



Engaging and serving Oregonians... supporting strong communities



Eastern Oregon University
Portland State University

Oregon Institute of Technology
Southern Oregon University
Western Oregon University

Oregon State University
University of Oregon

The universities provide public service through multiple programs



- **Public University State Programs**

highlighted in today's presentation

- **Campus Public Service Programs**

- **Statewide Public Service Programs**

- Agricultural Experiment Station
- Extension Service
- Forest Research Laboratory

separate appropriations to be covered in a subsequent presentation



Public University State Programs: Public Service to Oregonians



In 2013, the Legislature separated the Educational & General (E&G) appropriation into two new categories:

- **Public University Support Fund** – direct operational support for students and institutions
- **Public University State Programs** – institutes, centers, and programs that address economic development, natural resource, and other issues, providing public service across the state

All seven universities share a **public service mission** and participate in one or more of the State Programs.

Campus Public Service Programs: Engaging Oregonians



Beyond administering State Programs, the universities have a broad portfolio of **Campus Public Service Programs** that:

- **Draw** visitors that boost local economies: **Oregon Bach Festival (UO)**
- **Provide** service-learning opportunities to students: **Dental Hygiene Clinics (OIT)**
- **Reach** Oregonians that otherwise could not engage: **Jefferson Public Radio (SOU)**
- **Support** budding entrepreneurs: **Small Business Development Centers (EOU & SOU)**
- **Enhance** quality of life: **Regional Resource Center on Deafness (WOU)**
- **Inspire** youth: **Mathematics, Engineering, Science Achievement, MESA (PSU and OIT)**
- **Acknowledge** all Oregonians: **Institute for Tribal Government (PSU)**
- **Connect** veterinarians, livestock producers, pet owners, and biomedical researchers: **Veterinary Diagnostic Laboratory (OSU)**

Campus Public Service Programs are supported by the universities where they are housed and collaboratively funded by universities, attendance/membership fees, gifts, grants and contracts as well as General Fund support through the Public University Support Fund.

Public University State Programs: Engaging Oregonians for Stronger Communities



Today's presentation provides two in-depth examples of public service engagement offered by the public universities

❖ Dispute Resolution Programs
– *UO & PSU*

❖ Oregon Solutions – *PSU*
Laurel Singer, M.S., L.P.C.
Director of Oregon
Consensus and Oregon
Solutions at PSU

❖ Oceangoing Research Vessel – *OSU*
Jack Barth, Ph.D.
Associate Dean for
Research
and Professor of Physical
Oceanography at OSU

State Programs covered in the supplemental information...

Oregon Metals Initiative | Clinical Legal Education and Labor Education Research Center – *UO* | Population Research Institute – *PSU* | Signature Research – *PSU, UO, OSU* | Fermentation Science, Institute for Natural Resources, & Oregon Climate Change Research Institute – *OSU*



Public University State Programs: Oregon Solutions



Since 2002, Oregon Solutions (OS) has helped communities implement over 75 projects addressing education, the economy, natural resources, health care, transportation, and energy.

The Oregon Solutions Process

Problem or Opportunity Identified by the Community



Addressing economic, environmental or community sustainability objectives

Assessment Completed



Identifying project outcomes, team members and potential conveners

Governor Designates Project



Demonstrating the importance of the project to the state, and appointing community leaders as conveners

Project Team Formed



Working collaboratively to develop an integrated solution and leverage resources

Declaration of Cooperation



Formalizing commitments and providing a map for project implementation

Public University State Programs: Oregon Solutions



OS Projects Leverage Resources for Critical Infrastructure



Vernonia School

Brought together government and community leaders to secure a site and funding to rebuild Vernonia's school after a devastating flood.

Project Co-Conveners: Tony Hyde, Columbia County Commissioner; Tom Kelly, President, Neil Kelly Remodelers



Columbia Levee Improvement Project

Identification of collaborative solutions for property owners, including the City of Portland and others, who are affected by expiration of levees in the Multnomah County Drainage District.

Co-Conveners: Charlie Hales, Portland Mayor; Jules Bailey, Multnomah County Commissioner



WISE—Water for Irrigation, Streams and the Economy

Addressed water issues in the Little Butte Creek and Bear Creek watersheds, with a focus on economical and environmentally-sound water use.

Co-Conveners: Peter Buckley, State Representative; Jason Atkinson, State Senator



Public University State Programs: Oregon Solutions



OS Projects Foster Economic and Technical Innovation



RAIN—Regional Accelerator Innovation Network

Provided a plan for uniting business, communities, government and higher education to accelerate growth of technology businesses and jobs in the south Willamette Valley.

Co-Conveners: Kitty Piercy, Mayor, City of Eugene; and Julie Manning, Mayor, City of Corvallis



Prosperity Pilot for Career Technical Education

Expanded technical education for Malheur County high school students in the welding, manufacturing, and allied health fields.

Convener: Dirk DeBoer, local business owner and farmer



Lake County Innovation and Learning Center

Created a learning center able to provide job training, post-secondary degrees, and certificates to Lakeview and Klamath Falls residents.

Co-Conveners: Dr. Roberto Gutierrez, President, Klamath Community College; Sean Gallagher, Superintendent, Lake County School District #7



Public University State Programs: Oregon Solutions



OS Projects Support Oregon's Precious Resources



Klamath Tribes/Chiloquin Community Early Literacy Project

Addresses poverty long-term, by uniting parents and the community to ensure that local children are ready to read when they enter school.

Co-Conveners: Kathy Hill, Klamath Tribes Tribal Council; Barbara Fuentes, Director, Oregon Child Development Coalition Head Start



Federal Forest Working Group

Implements the Board of Forestry's recommendations for partnering with the state to manage federal lands.

Convener: Lauri Aunan, Governor's Natural Resource Policy Advisor



Umatilla Forest Collaborative Group

Established the Umatilla Forest Collaborative Group, which is developing an implementation plan for a 30,000-acre forest restoration project in the Heppner Ranger District.

