SIGNATURE RESEARCH CENTERS

Nanoscience. Drug discovery. Sustainable "green" technologies. These are the focus of OSU's increasing collaboration with other Oregon research universities, the private sector, and state and federal agencies.

Oregon Nanoscience and Microtechnologies Institute (ONAMI)

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ONAMI is Oregon's first "signature research center" for the purpose of sustaining and growing Oregon's innovation economy. As is true of only three other states, technology is Oregon's largest employer, with an average wage twice the statewide average. Growth of these kinds of job opportunities is the single most effective thing we can do for state financial health, schools, public safety and human services.

Our strategy has been 10 years in the making, and the selection of "nanoscience and microtechnologies" was based on a careful analysis intended to discover the largest possible intersection among:

- nationally competitive research in our universities,
- future commercial opportunities/growing sectors of the national economy,
- the existing skills of Oregon industry and its surrounding value chain ecosystem.

ONAMI is now a nationally recognized model for state innovation initiatives, and is frequently featured at events and in publications by the National Science Foundation, National Governors Association, and other organizations concerned with keeping the United States competitive in the global innovation economy.

The state of Oregon so far has invested $47 million in ONAMI, including $5.2 million from the Oregon Innovation Council (OECDD) for fiscal year 2012–2013. These funds are invested in OSU research and commercialization capacity in the form of matching funds for competitive extramural proposals, facility operations, and "gap" grants to assist in the formation of successful new products and startup companies.

ONAMI Staff and Leadership

ONAMI's leadership (executive director, research co-directors, 501c3 board) combines senior-level executive experience in both industry and academia.

President and Executive Director Robert D. "Skip" Rung worked for Hewlett-Packard for 25 years, most recently as director of Advanced Research and Development for HP's Corvallis, OR, facility, which is both the headquarters for HP's world-leading inkjet technology, as well as HP's most advanced and capable facility.

Working with Mr. Rung are **Vice President of Operations Cindy L. Dahl** (formerly area director for CH2M Hill), **High-Tech Extension Director Janet M. Teshima** (formerly Semiconductor Business VP for FEI Company), and **Gap Fund Manager Jay M. Lindquist** (formerly Corporate Development VP for FEI Company) and **Office Manager/Webmaster Danielle Z. Clair** (shared with the Microproducts Breakthrough Institute).

ONAMI Leadership Team Core Members:

Prof. Brian Paul, OSU/PNNL Microproducts Breakthrough Institute co-director. Dr. Paul is a professor of mechanical, industrial and manufacturing engineering at OSU, and a specialist in microfabrication technologies for MECS (Microtechnology-based Energy and Chemical Systems).

Prof. Goran Jovanovic, OSU/PNNL Microproducts Breakthrough Institute co-director. Dr. Jovanovic is a professor of chemical, biological and environmental engineering at OSU, and a specialist in chemical processes for fuel production, medical devices (e.g., hemodialysis filters) and many other applications.

Dr. Ward TeGrotenhuis, OSU/PNNL Microproducts Breakthrough Institute co-director. Dr. TeGrotenhuis is a senior scientist and team leader for hydrocarbon processing at the Pacific Northwest National Laboratory.

Prof. Douglas Keszler, OSU Distinguished Professor of Chemistry and Principle Investigator for the NSF Center for Sustainable Materials Chemistry (CSMC), is a pioneer in the preparation and characterization of new solid-state inorganic materials. Current efforts are directed to the development and study of laser hosts, nonlinear optical materials, phosphors, transparent conductors, wide band-gap semiconductors, and low-temperature deposition and crystallization of thin films. Professor Keszler's pioneering work is the basis for Brilliant Technologies, Deep Photonics, Inpria and Amorphyx all local start-up companies.

Prof. David Johnson, University of Oregon professor of chemistry and CSMC co-PI, is a solid-state chemist who has pioneered new method of synthesizing valuable new materials which cannot occur naturally. He is equally a pioneer in developing graduate student programs geared to the real career needs of students (most of whom will not become academics) and shared user facilities, which maximize the public value realized from investments in sophisticated equipment.

Dr. John Carruthers, Portland State University distinguished professor of physics, has worked at Bell Laboratories, NASA, Hewlett-Packard Laboratories, and most recently Intel Corporation, where he was director of components research and development at Intel's Hillsboro, OR, facility —the world's most advanced semiconductor facility, e.g., the first to achieve 32nm production on 300mm substrates, now poised to take the lead on sub-20nm technology in its recently announced D1X facility.

