

August 29, 2018

TO: The Board of Trustees of the University of Oregon

FR: Angela Wilhelms, Secretary

RE: Notice of Academic and Student Affairs Committee Meeting

The Academic and Student Affairs Committee of the Board of Trustees of the University of Oregon will hold a meeting on the date and at the location set forth below. Subjects of the meeting will include: the provost's standing report, core education redesign, OHSU partnerships, and the VPRI's annual research report.

The meeting will occur as follows:

Thursday, September 6, 2018 at 9:00 a.m.
UO Portland Naito Building

The meeting will be webcast, with a link available at www.trustees.uoregon.edu/meetings.

The Naito Building is located at 109 NW Naito Parkway in Portland, Oregon. If special accommodations are required, please contact Jennifer LaBelle (541) 346-3166 at least 72 hours in advance.

Board of Trustees | Academic and Student Affairs Committee
Public Meeting | September 6, 2018, 9:00 a.m.
Room 136, UO Portland Naito Building

Convene

- Call to order, roll call
- Approval of June 2018 minutes (Action)

Provost's Quarterly Report

1. **OHSU Partnerships:** Leslie Leve, Professor of Counseling Psychology and Human Services, Associate Vice President for Research and Innovation
2. **Annual Research Report:** David Conover, Vice President for Research and Innovation
3. **Core Education Redesign – Initiative Update:** Ron Bramhall, Associate Vice Provost for Academic Excellence; Chris Sinclair, Associate Professor of Mathematics

ADJOURNMENT

Agenda Item #1

OHSU Partnerships

Accelerating UO's Partnership Activities with OHSU

In April 2017, about 90 UO and OHSU researchers from a variety of disciplines got together for a daylong summit at Western Oregon University in Monmouth to brainstorm possible collaborations. UO biologist Patrick Phillips, in his capacity as Acting Director of the Phil and Penny Knight Campus for Accelerating Scientific Impact, described the meeting as a day for “setting the stage for deepening the relationship between OHSU and the UO and begin to have further conversations about broader regional initiatives, especially between the two Knight campuses.” Both institutions are currently developing \$1 billion initiatives triggered by separate \$500 million gifts from Nike founder Phil Knight and his wife, Penny.

This formative summit set the stage for UO President Michael Schill and OHSU President Joe Robertson to launch a new joint taskforce charged with catalyzing discovery and scientific impact by increasing partnership activities between UO and OHSU faculty. The taskforce began its work this past academic year by exploring three areas of partnership: research collaborations, educational programs, and administrative policies. Their first task was to build a website and create an email listserv, where faculty could learn about opportunities for collaboration across the two campuses.

Why is this partnership important?

- Faculty at our two campuses have very complementary strengths and areas of excellence. By bringing faculty together, we can solve problems and generate solutions in ways never before possible.
- National data have shown an association between the number of faculty contributing to a research idea or product and the influence of that product. By working together with OHSU, our research can have an even bigger impact nationally and internationally.
- Our ability to improve the lives of more children, families, and individuals in Oregon through our research, programs, discoveries, and inventions is enhanced by working together with our colleagues at OHSU.

New Research Partnership Activities

In February, we launched a **Request for Applications for Collaborative Seed Projects** with OHSU. The goal of this initiative is to significantly increase the number of externally funded UO-OHSU collaborative projects by 2020. The call included two priority areas for funding: (1) **Convening** activities, designed to bring together teams of OHSU and UO faculty for structured meetings to incubate collaborative ideas and explore the potential for future joint proposals; and (2) **Piloting** activities, designed to provide funds for activities related to preparing a joint UO-OHSU grant application. A requirement of this initiative was that all proposals be jointly led by a UO-OHSU team. Both institutions have committed funds for this collaborative seed project initiative.

Applications were due in April and the faculty response on both campuses was phenomenal, with a total of 45 applications received from faculty across campus, including biology, education, psychology, human physiology, physics, chemistry, prevention science institute, computer and information science, center on brain injury research and training, philosophy, PPPM, product design, and architecture. Reviews occurred in May and funding decisions were announced in June by the Vice Presidents for Research at the two institutions. The research topics are diverse and examining everything from healthcare-associated infections to carbon nanotubes. The recipients are:

- *Nanohoops as New Materials for Multiplexed Biological Imaging* — **Ramesh Jasti**, UO, and **Xiaolin Nan**, OHSU.
- *Culturally Adapting and Pilot Testing a Values-Affirmation Intervention to Improve Diabetes Health and Management Indicators among American Indians with Diabetes* — **Michelle Jacob**, UO, and **Kelly Gonzales**, OHSU.
- Vascular mechanisms linking obesity and hypercoagulability following hemorrhagic shock — **Belinda McCully**, OHSU, and **Ashley Walker**, UO.
- Building Translational Bridges Between Human and Rodent Models of Development and Mental Health — **Cristopher Niell**, UO, and **Damien Fair**, OHSU.
- Developing Bio-Inspired Fractal Implants to Restore Vision to Patients with Retinal Diseases: In Vivo Studies — **Richard Taylor**, UO, and **Trevor McGill**, OHSU.
- *Predicting Healthcare-Associated Clostridioides Difficile Infection Probabilities in Inpatient Units* — **Kevin Van Den Wymelenberg**, UO, and **Robert Martindale**, OHSU.
- *Oregon Translational Chemical Biology Working Group* — **Kimberly Beatty**, OHSU, and **Michael Pluth**, UO.
- *Oregon Center for Law, Ethics and Neuroscience* — **Dennis Bourdette**, OHSU, and **Colin Koopman**, UO.
- *Translational Neuroscience of Substance Use and Behavior Change Across the Lifespan* — **Sarah Feldstein Ewing**, OHSU, and **Elliot Berkman**, UO.
- *Addressing Disparities in the Assessment and Treatment of Communication Disorders for Young Children from Latino Backgrounds* — **Katharine Zuckerman**, OHSU, and **Lauren Cyclic**, UO.

How will we know if this initiative is successful? We will carefully track the grants and products that are generated from the Collaborative Seed Grant awards. To benchmark our success, we first looked at the OHSU-UO joint grant activity for fiscal year 2017. A total of 10 proposals were jointly submitted from OHSU-UO to funding agencies. These proposals were led by faculty across 5 units: human physiology, education, psychology, prevention science institute, and labor education and research center. One joint proposal was awarded funds, with approximately \$556,000 expended at the UO last fiscal year. The awarded grant is related to an ongoing partnership between UO's Hans Dryer (human physiology) and OHSU's Kerry Keuhl and is focused on reducing muscle loss in older adults. With an infusion of new research activities that will occur when up to 10 Collaborative Seed Projects are just being launched, we expect to see a significant uptick in these joint activities by 2020, with a goal of generating 20 joint proposal submissions to funding agencies by 2020. Assuming a 20% success rate, we expect

that about 4 joint UO-OHSU projects will be awarded funding, primarily from federal agencies such as NIH and NSF. These future grants are anticipated to result in upwards of \$2M a year in revenue by 2020.

We are already seeing some early wins from the burgeoning research partnership with OHSU. One example is a new project awarded by the National Institute of Mental Health in April and led by UO researchers Laura Lee McIntyre (special education and clinical sciences) and Fred Sabb (Lewis Center for Neuroimaging), in collaboration with OHSU researcher Damien Fair. This project is aimed at identifying and understanding brain differences among children who are developing as expected and those with autism spectrum disorder and developmental delays. Lessons learned from this research could help the research team tailor early interventions to target specific symptoms for children throughout Oregon who have autism or other developmental delays.

A second success story comes from UO researchers who are partnering with OHSU's Casey Eye Institute in an effort to potentially fully restore sight in those suffering from retinal disease. Presently available retinal implants only restore the ability to perceive light in patchy gray monochrome. The UO team is led by physicist Richard Taylor and includes Benjamín Alemán (physics), Cris Niell (biology), Miriam Deutsch (optics) and Darren Johnson (chemistry) and will test fractal implants which meld living neurons together with retinal implants. If successful, this patented interface could have applications to other areas of health by applying the same technology to other body systems.

A third area of success is the ongoing OHSU-UO partnership in developmental biology, led by UO's Chris Doe (biology). Building on an extensive history of impactful model organism studies and training programs in developmental biology at UO, and parallel successes in clinically-relevant developmental biology research at OHSU, this partnership brings expertise in development, disease, and translational research together across the state of Oregon. Through joint symposia, joint retreats, and collaborative science projects, the overall goal of this partnership is to combine fundamental research in developmental biology at UO with clinical research at OHSU to accelerate the positive impact on human health. Other UO faculty participating in this collaboration include Judith Eisen, Karen Guillemin, Tony Herman, Chuck Kimmel, Svetlana Maslakova, Adam Miller, John Postlethwait, Annie Powell, Kryn Stankunas, Phil Washbourne, Monte Westerfield, and George von Dassow.

