism and apoptosis. www.mitosciences.com

- Mosaic Genetics LLC
  Mosaic Genetics is a life sciences company offering a new mouse model for anti-cancer drug development and cancer research. Their platform of platform technology allows researchers to collect more information at the single-cell level, thereby creating better drugs, faster. www.mosaicgenetics.com

- On Time Systems, Inc.
  On Time Systems is an advanced-technology company specializing in software for optimization of complex industrial problems. The search-based approaches and technology are applicable in many industries, but their initial area of focus is the optimization of labor and resource utilization in shipyards. www.ntysys.com

- ParaTools, Inc.
  ParaTools, Inc. provides consulting expertise in the area of parallel and distributed computing, as well as performance evaluation tools. www.paratools.com

- Perpetus Power Source Technologies, Inc.
  Perpetus designs, manufactures, and markets renewable energy solutions for wireless sensors. They are focused on offering cost effective, easy-to-integrate power products that last as long as the sensor electronics. www.perpetuspower.com

- Personal Technologies LLC
  Personal Technologies products help students with cognitive and learning challenges access technology for communication. Each of their products has demonstrated usability and high potential to impact social connectedness with peers. www.personaltechnologies.com

- VizMe
  VizMe is a new way to explore and share content online by creating tokens which are circular images that represent a topic, theme, idea, or concept. It packages mixed content in a fun way, creating an experience that is greater than the sum of the individual songs, videos, photos, text, etc. www.vizme.com

- The Eugene Area Chamber of Commerce are all counted as supporters of Avant and the City of Eugene, and the other companies that have developed from the UO Office of Technology Transfer and now thrive in the Eugene/Springfield area.

“…it’s a lot easier to sell to academics when you are a part of academics.”

- Nathan Lillegard, president and chief executive officer of Floragenex
BUSINESS INCUBATION

A successful recipe for new businesses

Business incubation provides start-ups access to resources and services

By Chris Wiechert, Regional Prosperity Initiative Intern, Eugene Area Chamber of Commerce

Business incubation is a process that helps start-up companies accelerate growth by providing them access to resources and services. A support network provides affordable office space, equipment, funding and education, and training.

Paramount to the success of a business incubator is the provision of management guidance, technical assistance and consulting that is tailored to young, growing companies. With these resources, an incubator completes its main goal, which is to produce successful firms that are financially viable when they leave the program. Incubators vary greatly in their method of service delivery, organizational structure and type of client served. Some incubators are industry specific, although many are mixed-use, housing tenants from a variety of business sectors. Most are nonprofit and are run by economic development programs, government entities or academic institutions.

The Riverfront Research Park, run by the University of Oregon, specializes in biosciences, human development, advanced materials, education and language assessment and information technology. Hatch, launched earlier this year, is a mixed-use incubator that is currently looking for a handful of small businesses to utilize its services. It is operated by a partnership between the Neighborhood Economic Development Corporation (NEDCO) and eDev, an entrepreneurial development service provided by the Lane Community College Small Business Development Center.

For more information on incubators
Riverfront Research Park
researchpark.uoregon.edu
Hatch, Neighborhood Economic Development Corporation
neddocdc.org/Commercial.htm
National Business Incubation Association (NBIA)
nbia.org

BUSINESS TIPS

Energy savings that stick

Decal graphics company gets energy-efficient lighting and bottom-line savings with EWEB’s help

Eugene Chamber member Potter Manufacturing Company Inc., also known as Potter Decals, recently worked with the Eugene Water & Electric Board (EWEB) to replace outdated fluorescent lamps in its facility with more energy-efficient lighting. After EWEB incentives, tax credits and a low interest loan, the project will not only pay for itself in about two years, but Potter will enjoy lower energy bills each month.

“There are some very simple and easy measures business owners can take to save energy and money,” says Travis Reeder, EWEB Energy Management Specialist. “Lighting is a great place to start. We’ve also helped other businesses to improve the efficiency of their heating, ventilation and air conditioning (HVAC) systems, which can mean big savings over time.”

To find out how your business can save money and energy, contact EWEB Commercial Energy Management Services at (541) 685-7000 or visit eweb.org/saveenergy. For more information on Potter Manufacturing Company, visit potterdecal.com.

Making life better at work

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2650 Suzanne Way, Suite 200, Eugene
Celebrating the business of community

Each fall hundreds of business and community leaders gather for the Eugene Area Chamber of Commerce’s Emerald Awards at the Hult Center for Performing Arts.

The awards celebrate the business of community and honor those who help make Eugene/Springfield a wonderful place.

The bottom line is businesses play a significant role in making Eugene/Springfield a wonderful place to live, work and raise a family.

The Emerald Awards is our community’s opportunity to say thank you.

Perhaps French author and humorist Voltaire may have summed up the mission of the Emerald Awards best when he said, “Appreciation is a wonderful thing: It makes what is excellent in others belong to us as well.”

If you have a business you’d like to nominate for the award, you can be accepted through August 26, 2011. Nominations will be accepted through August 26, 2011.