Prof. Jim Hutchison, University of Oregon professor of chemistry and UO Associate VP for Research, is a pioneer of green chemistry and leading innovator in nanofabrication and assembly processes that maximize material yields and minimize use and release of harmful reagents. Professor Hutchison is the leader of ONAMI's Safer Nanomaterials and Nanomanufacturing Initiative (SNNI), and also a founder of Dune Sciences, LLC.

ONAMI Inc. (501c3) board of directors members are senior executives from CH2MHill, Intel Corporation, Hewlett-Packard Company, FEI Company, Life Technologies Corporation, PNNL/Battelle, Sharp Laboratories, and all four of Oregon's major research universities. Ron Adams, former dean of the College of Engineering at OSU, was formerly director of research and development at Tektronix' color printing operation (now Xerox), which is the world leader in solid inkjet printing, and Xerox's most successful division.

Four Major Research and Commercialization Thrusts

Microtechnology-based energy and chemical systems. ONAMI researchers are developing and fabricating unique bulk fluidic microsystems that accelerate, miniaturize and distribute energy, chemical and biomedical processes. Applications include:

- Compact, highest-performance heat exchangers
- Novel miniaturized HVAC cycles
- Medical devices, e.g., dialysis filters
- Fuel processing, e.g., hydrogen reforming
- Fuel atomization for small engines using greener fuels
- Continuous production and direct deposition of nanomaterials
- Water sterilization

This work is based on the principle that mass and heat transfer are best accomplished in microchannels which, when fabricated (typically via micro-lamination) into massively parallel structures, enable "bulk" throughputs without pressure drop penalties. Revolutionary results—in terms of component size, weight and energy efficiency—can be applied to military energy, medical devices and other specialty chemical products.

A dedicated facility, the Microproducts Breakthrough Institute (http://atami.oregonstate.edu/), supports project activity for research and development by both institutional researchers and numerous companies. A good overview of several applications and fabrication capabilities may be found at http://atami.oregonstate.edu/.

Professors Goran Jovanovic, Brian Paul, and Kendra Sharp of Oregon State University and Dr. Ward TeGrotenhuis of the Pacific Northwest National Laboratory, jointly lead this team.

Nanoelectronics, Nanobiotechnology, and Nanometrology. ONAMI and Oregon's strong industrial and academic experience in semiconductor electronics, microscopy and microanalysis, analytical tools, and test and measurement, remains engaged on key semiconductor industry challenges (new devices, more demanding measurement challenges). They are also being leveraged to enable large opportunities and confront serious measurement challenges in the emerging field of nanomedicine (the application of engineered nanomaterials and nanoscale electronic, magnetic, and optical devices for medical diagnostics and therapeutics). The long history of equipment and instrumentation advances in the engineering and physical sciences, enabling great breakthroughs in the medical and life sciences, suggest that this is a very opportune time for the physical, engineering and medical sciences to collaborate closely on developments in nanobiotechnology. Applications are emerging in single cell analysis at the point-of-use in real time for cancer and other disease diagnosis.

N3I research projects span the following areas:

Nanoelectronics

1. Carbon-based nanoelectronics
2. Analog memory applications of nanoscale devices
3. Nanoscale energy conversion and storage

Nanobiotechnology

1. Imaging/sensing/diagnostics at the nanoscale
2. Drug delivery/cell membrane behavior
3. Intracellular behavior and regenerative medicine

Nanometrology

1. Nanoscale optical near-field nanoscopy and photo-electron emission
2. Spatio-temporal-compositional imaging at the nanometer and femtosecond scales
3. Nanoscale electron crystallography
4. Nanoparticle characterization

Dr. John Carruthers, Distinguished Professor of Physics at Portland State University and former director of Components Research at Intel Corporation, heads up this research collaboration.

Safer Nanomaterials and Nanomanufacturing Initiative. The goals of ONAMI's Safer Nanomaterials and Nanomanufacturing Initiative (SNNI) are to develop new nanomaterials and nanomanufacturing approaches that offer a high level of performance, yet pose minimal harm to human health or the environment. Research under the initiative merges the principles of green chemistry and nanomaterials design and synthesis strategies to produce safer nanomaterials and more efficient nanomanufacturing (including critical purification steps) processes in the context of producing nanoparticles and nanostructured materials for applications in fields such as photovoltaics, nanoelectronics, and sensors.