We are also engaged in ongoing research discussions with OHSU related to the Knight Campus activities at both institutions. It is too early in the conversations to provide an update at this time; we look forward to coming back to the Board of Trustees on this important work in the coming year. More information about some of the recent OHSU-UO research partnership activities are included in the *Around the O* stories included with this packet.

New Collaborations in Education

UO faculty and staff are engaged in ongoing conversations about potential exciting academic courses and programs that could be developed and operated in partnership with OHSU. One example is a course in the Clark Honors College on bio-medical research topics taught by UO's Melissa Graboyes (history). This unique course partners with faculty and graduate student researchers at OHSU to investigate current research topics in medicine and global public health. The Clark Honors College has also partnered with OHSU to offer two spots each summer in OHSU's internship program for undergraduate students considering a medical career.

A second area of educational collaboration has emanated from UO's Office of International Affairs under the leadership of Dennis Galvan in collaboration with OHSU Global (<http://www.ohsu.edu/xd/research/centers-institutes/ohsu-global/index.cfm>). Discussions between these groups and the American English Institute have focused on the creation of a specialized medical english program in OHSU Global's partner hospital networks in Thailand and Lao. Also under discussion is joint programming at the Lao-American Nutrition Institute in Vientiane, Lao.

We anticipate that other innovative courses and academic program ideas will bubble up from UO and OHSU faculty in the coming year, as excitement about novel ways to deliver educational programming for students in Oregon accelerates through this partnership.

New Administrative Collaborations

Hand-in-hand with the acceleration of UO-OHSU research collaborations come some new administrative challenges that we have surmounted with great success. First, our two institutions jointly hired our first faculty member, Elinor Sullivan (human physiology). Elinor spends time each week on both campuses, studying maternal obesity in humans and in non-human primates. Elinor is a member of our Health Promotion and Obesity Prevention Cluster.

We also finalized a Memorandum of Understanding (MOU) to handle intellectual property for faculty with joint appointments at OHSU and UO. This MOU provides faculty who have joint appointments with a clear path forward for developing new products and technologies in ways that recognize the contributions of the faculty member as well as the contributions of both institutions.

To further encourage cross-institution collaborations, an agreement was established to charge internal rates for research core facility services when an OHSU scientist uses a UO research core facility, and vice versa. This administrative agreement allows UO faculty access to facilities not yet available on our campus and also brings new business and partnerships to UO research core facilities from OHSU scientists. In-the-works are regulatory agreements between the two universities that will facilitate joint research projects that involve human subjects or

institutional animal care and use. Such agreements will reduce the administrative barriers that can sometimes occur when faculty collaborate across campuses.

Next Up!

We will hold our second OHSU-UO summit in Salem on October 8th. Featured at this years' summit will be the award winners of the OHSU-UO Collaborative Seed Projects. Grantees will have an opportunity to share a synopsis of their project with attendees and we will be joined by incoming Knight Campus for Accelerating Scientific Impact Executive Director Bob Guldberg. In addition, as the UO's Presidential Initiative in Data Science continues to build over the coming year, possibilities for research and educational collaborations across institutions will be explored, including during the OHSU-UO October 8th Summit.

You can also expect to see enhancements to our collaboration website in the coming year, with new stories that showcase some of the ongoing and developing collaborations between OHSU and UO and a page for faculty seeking research partners (<https://ohsu-uopartnership.uoregon.edu/>).

First recipients of new UO-OHSU seed funding announced



June 15, 2018 - 9:00am

[Twitter](#) [Facebook](#)

Collaborative research teams examining everything from healthcare-associated infections to carbon nanotubes have been awarded funding to jump-start research projects as part of the [2018 OHSU-UO Collaborative Seed Grant program](#).

Ten teams were chosen as part of the program, which creates new collaborations between researchers at [Oregon Health & Science University](#) and the [University of Oregon](#).

“A common thread running through all of these projects is a commitment to high-impact research and discovery,” said David Conover, the UO’s vice president for research and innovation. “Each of these projects builds on the respective strengths of our researchers and unites us in a common goal toward life-changing breakthroughs that will resonate throughout our state and beyond.”

Dan Dorsa, associate vice president for research partnerships at OHSU, said the research and innovation partnership comes at a critical time for Oregon.

“Now more than ever we must come together to solve serious health problems and build research capacity in the state,” he said. “By coming together, the whole will certainly be greater than the sum of the parts.”

What’s more, the teams are likely to remain engaged well beyond the life of the funding, said Peter Barr-Gillespie, interim senior vice president for research at OHSU.