Convener: President, Eastern Oregon University

Public University State Programs: Dispute Resolution



Origin and Public Mission

In 2003 the Legislature passed SB 904, which transferred the programs of the Dispute Resolution Commission to the Oregon University System. The University of Oregon and Portland State University each **provide mediation and dispute resolutions services to the state** through two programs:

- **Oregon Consensus (OC) at PSU**

Oregon Consensus (OC), a service of Portland State University and the Oregon Solutions Network, is Oregon's official program for public policy dispute resolution and agreement seeking.



- **Oregon Office for Community Dispute Resolution (OOCDR) at UO**

Housed out of the Appropriate Dispute Resolution Center of the University of Oregon's School of Law, the OOCDR administrates state funds to 20 community programs in 25 Oregon counties. Approximately 900 volunteer mediators respond to over 6,500 community conflicts each year.



Public University State Programs: Oregon Consensus



Facilitating collaborative, agreement seeking processes that unite communities, government, and businesses to resolve differences and build durable agreements that address public issues.



Since 2005, OC has facilitated over 300 projects to address priorities of the legislature, Governor, and state agencies.

Oregon Consensus | Portland State University | Hatfield School of Government

Public University State Programs: Oregon Consensus



OC's State Wide Efforts Impact Lives & Save Resources



Education

Early Learning Hubs—Technical assistance helped prospective hubs meet Department of Education outcomes.

Regional Achievement Collaboratives—Collaboration and organizational guidance helped establish and support RACs statewide.



Health Care

Health Care Transformation—Mediation and collaborative support helped the Oregon Health Authority advance health care transformation.



Economic Development

Population Forecasting—The 2013 Legislature adopted improvements to county population forecasting recommended by OC's task force.

Submerged Lands Work Group

Stakeholders addressed disputes over state-owned submerged lands. 2015 Senate Bill 912 is an out-growth.

Public University State Programs: Oregon Consensus



OC Efforts Benefit Regional and Local Communities



Natural Resources

Burns District Wildfire Collaborative—Collaboration will build fire resiliency in southeast Oregon through improved fire prevention, response, and recovery.



Sage Grouse Conservation Partnership—Collaboration between federal, state, and local stakeholders will address threats to sage grouse across eastern Oregon's sagebrush landscape.

Malheur National Wildlife Refuge Work Group—Stakeholders agreed on a 25-year plan for Malheur National Wildlife Refuge.



Transportation

ODOT Region 1 Transportation Task Force—Stakeholders developed recommendations to form an Area Commission on Transportation or similar body in ODOT Region One.

Public University State Programs: Oceangoing Research Vessels



OSU
Oregon State
UNIVERSITY

College of Earth, Ocean, and Atmospheric Sciences

HB 3451 - The **Oceangoing Research Vessel** Program is established at **Oregon State University** in order to assist in the **research and study of the waters of the Pacific Coast.**



Public University State Programs: Oceangoing Research Vessels



Research Vessel Council

Seven members appointed by the President of Oregon State University on September 13, 2013.

Dr. Jack Barth, Chair, OSU

Mr. Paul Klarin, DLCD

Mr. Greg Pettit, DEQ

Dr. Craig Young, University of Oregon

Mr. Stewart Lamerdin (Non-Voting), Marine Superintendent, OSU

Captain Wade Blake (Non-voting), NOAA Marine Operations Center, Pacific

Dr. Caren Braby, ODFW

DOGAMI representative

Ms. Kristen Wilkin, Clatsop Community College



**Report due to the
Legislature by November
30, 2015**



Public University State Programs: Oceangoing Research Vessels



Three proposals selected for ship time (February 2014):

“Building Effective Marine Reserve Monitoring Through Research and Education” led by Dr. Angelicque White (OSU): experiential learning opportunities and collection of data in and around the Cape Perpetua Marine Reserve (April 8-12, 2014)



Public University State Programs: Oceangoing Research Vessels



“Geophysical and Geotechnical Investigations to Enable Embedment Anchor Installations in Oregon Wave Energy Study Areas” led by Dr. Chris Goldfinger (OSU): seafloor mapping, sub-bottom profiling and coring studies needed to design anchors for wave energy installations off Newport and Camp Rilea (March 10-13, 2015)



Public University State Programs: Oceangoing Research Vessels



“Undergraduate Student Learning Opportunities During a Multidisciplinary Study of the Umpqua Shelf Depocenter” led by Dr. Rob Wheatcroft (OSU): field-based experiential learning opportunities for undergraduate students and to gather samples and data on the ecology, biogeochemistry and geology of the Oregon margin (March 24-27, 2015)



Public University State Programs: Oceangoing Research Vessels



“Oceanography Boot Camp” April 8-12, 2014



“Oregon college students from three institutions — **Oregon State University, the University of Oregon and Clatsop Community College** — stuck it out for **four days at sea** on Oregon State’s research vessel Oceanus and learned what it’s like to run their own oceanographic research cruise.

They returned with **respect for the difficulties of doing science on a rolling ocean** and a better understanding of **what stirs beneath Oregon’s coastal waters.**”

(OSU’s Terra Magazine, August, 2014)

Public University State Programs: Oceangoing Research Vessels



“One of my favorite things about the cruise was the opportunity to work on a **tight-knit team**, aligned towards the same goal,” wrote O’Neill. “Everyone had a job, but **we all relied on each other** for support and morale. Perhaps the most important thing we learned was **how to safely work aboard a pitching and rolling vessel on the high seas.**” (Molly O’Neill, University of Oregon)