In addition to greening the production of nanomaterials, SNNI seeks to understand the biological and environmental impacts of nanoparticles. As part of an international research community, it is [i] working with organizations to develop reference materials and standard practices, [ii] creating well-characterized nanomaterial libraries and [iii] developing effective methods protocols for both physico-chemical characterization and biological effects assays for many different types of engineered nanomaterials. Distinctive features of our research portfolio are the critical importance of using only well-characterized nanomaterials and acquiring rich information sets from biological impacts studies. This approach establishes a foundation of fundamental knowledge and advances predictive strategies based upon structure-activity relationships. A long-term commitment to this strategy is required because it is simply not practical to test all significant permutations of nanoparticles (composition, size, shape, surface functionalization, etc.) in bioassays to assess safety.

Professor Jim Hutchison of the University of Oregon leads this initiative that is bringing together key scientists in the life sciences, materials sciences and engineering. Visit the Safer Nanomaterials and Nanomanufacturing website at http://greennano.org/.

Since 2005, SNNI has spearheaded the highly regarded Greener Nano series of annual conferences, with "GN11" coming in the late spring of 2011: http://greennano.org/GN11.

Center for Sustainable Materials Chemistry. ONAMI member researchers and collaborators in both academia and industry are leading a growing collaboration in the study and design of environmentally benign chemistry platforms for the fabrication of high-performance inorganic electronic devices. Beginning from groundbreaking work on transparent electronics and atomic-precision synthesis using both low-temperature solution chemistry and gas-phase assembly techniques, the range of applications for these greener (i.e., benign and earth-abundant elements, lower cost fabrication methods) materials platforms includes many aspects of electronics manufacturing, optics, sensors, thermoelectrics, magnetics, coatings and metrology standards.

ONAMI researchers have recently demonstrated atomically dense and atomically smooth solution processed inorganic films, functionally graded materials from modulated elemental reactants, and a growing range of composite electronic materials.

This work has direct implications for:

- Nanoscale patterning for semiconductors and other applications
- High-performance thin film electronic elements, e.g., MIM electronics
- Printed electronics on non-traditional substrates
- Large area and lower cost display backplanes
- High-performance thermoelectric cooling
- Low cost thin-film photovoltaics

Learn more about the NSF Phase I Center for Sustainable Materials Chemistry at http://sustainablematerialschemistry.org/.

Professors Douglas Keszler at Oregon State University and David Johnson at the University of Oregon lead this collaborative research initiative.

Facilities (NWNanoNet™)

Twenty million dollars of Oregon's initial investment in ONAMI and several million dollars in matching funds have been applied to three user facilities, which are open to all Oregon academic users on equal terms, and to industrial collaborators at commercially competitive rates. The open/shared facility model not only supports diverse research projects with advanced and well-maintained fabrication and characterization tools, it provides an essential resource to Oregon companies, the vast majority of which cannot afford to buy such capabilities for dedicated in-house usage.

Among the many users of the ONAMI-affiliated facilities are the ONAMI gap fund portfolio companies (http://onami.us/index.php/onami_gap_fund_portfolio_companies_raise_20m_capital_funding_in_may_2011) which, led by Home Dialysis Plus, have raised over $70 million in leveraged investment since late 2006.

The NWNanoNet™ facilities are:

- The **Microproducts Breakthrough Institute** (http://mbi-online.org) in Corvallis enables research and product development for microchannel devices and other microfluidics-related fields. Laser micromachining, nano-imprinting/hot embossing, microlamination, diffusion bonding, nano-particle injection micromolding, electroplating, atomic layer deposition, and high temperature sintering under precision loads are among the staple processes.

- The **Center for Advanced Materials Characterization** (http://camcor.uoregon.edu/) in Eugene is the most capable university-based materials analysis and microscopy facility in the Pacific Northwest, offering user access and/or expert operator service for SEM (with e-beam lithography), HR-TEM, dual-beam FIB, Electron Microprobe, XRD, XPS, AFM, TOF-SIMS, UPS, FTIR, NMR, Mass Spec, and basic semiconductor device fabrication. CAMCOR serves clients all over the U.S.

- The **Center for Electron Microscopy and Nanofabrication** (http://www.pdx.edu/cemn/) in downtown Portland has been home to one of the most advanced TEMs (200Kev) dual-beam FIBs in the Pacific Northwest. CEMN regularly serves over 40 companies in the silicon forest high-tech region centered around Portland, and also holds regular user training workshops.