“These projects will not only spur discovery, but also engage students and help to shape the future of science,” he said.

The seed funding program [was announced](#) in February. A call for proposals drew more than 40 applications from teams representing a range of disciplines. The program will increase the number of externally funded UO-OHSU collaborative projects, and reviewers sought out projects that are likely to result in new grant submissions and innovative products.

The 10 interdisciplinary teams included OHSU and UO researchers focused on optogenetics, biophysics, neuroscience, chemical biology, biology in the built environment, reduction of health disparities and a host of other specialties. Projects could have potential life-changing effects on health outcomes in conditions ranging from cancer to Type II diabetes to obesity to mental health.

Eventually, the teams will build on the seed grant activities to propose external funding requests to the National Institutes of Health, the U.S. Department of Justice, the MacArthur Foundation, the Templeton Foundation and other funders of research.

The recipients are:

- Oregon Translational Chemical Biology Working Group — Kimberly Beatty, OHSU, and Michael Pluth, UO).
- Oregon Center for Law, Ethics and Neuroscience — Dennis Bourdette, OHSU, and Colin Koopman, UO.
- Translational Neuroscience of Substance Use and Behavior Change Across the Lifespan — Sarah Feldstein Ewing, OHSU, and Elliot Berkman, UO.

- Culturally Adapting and Pilot Testing a Values-Affirmation Intervention to Improve Diabetes Health and Management Indicators among American Indians with Diabetes — Michelle Jacob, UO, and Kelly Gonzales, OHSU.
- Nanohoops as New Materials for Multiplexed Biological Imaging — Ramesh Jasti, UO, and Xiaolin Nan, OHSU.
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- Building Translational Bridges Between Human and Rodent Models of Development and Mental Health — Cristopher Niell, UO, and Damien Fair, OHSU.
- Developing Bio-Inspired Fractal Implants to Restore Vision to Patients with Retinal Diseases: In Vivo Studies — Richard Taylor, UO, and Trevor McGill, OHSU.
- Predicting Healthcare-Associated Clostridioides Difficile Infection Probabilities in Inpatient Units — Kevin Van Den Wymelenberg, UO, and Robert Martindale, OHSU.
- Addressing Disparities in the Assessment and Treatment of Communication Disorders for Young Children from Latino Backgrounds — Katharine Zuckerman, OHSU, and Lauren Cysyk, UO.

The initial idea for the seed funding program emerged during a daylong summit that took place in April 2017 and included about 90 UO and OHSU researchers and institutional leaders. The group identified research topics where each institution has complementary strengths, discussed existing barriers to collaboration and brainstormed solutions.

Awardees will meet for a second summit on Oct. 8, when they will hold a work session and present their projects to campus leaders.

OHSU and UO are both developing major new research facilities thanks to unprecedented gifts from the same benefactor. The UO broke ground on the [Phil and Penny Knight Campus for Accelerating Scientific Impact](#) in March; OHSU broke ground last June in Portland on a new research building for the [Knight Cancer Institute](#).

Both are \$1 billion projects initiated by separate \$500 million gifts from Nike founder Phil Knight and his wife, Penny.

OHSU and UO have both committed funds to the seed funding program for one year with the hope of future rounds of funding. Visit the [OHSU-UO Partnership website](#) for more information.

—By Lewis Taylor, University Communications

Around the O

Brain scans may uncover signs of autism and developmental delays

April 25, 2018

In the brains of elementary school children may lie clues for understanding differences in behavior among those with autism spectrum disorder and other developmental delays.

UO researchers Laura Lee McIntyre and Fred Sabb are now using functional magnetic resonance imaging, or fMRI, to find those clues, which, they say, may help plot a roadmap to boost kids' communication and social skills, and better manage their emotions and behavior.

They've already showed they can use an MRI scanner with 5- to 6-year-olds with disabilities, a group that can be notoriously squirmy. To prepare kids for MRI, they used behavioral protocols, including software developed at Oregon Health & Science University in Portland, to help account for excessive movement.

Now, armed with a two-year exploratory grant from the National Institute of Mental Health, they hope to identify and understand brain differences among children who are developing as expected and those with autism spectrum disorder and developmental delays.

"We will be looking at brain activity when children are at rest, which will help us understand how specific parts of their brain are connected together in brain networks," said McIntyre, a psychologist who heads the Department of Special Education and Clinical Sciences and a researcher in the Prevention Science Institute.

If all goes according to plan, McIntyre said, the project's scope could quickly expand.