College of Earth, Ocean, and Atmospheric Sciences



Public University State Programs: Public Service to Oregonians



State Programs Funding History	2007-09 Final*	2009-11 Final*	2011-13 Final*	2013-15 LAB	2015-17 GRB
ETIC > Sustaining Funds through HECC ¹	\$ 37,280,000	\$ 30,981,350	\$ 27,387,573	\$ 29,030,827	\$ 24,451,274
Dispute Resolution - 65% UO & 35% PSU	2,267,275	2,107,233	2,297,895	2,435,769	2,516,149
Oregon Solutions - PSU	2,600,000	2,416,355	2,061,637	2,185,335	2,257,451
Signature Research Centers - OSU, PSU, UO	1,039,234	863,902	863,903	1,007,335	1,040,577
Oregon Metals Initiative	944,300	836,035	384,094	725,136	749,065
Labor Education Research Center - UO	696,936	649,089	657,542	656,867	678,544
Population Research Center - PSU	472,744	439,187	374,427	421,407	435,313
Institute for Natural Resources - OSU	459,675	427,196	364,484	386,353	399,103
Clinical Legal Education - UO/Lewis & Clark	231,678	331,750	318,450	337,557	348,696
Climate Change Research Institute - OSU	180,000	334,858	285,701	302,843	312,837
Oceangoing Research Vessel - OSU	-	-	-	300,000	619,800
Fermentation Science - OSU	-	-	-	1,200,000	1,239,600
	<u>\$ 46,171,842</u>	<u>\$ 39,386,955</u>	<u>\$ 34,995,706</u>	<u>\$ 38,989,429</u>	<u>\$ 35,048,409</u>

* End-of-biennium actual appropriations inclusive of any mid-biennium reductions, Emergency Board (E-Board) actions, and one-time funding

¹ Beginning 2015-17, includes only "sustaining" funds

***Thank you for your continuing support of these
very important programs!***

Community Engagement: Changing Lives in Oregon



- Public Service and Community Engagement **inspire** students and faculty, lead to improved student success, and contribute to community well-being.
- Data shows that students matriculate, complete and **achieve** success at higher rates if they are engaged in community projects and service learning
- Impact on Oregon **communities**
 - Millions of volunteer hours delivered in communities across the state
 - **Collaborative solutions** to challenging community problems
 - Broad **economic benefits** from human capital and financial investments in service projects





Engines of Economic Development and Innovation



Eastern Oregon University
Oregon Health and Sciences University
University of Oregon

Oregon Institute of Technology
Portland State University
Western Oregon University

Oregon State University
Southern Oregon University

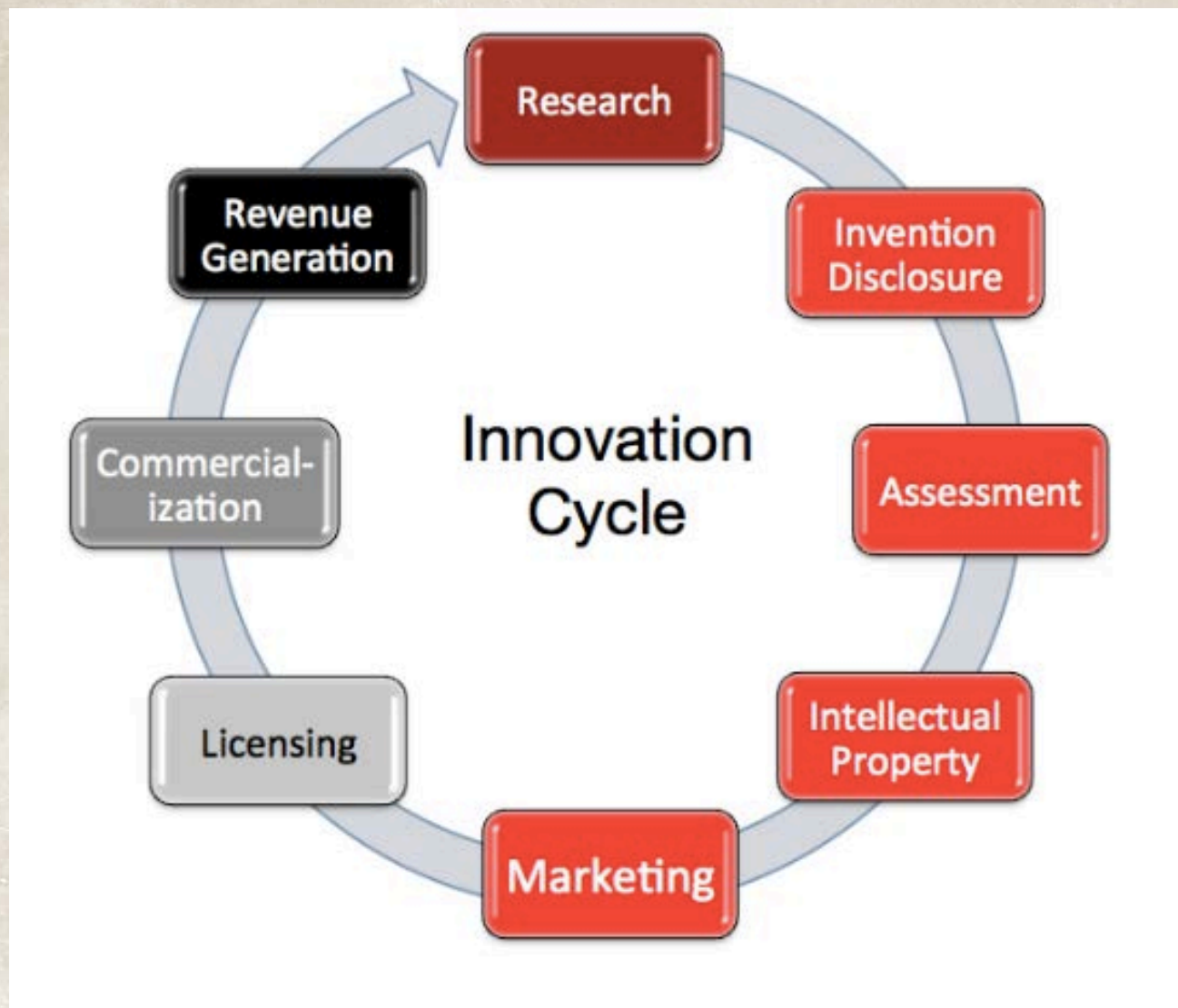


Ron Adams

*Interim Vice President for Research at
Oregon State University*



Innovation Cycle



University Funded Research 2014



Most Funded Research Conducted at:

OHSU	\$ 355.8 Million	
OSU	\$ 284.6 Million	(2087 Proposals)
UO	\$ 110.3 Million	(1070 Proposals)
PSU	\$ 64.4 Million	(592 Proposals)
TOTAL	\$ 815.1 Million	



Oregon Health & Sciences Univ.