- The **OSU Electron Microscopy Facility** (http://emfacility.science.oregonstate.edu/) at Oregon State University. The Electron Microscopy Facility(EMF) provides service to the research community of both life sciences and materials science related studies. The facility was first established in the Department of Botany and Plant Pathology in 1967, and has been in continuous operation. In addition to supporting faculty and students, the facility welcomes external academic and government institutions and industry. The facility maintains and operates the following instruments:
  - FEI Quanta 3D Field Emission Dual Beam Scanning Electron Microscope (SEM/FIB)
  - FEI Quanta 600F Field Emission Environmental SEM
  - FEI Nova NanoSEM 230 High Resolution SEM
  - FEI Titan 80-200/ChemiSTEM Transmission Electron Microscope (TEM)

  All microscopes are equipped with X-ray Energy Dispersive Spectrometers (EDS) to conduct chemical analysis. The OSU EMF is located in the Linus Pauling Science Center, room 145, 2900 SW Campus Way, Oregon State University, Corvallis, OR 97331.

Corporate Partners

ONAMI is uniquely situated in the midst of the world's most advanced collection of "small tech" research and development assets: Intel, Hewlett-Packard, FEI Company, CH2M Hill, ON Semiconductor Corp., Electro Scientific Industries, Xerox, Maxim, IDT, Sharp Labs, Microchip, Life Technologies/Invitrogen, Planar Systems, Wafertech, Flir, Mentor Graphics, Synopsys, Novellus, TriQuint, Siltronic, SEH America, Solarworld, Sanyo, Solaicx, Peak Sun Silicon and many exciting startup companies.

We have many opportunities to do joint research with nearby industries only a few minutes' drive away for research faculty and graduate students, and it is quite possible that highly capable corporate partners can be found to participate in new ONAMI federal projects.

Oregon Translational Research and Development Institute (OTRADI)

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About OTRADI

OTRADI is a nonprofit research and development organization, supported in part by the state of Oregon that strives to promote bioscience industry growth and job creation in Oregon. OTRADI achieves this goal via collaboration with private and public sector entities in the bioscience community to discover, develop, and commercialize therapeutics, vaccines, diagnostics and other life sciences products important for human health. OTRADI's specialized high-throughput drug discovery robotic equipment is unique in the Northwest, offering previously out-of-reach drug screening capabilities as well as the expertise necessary to analyze results and quickly identify the best products to commercialize. OTRADI uses its equipment and expertise to rapidly screen thousands of chemical compounds developed by Oregon research laboratories and companies to identify new potential drugs, speeding progress on global

health concerns, and bringing more economic development and scientific talent to Oregon.

A Unique Opportunity for Oregon Researchers

OTRADI brings the lab to the market via partnerships with Oregon universities, private bioscience companies, the life science industry, and public and private funders. Collaborating with OTRADI offers many advantages:

Collaboration

- OTRADI partners with university researchers and small biotech companies to help produce preliminary data in new areas and helps develop strategies and helps write grants.
- When grants are funded, OTRADI continues working with the investigator as a subcontractor on the grant.
- Investigators have access to opportunities for licensing and commercialization of novel chemicals and drug targets.

Training

- Researchers, faculty, postdocs and students
- Internships and fellowships

Expertise

- Experience and knowledge in assay development for cell biology, pharmacology, infectious diseases, cancer, inflammatory diseases, etc.

Specialized Equipment and Resources

- State-of-the-art drug discovery robotic equipment for high-throughput screening and high-content analysis
- Novel and commercially available chemical compound libraries comprised of more than 90,000 compounds for screening

Grant Partnering

- Actively involved in grant writing and attracting follow-on and new federal and private funding to Oregon universities and small businesses
- Supplied with the new experimental data that OTRADI produces, university researchers can provide federal granting agencies and/or pharmaceutical companies with the crucial evidence and support necessary (e.g., preliminary data) to prove that their discoveries have increased value and worth as possible drugs, drug targets or diagnostic agents. OTRADI's activities have and will continue to increase federal grant funding success, spark small-business development in Oregon, foster student involvement in applicable research, accelerate connections between Oregon university researchers and biopharmaceutical companies and lead to the creation of high-paying jobs in Oregon.

How OTRADI Works

Every day, Oregon researchers make progress in the fields of biology, medicine, agriculture, marine biology and chemistry that may lead to promising new therapeutics or drug targets. While university researchers are experts within their own fields of science, they often lack the specialized scientific equipment and/or expertise necessary to translate their discoveries into potential new therapeutics. OTRADI brings the lab to the market by providing its partners with access to scientific expertise and equipment. It works to accelerate a product's development and commercialization through strategic partnerships and access to its wealth of resources. OTRADI forms the integral connection or "glue" that links the scientific with the commercial, energizing and simplifying the connection to move medical advances forward, and helping to translate scientific research into tomorrow's discoveries.