Previous award winners

A review of past winners reads like a who’s who in local business:

BUSINESS OF THE YEAR
King Estate Winery (2010)
Falo Alto Software (2009)
PeaceHealth (2008)
Widmer Land Company (2007)

GROWTH
Ninkasi Brewing Company (2010)
Calk Funnell (2009)
Boostech Archery (2007)
Oregon Medical Laboratories (2006)
Glory Bee Foods (2005)
Lunar Logic (2004)

ENVIRONMENTAL VALUES
Organically Grown Company (2010)
Hamilton Construction (2009)
Silicon Orthopedics (2008)
Café Yumm (2007)
Reves (2006)
Emerald Valley Kitchen (2005)
Habitat (2004)

Any for-profit business in the larger Eugene/Springfield area is eligible. Nominations will be accepted through August 26, 2011.

COMMUNITY CARING
Bi-Part Corporation (2010)
The Register-Guard (2009)
Windermere Real Estate/Lane County (2008)
PacificSource Health Plans (2007)
Iver CGA (2006)
Stuller Financial Group (2005)

INNOVATION
Bulk Handling Systems (2010)
Avant Assessment (2009)
MitoSciences, Inc. (2008)
Life Technologies LLC (2007)
Sequenom (2006)
Hydra Cool, Inc. (2005)
Electrical Geodesics (2004)

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The decade ahead: Connecting research

By Kimberly Andrews Espy

“The five essential entrepreneurial skills for success are concentration, discrimination, organization, innovation and communication.”

This statement, which sounds so familiar to our modern ears, that it might have been made last week by a leading American entrepreneur, was in fact made nearly 200 years ago by the renowned British chemist and physicist Michael Faraday.

Today we remember Faraday primarily as a nineteenth-century scientist whose foundational experiments probed the mysteries of magnetism and electricity. In addition to being a superb scientific researcher, however, Faraday was also a brilliant innovator who is credited with constructing not only the first electric motor but also the first dynamo to convert mechanical energy into electricity.

Faraday’s achievements are all the more remarkable when we consider the circumstances into which he was born in 1791, for Faraday was not the child of aristocrats, but rather the son of a poor English blacksmith who labored in a small village outside London. Appointed to a bookbinder when he was thirteen years old, Faraday read voraciously and had the extraordinary good fortune to become the laboratory assistant and protégé of the great scientist Sir Humphry Davy.

And the rest, as they say, was history.

Faraday’s story strikes a chord as we move into the second half of 2011. Sobering fiscal realities confront us in the aftermath of the Great Recession, and certainly this decade will challenge our concentration, organization, innovation and communication.

We will be called upon to find and nurture those modern-day students who will become the Faradays of the new millennium.

I thank the Chamber for welcoming me to Eugene and providing me with the opportunity to share these thoughts. Building on the dramatic expansion of the last decade, the research enterprise of the University of Oregon is looking forward with excitement and anticipation to sparking the next generation of scientific discovery, to creating new technological breakthroughs and to building regional prosperity through entrepreneurial engagement.

Kimberly Andrews Espy is Vice President for Research and Innovation, and Dean of the Graduate School at the University of Oregon.

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“Knowledge must come through action; you can have no test which is not fallacious, save by trial.”
— Sophocles, 496 B.C.-406 B.C.

Some 2,500 years after he wrote these words, Greek writer Sophocles would find great inspiration in the University of Oregon’s expansive efforts to explore and test new ideas that serve society. Among the more than 4,000 universities and colleges nationwide, UO regularly ranks in the top few percentiles in research productivity and the impact of its scholarship.

The Carnegie Classification of Institutions of Higher Education recently placed UO in the top category of “Very High Research Activity,” a distinction shared by only 108 institutions among more than 4,600. During the past decade, the UO experienced a 135 percent increase in research funds, from $58 million in 2001 to $136 million in 2010. These funds are awarded on a highly competitive basis from agencies such as the National Institutes of Health and the National Science Foundation. The UO also recently achieved the third fastest growth rate in research funding per faculty member among the 63 institutions within the prestigious Association of American Universities. These trends were catalyzed by UO initiatives in signature research areas such as neuroscience, nanoscience, sustainability and education.

The growth in UO research has been exceeded by an even more dramatic rise in technology transfer activities. In the life sciences arena, for example, UO ventures are addressing critical challenges in medical devices, diagnostics and therapeutics.

The UO portfolio of start-up companies linked to innovation grew steadily over the decade, from two in 2001 to 17 in 2011. UO holds an equity or royalty stake in each. In aggregate, the UO portfolio companies generated $33 million in gross revenue and directly employed 255 Oregonians during 2010. UO research supports thousands of jobs, both directly and indirectly. The UO will seek to expand its private-sector partnerships, multi-institutional collaborations and leading-edge centers that integrate education, research and outreach missions.

To be truly effective, innovation must be responsive to the triple bottom line of economic, environmental and social benefits. I believe the UO is ideally positioned to be such an innovation hub vital to Oregon’s future, and I am most grateful for the business community’s continuing engagement toward that end.

Richard Linton is former Vice President for Research and Graduate Studies (2000-2011) at the University of Oregon.