\$ 355.8 MILLION (2014)

- Oregon's only academic health center
- The National Institute's of Health most significant funding source
- Multi disciplinary and collaborative approach to research



OREGON
HEALTH & SCIENCE
UNIVERSITY

Knight Cancer Challenge

- \$500 Million Dollar Match Challenge Gift
- \$461 Million from over 7,000 donors so far
- \$200 Million from Legislature for research facilities
- Prime example of the multi disciplinary and collaborative approach to research at OHSU



Oregon State University



\$284.6 Million (2014)

Impacting Global Challenges by Advancing the Science of Sustainable Earth Ecosystems; Improving Human Health and Wellness; Promoting Economic Growth and Social Progress.

Climate Change

Ocean Health/Marine Studies

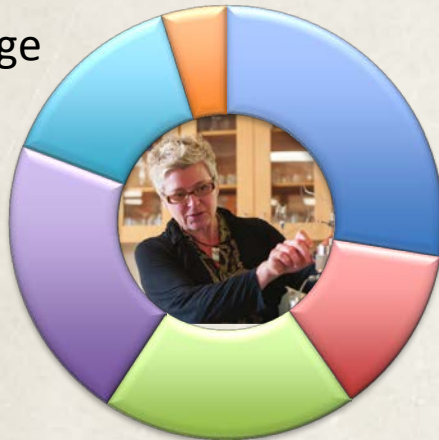
Health:

Promotion

Prevention

Disease

Management



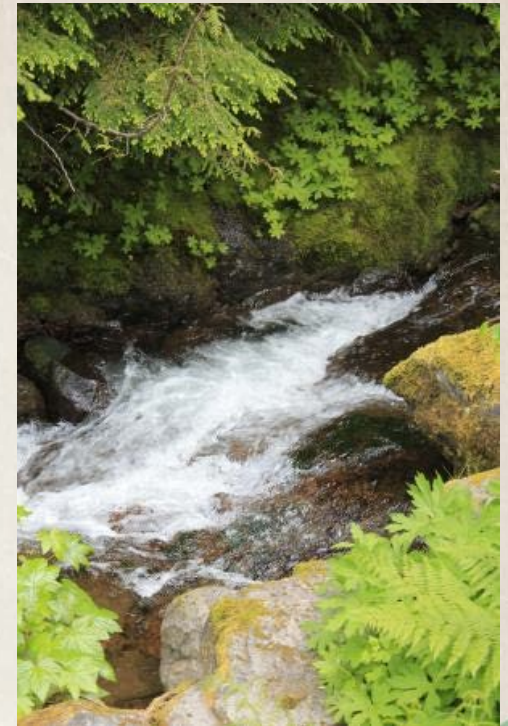
Safe/Secure Food & Water

Sustainable Energy
& Built Environment



Long Term Ecological Research Network

- 1 of 26 national sites
- H.J. Andrews Experimental Forest
- Partnership OSU and Forest Service
- \$6.7M, Six Year Grant from NSF
- OSU competitive despite federal reductions
- Strong Public and K-12 components



Central Question: How do climate, natural disturbance and land use as controlled by forest governance – the structures and processes through which people make decisions and share power – interact with biodiversity, hydrology and carbon and nutrient dynamics?

University of Oregon



1,070 research proposals



28.5% increase from fiscal year 2013



\$110.3 million in grants, contracts, and other competitive awards



13% increase from fiscal year 2013

\$110.3 Million (2014)

- 1,070 research submissions (16.3% increase from 2013)
- Secured \$110.3 million in grants, contracts, and other competitive awards (funding grew by 13%)



UNIVERSITY OF OREGON

University of Oregon



Climate Change, Governance and The Mountain Pine Beetle Epidemic

“The effects of climate change and years of forest policies have led to an unprecedented epidemic in which tens of millions of acres of trees have been killed over the past 20 years.” - Chris Bone, Assistant professor of geography, University of Oregon.

- \$1.3 million in funding from the National Science Foundation’s Coupled Natural and Human Systems program.
- Computational model will help examine the complex relationship between climate change and multiple layers of governmental decision making.

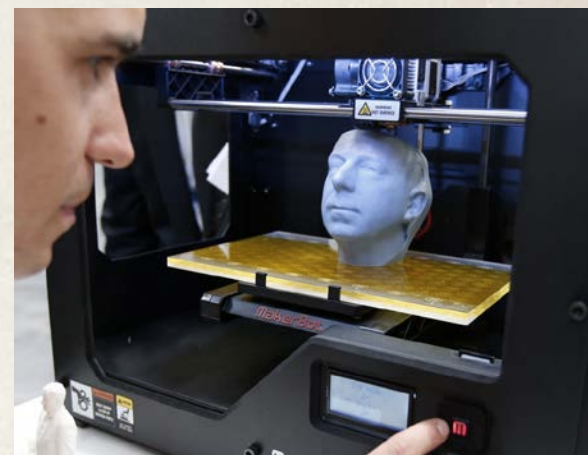


University of Oregon



Science Library Renovation

- 2013 Legislature approved \$8,375,000 in state-backed bonds matched by private sources
- Remodel 30,000 SF and expand the library by 3,500 SF
- Groundbreaking will take place in 2015
- Plans include a “big data” visualization center and a space devoted to tools such as 3-D printing.
- Since 2000, the University of Oregon has had a 72% increase in science majors