The OTRADI Bioscience Incubator

Operated by Oregon Translational Research and Development Institute (OTRADI), the OTRADI Bioscience Incubator (OBI) is the state's first and only bioscience-specific incubator. Located in Portland, Oregon, the multi-client company bioscience complex provides startups and scientists with access to entrepreneurial mentoring and state-of-the-art bioscience facilities, meeting space and shared equipment.

The OBI serves emerging companies and scientists who have outgrown existing space, but who want to dedicate resources to commercializing their research rather than investing in build-out and equipment. The OBI provides scientists with access to a state-of-the-art facility while their companies reach the next phase of expansion and growth.

How to Partner with OTRADI

Oregon university researchers and small businesses are encouraged to join OTRADI as OTRADI-Affiliated Researchers and Companies. As such, Affiliated Researchers are pre-qualified to collaborate with OTRADI and utilize our resources. Partnering with OTRADI provides researchers and Oregon companies access to unique expertise and drug-discovery equipment as well as assistance with assay development, grant writing, business development, biomentoring and incubation. To learn more about OTRADI or the OTRADI Bioscience Incubator, see our website at http://www.otradi.org or contact OTRADI's Executive Director, Jennifer E. Fox, PhD, at jfox@otradi.org or 503-227-1814.

Oregon BEST

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Global Impact, One Startup at a Time

Oregon BEST funds and supports innovative cleantech startups across Oregon. As an economic development catalyst, Oregon BEST connects startups with state and federal resources while preparing them for follow-on investment through a series of focused programs.

We invest strategically in public-private partnerships that rapidly transform university research into new clean technologies, companies, and jobs. The research, projects, and startups we support serve as a proving ground for leading-edge clean technologies while powering a vibrant innovation ecosystem.

Oregon BEST's work not only adds value and enhances competitiveness for Oregon businesses, it also grows the state's research revenue, expands research programs, enhances workforce development, and positions Oregon to recruit new cleantech companies.

Since its establishment as an independent, nonprofit organization by the Oregon Legislature in 2007, Oregon BEST's 270+ Member Researchers (http://oregonbest.org/portfolio/) have attracted more than $135 million in research revenue to Oregon from federal, industry, and foundation sources. Building on Oregon's international reputation as a sustainability innovator, Oregon BEST offers a range of programs, expertise, and research facilities described below.

Oregon BEST Labs

Cutting-edge research requires cutting-edge equipment and the expertise to operate it. Oregon BEST supports a network of nine shared-user

research facilities (http://oregonbest.org/what-we-offer/expertise/labs) at Oregon State University, Portland State University, and the University of Oregon. These multi-million dollar labs offer our industry partners access to research tools, faculty expertise, and workforce development opportunities. The labs help Oregon businesses compete while helping universities grow research and educate graduates. By providing both financial and leadership support, Oregon BEST works to ensure that our community has access to advanced research facilities.

To date, Oregon BEST Labs includes the following facilities:

- **Energy Studies in Buildings Laboratory** (https://design.uoregon.edu/)at the University of Oregon in Eugene and in Portland
- **Green Building Research Laboratory** (https://www.pdx.edu/green-building/) at Portland State University
- **Green Building Materials Laboratory** at Oregon State University
- **High Performance Environments (HiPE) Laboratory** at the University of Oregon
- **infraStructure Testing & Applied Research (iSTAR) Laboratory** at Portland State University
- **Multipurpose River Hydraulics Research Facility** at Oregon State University
- **Oregon Process Innovation Center (OPIC)** (http://opic.oregonstate.edu)**for Sustainable Solar Cell Manufacturing** at Oregon State University
- **OSU-Benton County Green Stormwater Infrastructure Research Facility** at Oregon State University
- **SuNRISE Photovoltaics Lab** at the University of Oregon

Oregon BEST Member Researchers

A statewide network of 270+ Oregon BEST Member Researchers (http://oregonbest.org/portfolio/)across four universities offer expertise to help Oregon companies — ranging from startups to existing firms — compete in the cleantech economy. The research expertise of Oregon BEST Member Researchers covers clean technologies of all kinds (http://oregonbest.org/about-us/this-is-cleantech/what-is-cleantech), as well as cleantech business expertise.