"We are interested in how children are doing in school, how their communication is developing, their risk for problem behaviors and their day-to-day functioning and coping skills," she said. "Maybe there are differences in brain network connectivity that will differentiate who will have more impairments. Knowing that could be important. It would help us



tailor early interventions to target specific symptoms."

Up to 120 children with autism spectrum disorders and other developmental delays, along with 24 typically developing kids, will undergo scanning in the Robert and Beverly Lewis Center for Neuroimaging and receive neuropsychological assessments.

The project builds on data McIntyre collected in previous research that centered on intervention strategies for affected children, families and schools. Many of the children, drawn from local special education programs and now in the targeted age group, are expected to be included in the study.

One of those studies, the Oregon Parent Project that began in 2011 with funding from the National Institute of Child Health and Human Development, explored the behavior of children with early developmental delay and the well-being of their families during preschool years and the transition into kindergarten. The other study focused on children, age 2-5, with just-diagnosed autism spectrum disorder and the barriers faced by families to obtain evidenced-based clinical services in rural and urban areas of Oregon.

A goal will be to map that previous data into what is found in the new study.

"We have wonderful samples of children that I've been following for a number of years," McIntyre said. "We'd like to draw a subsample of these two earlier studies, collect new data and look at clinical outcomes in early adolescence. We are interested in broadening the scope of our assessments to include brain, behavior and genetics. This exploratory grant gives us a great opportunity."

Data collected in the study — funded under a National Institutes of Health program in which fewer than 10 percent of proposals are approved — will establish a baseline of information for comparisons with normal development in children in future research.

Additional funding is being sought to eventually move the exploratory study into a larger project that will expand the collaborations with OHSU scientists studying autism and the genetics of autism spectrum disorders and developmental delays.

McIntyre and Sabb, director of the Lewis Center, are getting technical expertise from Damien Fair, a neuroscientist at OHSU who heads the Fair Neuroimaging Lab. Fair has pioneered methods to track and filter out unwanted motion recorded during scanning.

In preparation for the new study, McIntyre and Sabb worked with Fair on a proof-of-concept study with 22 children.

"The UO was an early adopter in the use of our software," Fair said. "Their early work really helped us refine our product for use with children."

Fair received a Presidential Early Career Award for Scientists and Engineers in 2013 in recognition of his brain-mapping of childhood development, especially on children with attention deficit hyperactivity disorder and autism. His program, Framewise Integrated Real-time MRI Monitoring, allows scientists to rapidly evaluate data.

Data corrupted by movement results in effects similar to blurring in a photograph. In fMRI data, Fair said, it may suggest brain activity that isn't really occurring. The software also lets users reduce costs by knowing immediately if they've captured enough quality data or need to extend a scanning session.

The work with OHSU reflects a move toward greater collaborative research between the two institutions that will benefit Oregon and the nation.

"Growing our relationship is positive for both institutions," she said. "This project really gives us an opportunity to do something together that we might not be able to get done on our own."

Around the O

New seed funding program deepens UO-OHSU collaboration

February 19, 2018

The Office of the Vice President for Research and Innovation has announced a new seed funding program aimed at growing new collaborations between researchers at Oregon Health & Science University and the University of Oregon.

The two research institutions jointly issued a request for applications for the program Feb. 16.

The program is one of the results of a daylong summit that took place in April 2017 and included about 90 UO and OHSU researchers and institutional leaders from a variety of disciplines. The group identified research topics where each institution has complementary strengths, discussed existing barriers to collaboration and brainstormed solutions.

UO and OHSU are both developing major new research facilities thanks to unprecedented gifts from the same benefactor. The official groundbreaking for the UO's Phil and Penny Knight Campus for Accelerating Scientific Impact is March 2; OHSU broke ground last June in Portland on a new research building for the Knight Cancer Institute.

Both are \$1 billion projects initiated by separate \$500 million gifts from Nike founder Phil Knight and his wife, Penny.

UO President Michael Schill and OHSU President Joe Robertson both voiced strong enthusiasm for the new seed funding program, which aims to increase the number of externally funded OHSU-UO collaborative projects.

"I am really excited about this program, which will allow both institutions to leverage our research strengths and collectively further scientific discovery and impact," Schill said. "It amplifies the groundbreaking research that is already underway, encourages new opportunities for problem-solving



collaborations and lays the groundwork for further UO-OHSU partnerships as part of the Knight Campus."

OHSU President Joe Robertson expressed similar support for the collaborative initiative.