Portland State University

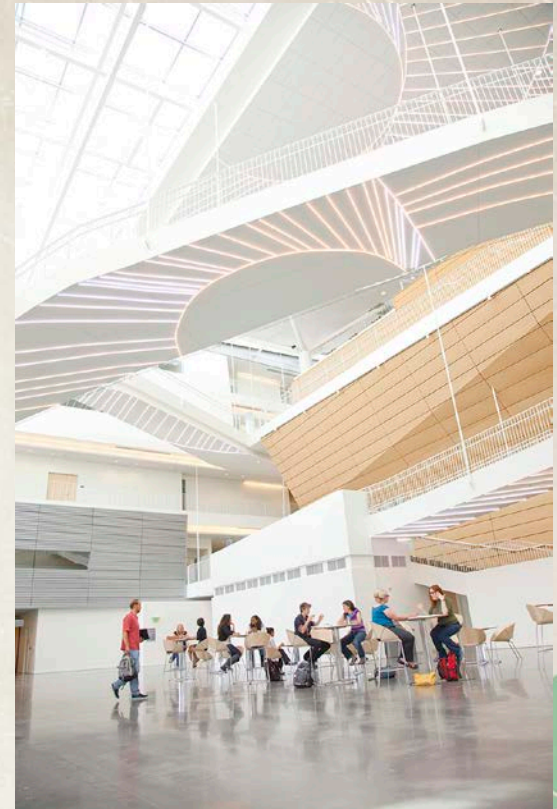


\$64.4 Million (2014)

Research and Strategic Partnership Office
created in 2010 in recognition of PSU's growing
research portfolio

- Research focused on urban communities
- Expertise in Transportation (TREC)
- Sustainability – Institute for Sustainable Solutions
- Regional Economic Development
- Strategic Partnerships:

OHSU, PGE, Intel, & City of Portland



Portland State
UNIVERSITY

Portland State University



BUILD EXITO

- \$24M grant from NIH – Largest ever for PSU
- Partnership with OHSU, PCC, and others
- Focused on underrepresented/undergraduate students
- Health, biomedical, behavioral, clinical and social science research careers