Oregon BEST Commercialization Program

This program accelerates the commercialization of technologies developed by universities and small businesses in Oregon. The program focuses on creating commercialization partnerships between industry and Oregon universities, leveraging existing collaborations between Oregon companies and Oregon BEST's Member Researchers (http://oregonbest.org/portfolio/), and moving clean technologies from Oregon universities into the marketplace.

The commercialization collaborations that are catalyzed by Oregon BEST create much-needed jobs for Oregonians in the cleantech sector, which is expected to experience significant growth for decades to come. Simultaneously, the technologies commercialized help address the challenges of climate change, our nation's dependence on fossil fuels, the environmental impacts of energy generation and building materials production, and the quality of our indoor environments.

The Commercialization Program has three main elements:

- **Oregon BEST University Research Grants** are designed to move clean technologies out of Oregon universities and into startups and Oregon businesses. The grants fund technology development projects with a high potential for commercialization. Successful funded projects have the potential to receive additional Oregon BEST funding and assistance in startup creation.
- **Oregon BEST Early-Stage Investments** (http://oregonbest.org/funding-support/funding/early-stage-investments/) help bridge the gap between traditional R&D funding sources and the availability of private investment – a gap commonly known as the "valley of death." By working with Oregon BEST Member Researchers at partner universities, university tech-transfer offices, and small businesses, we identify opportunities for small investments to make a big impact. These investments assist new companies in moving products and services to market, securing follow-on financing, and gaining initial customer traction.
- **Commercialization acceleration support services** connect experienced Entrepreneurs-in-Residence on the Oregon BEST team with researchers and startups that need assistance in making the transition from "technology readiness" to "investment readiness" and "commercial viability." Oregon BEST provides consultation and mentorship to assist in the areas of business strategy, product strategy, acquisition of private capital, strategic business development, management team formation, and federal funding opportunities (see the Oregon BEST SBIR/STTR Support Center, http://oregonbest.org/funding-support/sbirsttr/support-for-oregon-companies/). Oregon BEST also leverages a wide range of entrepreneurial support services available from other entities and provides a focal point for the development of cleantech products and cleantech companies.

Investment Opportunities: Oregon BEST Companies

Oregon BEST has awarded commercialization funding to more than 40 Oregon companies. Through a competitive process, Oregon BEST selects high-potential companies with strong technologies, viable business strategies, and passionate entrepreneurs. Many of these companies are strong investment candidates for angel investors, venture capitalists, and corporate strategic investors. To make them investor-ready, Oregon BEST companies typically have had the benefit of collaboration with a university researcher, a funded project to develop or demonstrate their technology, and mentoring from one of our Entrepreneurs-in-Residence or another ecosystem affiliate. By engaging with Oregon BEST, the companies we support offer greater potential and lower risk than typical cleantech startups.

Visionary Leadership

As an independent nonprofit established by the Oregon Legislature, Oregon BEST builds on Oregon's reputation as an international leader in cleantech innovation. We provide leadership to map opportunities for high-impact clean technology development and establish priorities that result in jobs, greater sustainability, and economic prosperity for the region. Oregon BEST brings together representatives from industry, universities, government, and other organizations to identify targeted clean technology commercialization and industry development opportunities across many areas. We focus on areas of opportunity where existing organizations are not already addressing needs or are not positioned to lead and develop strategies. Working with a wide range of partners, Oregon BEST takes a leadership role in coordinating clean technology initiatives across Oregon. This work includes identifying strategic research focus areas that align with market opportunities and national policy priorities and that have the potential to create future economic activity in Oregon. We also reach beyond Oregon's borders, collaborating with organizations in other states to increase regional impact and benefit Oregon.

Oregon BEST's leadership (http://oregonbest.org/about-us/team/#board) includes executives from Portland General Electric, National Energy Technology Lab, and The Baker Group. These executives join research leadership from Oregon BEST's founding partner universities (*see below*), venture capital and corporate investors, and members of the Oregon Legislature to make up a visionary Board of Directors, a Commercialization Advisory Board, and staff — all committed to advancing Oregon's cleantech economy.

History and Founding Universities

Oregon BEST was established as an independent, nonprofit organization in 2007 as part of the Oregon Innovation Council's legislative recommendations. Initial funding came from the Oregon Legislature, with additional support from the Oregon University System and the Meyer Memorial Trust. Founding partner universities include the Oregon Institute of Technology, Oregon State University, Portland State University, and the University of Oregon.