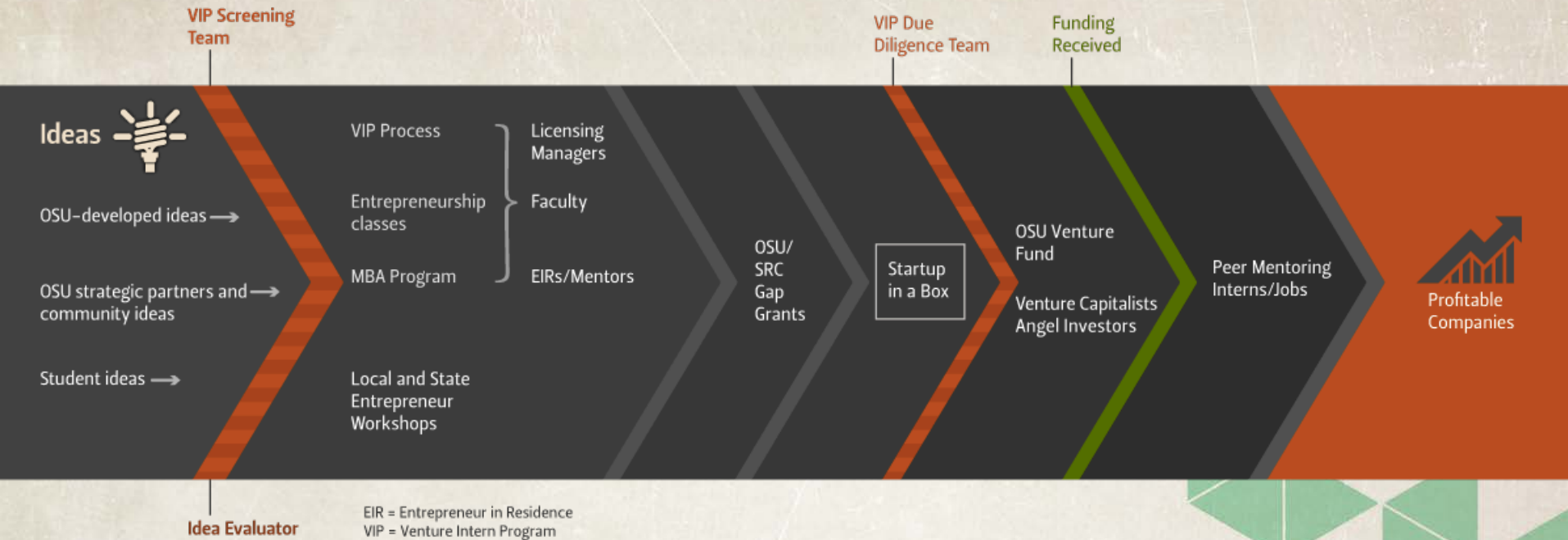


Andrew Watson

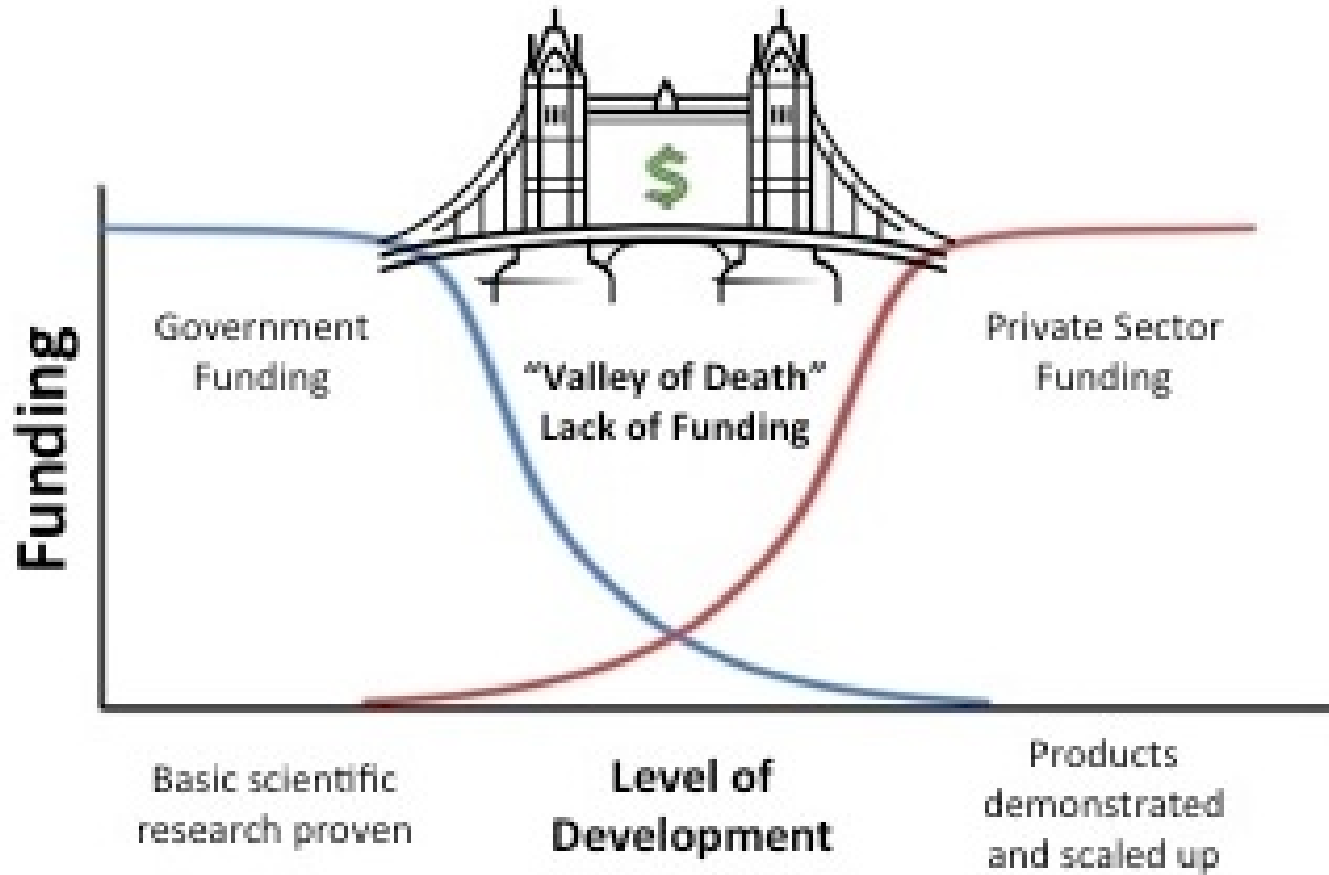
*Director of Technology Transfer at Oregon
Health and Science University*



From Idea to Start Up



Commercialization of Research



Commercialization of Research



PORTLAND BUSINESS JOURNAL

THE LIST

OSU LEADS THE INNOVATION RACE

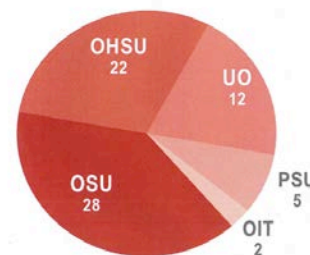
As published January 10, 2014 in the *Portland Business Journal*.

OREGON STATE'S TECH MACHINE

Of the 69 university spinoffs included in *The List*, more trace their origins to Corvallis than anywhere else. Oregon State University edged Oregon Health & Science University for the most spinoff companies featured on the list. Here's a breakdown.

A RECORD YEAR AT OSU

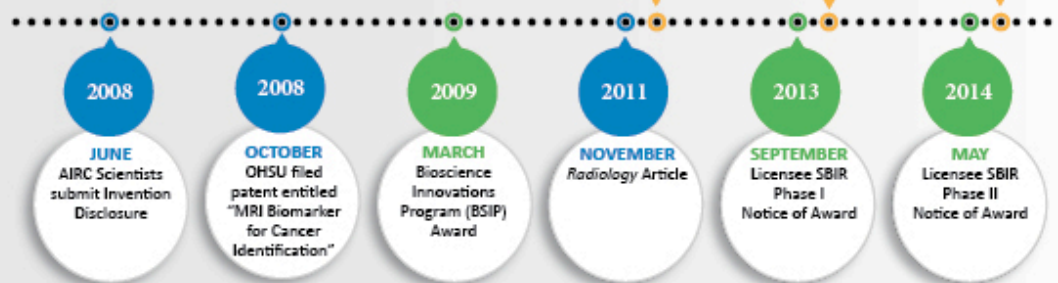
Oregon State University reached records in two tech spinoff categories during fiscal 2013. First, its research generated 50 new invention disclosures, the most ever for the university. Then it generated, as the chart below shows, nearly \$7.8 million in licensing revenue, an 84 percent increase from the prior year.



SOURCE: OREGON STATE UNIVERSITY OFFICE FOR COMMERCIALIZATION AND CORPORATE DEVELOPMENT

COMMERCIALIZATION OF MRI BREAST CANCER TECHNOLOGY AT OHSU

COMMERCIALIZATION



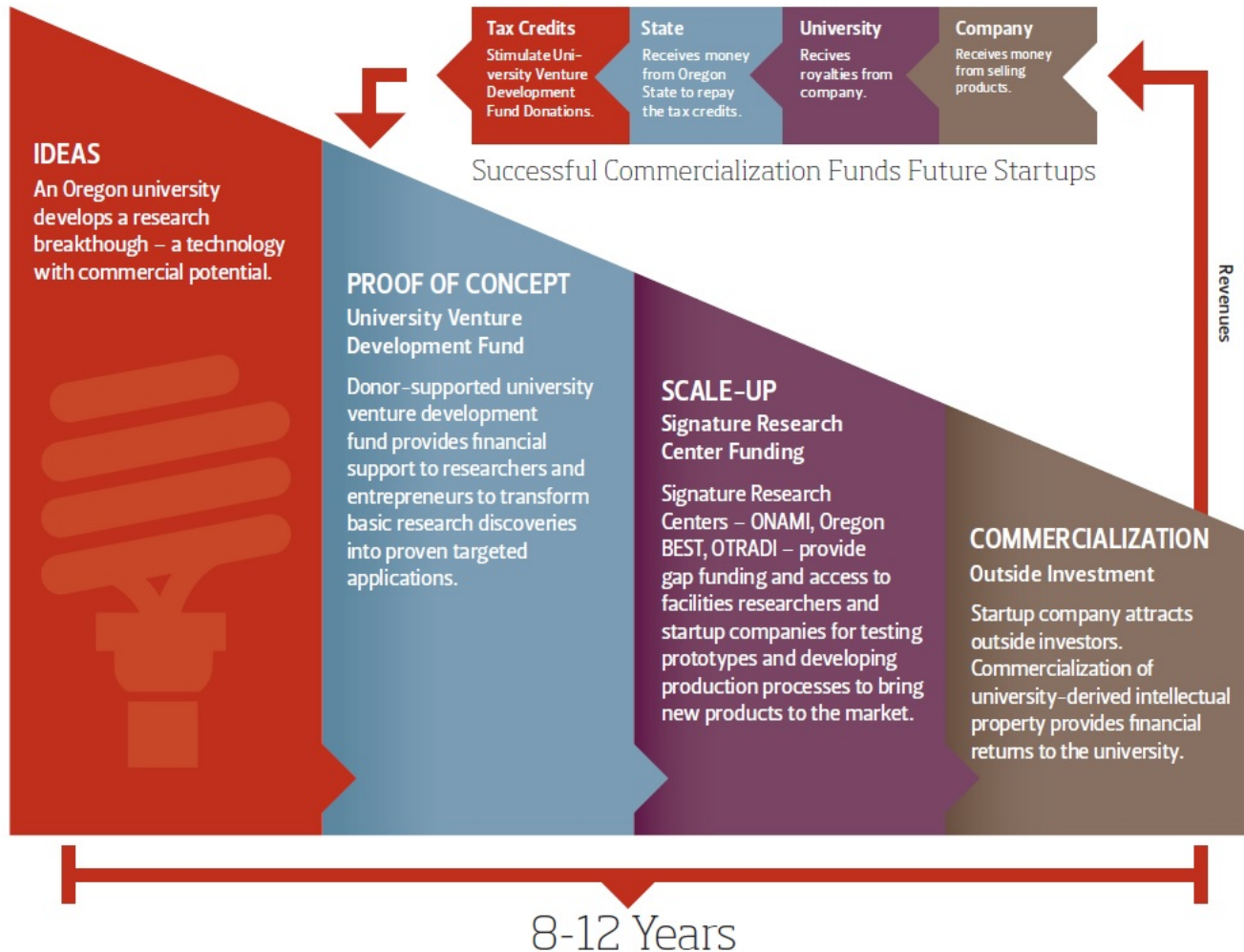
TECHNOLOGY DEVELOPMENT



University Venture Development Fund



University Venture Development Fund



Signature Research Centers



OREGON INC.

ONAMI

MICRO

OTRADI

BIOTECH

Oregon BEST

CLEAN & GREEN

Other Special Initiatives and Projects

Funded in Oregon Business

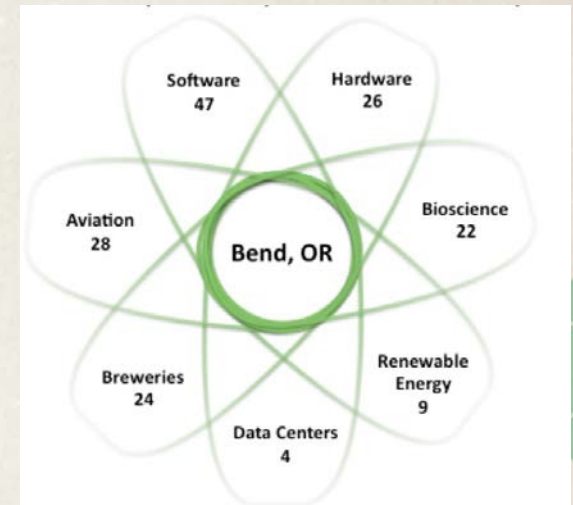
Development Department Budget



ONAMI
OREGON NANOSCIENCE AND
MICROTECHNOLOGIES INSTITUTE



Business Accelerators



University of Oregon



275 startup jobs



**\$7.1 million
in licensing
revenue in
fiscal year
2014**



**\$27.2 million
in company
income in
calendar year
2013**



22 startups

“The UO saw strong returns on research investments in fiscal year 2014. Discoveries made at the University of Oregon continue to fuel innovations that bring benefits to society and help power the Oregon economy.”

—CHUCK WILLIAMS
ASSOCIATE VICE PRESIDENT FOR
RESEARCH AND INNOVATION

University of Oregon



UO License Income:

- License income divided by research expenditures: 9.2% in 2014.
- This puts UO among the top performing research institutions nationally.



9.2% return
on research
investment



25 new patent
applications



\$6.3 million reinvestment to
academic units, innovators, and
the state of Oregon

Success Stories



HONEYCOMB

- Part of Oregon's growing Unmanned Aerial Systems (UAS)
- Agricultural Uses
- Targeted Application of Pesticides and Fertilizers
- More Efficient Irrigation and Monitoring of Pests
- Partnership between PSU, OSU, and Extension
- Based in Wilsonville
- 15 employees



Success Stories



OREXIGEN

- One of Six Start Ups from OHSU in 2003
- Contrave[®] - Weight Management Drug
- Michael Cowley was a researcher at OHSU
- Company raised \$255M in 2007
- FDA approval and marketing began in late 2014



OREXIGEN[®]

Success Stories



NuSCALE POWER

- 2007 spinout from OSU
- Safer & More Reliable Nuclear Power Generation
- Game changing small modular reactor technology
- \$226M DoE 1:1 matching grant
- 600 jobs





Vince Porter
Jobs and The Economy Advisor
for Governor Kate Brown

*Presented as part of the Oregon Business Development
Department budget presentation in March 2015 to the
Transportation and Economic Development
Subcommittee*



Oregon Business Development Department



Mission: Grow Oregon jobs, companies, economies

Strategies

- Expand existing Oregon businesses
- Nurture innovation and startups
- Recruit traded-sector employers in key industries
- Build infrastructure for communities to grow



Oregon's Opportunities



- We still make things
- Manufacturing makes up 30% of our gross state product, 2nd in the nation and 2.5 times U.S. average
- Pacific Rim trading advantages
- Ranked among top 10 states for exports as a percentage of Gross State Product and per capita value
- Quality of life, job opportunities attract talent
- Oregon No. 1 destination for movers in 2013, 2014



Oregon's Challenges



- Lower household incomes
- Oregon's median income of \$50,000 lags U.S. average by 5% and Washington state by 18%
- Workforce gaps
- The nation's second-highest high school dropout rate
- Uneven economic recovery
 - Portland, Bend areas growing fast and attracting talent
 - Rural Oregon faces continued challenges, particularly with the decline in natural resource employment

State Tour Suggestions



- Be an advocate for business within Oregon
- Focus more on growing existing companies
- Improve statewide coordination on innovation and entrepreneurship
- Rural Oregon needs targeted initiatives, investments



The Case for “Grow Our Own”



- 70% or more of the job growth in a community comes from companies who already call that community home
- The best way to recruit new businesses is to first take care of the ones we already have
- Strong support from CEOs, small business, elected officials and economic development partners



Innovation and Entrepreneurship



- Mission: Nurture innovation and spark startups
- Key work areas
 - Rural and natural resources innovation
 - Startups and commercialization
 - University research



Key POPS/Innovation



- Oregon Innovation Council
- Oregon Growth Board
- Innovation Initiatives



Key POPS/Innovation



- Regional Accelerator Innovation Network
- Oregon Metals Initiative/Northwest Collaboratory for Sustainable Manufacturing
- Industry Competitiveness Fund
 - Oregon Manufacturing Extension Partnership
 - Grow Oregon
 - Small Business Innovation Research / Small Business Technology Transfer



Questions?



Ron Adams, Interim Vice President for Research at OSU

Andrew Watson, Director of Technology Transfer at OHSU

Vince Porter, Jobs and Economic Advisor for Governor Kate Brown



Strategic Investments in Talent, Research & Service move Oregon forward



Public University Support Fund provides Strategic Investments in:

- Talent for **High-Demand** Occupations through ETIC, other programs.
- Research through **Oregon Inc.**, UVDF
- **Learning-by-doing** public service programs



Talent



Research



Public Service



State Programs: Accomplishments of **ETIC**

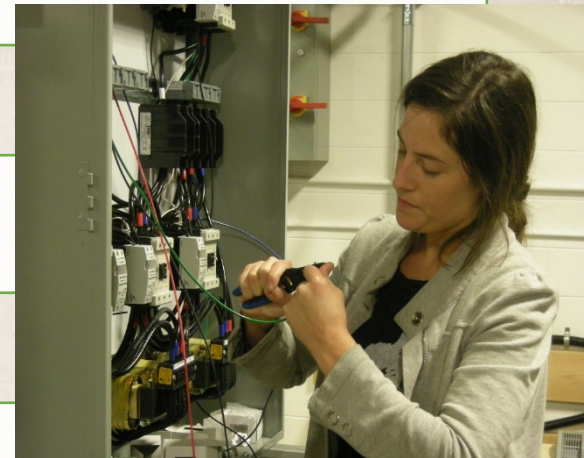


ETIC has a 15-year record of measurable results:

Matched public with private investments by 2:1

Doubled undergraduate engineering

Increased Engineering Master's degrees by 48%



HECC will allocate funds to public universities to **sustain advances in engineering and technology education, and research.**

State Programs: Accomplishments of **ETIC**



“In graduate production, ETIC investments enabled campuses, particularly UO, OSU, OIT, and PSU, to bring new capacity and innovative programs that are providing both graduates and research talent to the area. ETIC has nurtured high technology education across the state, enabling struggling regions and urban areas to provide paths to careers for a variety of otherwise disenfranchised students.”

ETIC: Renaissance Report, August 2013



State Programs: From **ETIC** to Oregon Talent Council (OTC)



Origin and Public Mission

SB 504 (1997)

Engineering and Technology Industry Council (ETIC) was established to provide a private-public partnership between the State Board of Higher Education and the Oregon Graduate Institute **to meet the unique educational needs of Oregon's high technology industry.**

HB 2728 (pending in 2015)

Poised to pass the baton from ETIC to the **Oregon Talent Council** for **renewable funds** to respond to emergent needs and innovative programs.



Emerging Trends that Require College-level Preparation



From ETIC Needs Portfolio 2014:

- Cybersecurity Education & Research
- Lane County's Software Industry
- Engineering & Prototyping of Interconnected Devices
- Electric Power Industry
- Demand for Personalized Medicine
- Big Data & Data Scientists
- Developing T-Shaped Professionals

And same types of needs in healthcare, energy, ag-tech, and advanced manufacturing.....



Universities: also engaged in talent-development pipeline



- **STEM Hub Examples:**

- Oregon Tech and South Metro-Salem STEM Partnership
- PSU and Portland Metro STEM Partnership
- OSU and Oregon Coast STEM Hub

- **MESA at PSU and with Oregon Tech in Salem**

- **CTE Collaborations – Oregon Tech and Lane ESD**

- **Outreach Programs –**

- OSU Center for Outreach in Science and Engineering Youth Camps and 4-H
- WOU Summer Bridge Program
- EOU's Eastern Promise Program
- SOU Outreach to Latinos
- UO GK-12 Science Outreach Program

- **Network for Quality Teaching and Learning (HB3233 in 2013)** supports efforts to prepare a highly-effective, diverse educator workforce



Components of the **Research, Innovation and Talent Development** Ecosystem Fit Together



- State Culture that supports and invests in these efforts, with focus on areas of expertise (OBDD, Oregon Inc)
- Private Investors willing to invest in start ups from Universities (UVDF), other investments to help spur innovation (OGA)
- Business Accelerators (RAIN, PBA, BEND) and Signature Research Centers (Oregon Inc) where start ups and entrepreneurs can launch research and ideas from lab and classroom to commercialization
- High Quality and Entrepreneurial Researchers at Universities awarded federal grants to commercialize their research. (University Funding)
- Spaces and equipment to conduct research and education students (University Capital Construction)
- Increased support for high demand/high cost areas of education in the universities (STEM) (CTE) (ETIC)