"The new research partnership between OHSU and the University of Oregon is an exciting opportunity to work together in moving knowledge out of the lab and into the world," Robertson said. "Science is by definition unpredictable. What is predictable is the greater the resources devoted to science, and the greater the scale and scope of collaboration, the greater the chances for a breakthrough. I'm confident the impact of this partnership will be felt in Oregon and beyond."

The Office of the Vice President for Research and Innovation will host an information session Thursday, March 1 from 1:30 to 2:30 p.m. in Room 119, the Diamond Lake Room, in the Erb Memorial Union.

Researchers interested in learning more about the opportunity are encouraged to attend. Visit the OHSU-UO Partnership website for more information.

Around the O

New faculty member targets research on maternal nutrition

January 16, 2018

Physiologist Elinor Sullivan wants to understand early childhood health through the lens of maternal health.

Her research examines the influence of maternal nutrition and how other factors, such as the metabolic state of mothers during pregnancy, affect children during early development and result in long-term implications for lifelong health. She is one of the final hires in the UO's Health Promotion and Obesity Prevention Initiative.

"My long-term goal is to develop strategies to provide women the knowledge and resources they need to create the optimal nutritional environment for their developing offspring," Sullivan said. "My hope is that by providing this early in life, we are able to reduce the risk of childhood obesity and neurodevelopmental disorders."

Sullivan is committed to combating childhood obesity in collaboration with a team that includes a biologist, psychologists and prevention science specialists. While other members of the team are more focused on childhood and adolescence, Sullivan is zeroing in on early environmental risks for childhood obesity.

"An advantage of working with an interdisciplinary team is that we are able to approach the study of health promotion and obesity prevention from multiple angles," Sullivan said. "Childhood obesity rates have increased dramatically across the nation and it is important and powerful to address the problem as a group using our different lenses and backgrounds."

With a dual appointment to the UO and the Division of Neuroscience at Oregon Health & Science University's Oregon National Primate Center, Sullivan conducts research at both locations. She will begin teaching at the UO in winter term as an associate professor in the Department of Human Physiology.

One of the more surprising aspects to Sullivan's research is the degree to which maternal obesity



appears linked to offspring mental health and behavioral disorders. She's exploring connections between maternal diet and obesity with anxiety, depression, attention deficit hyperactivity disorder and other disorders.

Among the key findings of Sullivan's research involving nonhuman primates is an increased risk for behavioral problems in offspring exposed to a maternal high-fat diet and maternal obesity. She's found evidence that maternal consumption of a typical American diet is linked to increased anxiety and impairments in social behavior in offspring.

Sullivan has not pinpointed specific foods that are harmful to offspring when consumed by their mothers, but she says that one potential culprit is processed saturated fat common in the American diet. One of the likely beneficial classes of nutrients is

omega-3 fatty acids contained in foods such as salmon and walnuts.

The next steps in her research will involve investigating the mechanisms behind the observed behavioral changes, including understanding the changes in the brain that underlie the alterations in behavior.

She also wants to see how her findings in nonhuman primates apply to humans. She has initiated studies that examine mothers and babies with the intention of translating some of the work she's done in nonhuman primate models to humans.

Sullivan was drawn to the UO by a number of factors, including the opportunity to teach as well as conduct research. She's teaching a nutrition course for nonmajors, which she hopes will be both practical as well as educational.

"It allows me to have an open discussion with students about nutrition," Sullivan said. "I'll be talking about the importance of nutrition during different stages of life and hope that I'm able to help some of these students to start consuming a healthy diet that will not only impact their long-term health but also have the potential to impact the health of their children."

Additionally, she sees the UO as an opportunity for collaboration, both within the Health Promotion and Obesity Prevention Initiative and with other areas of research expertise. The UO has become a hub of innovative research involving the microbiome – the collective trillions of bacteria that reside within the human body, including the gut. She sees potential for collaborative research examining how changes within the microbiome of mothers and infants affect mental health.

In addition to her research at the UO, Sullivan also is creating a bridge to researchers at OHSU, highlighting the potential of collaborations between the institutions, especially with the UO's Phil and Penny Knight Campus for Accelerating Scientific Impact, set to open its doors in 2020.

"I hope to foster collaborations between the two institutes by identifying and introducing individuals with synergistic research expertise," Sullivan said. "This connection will also allow us to share resources and facilities, elevating Oregon's biomedical research potential and allowing us to be a hub of biomedical scientific discovery."

Around the O

UO joins forces with OHSU for three-day neuroscience event

September 11, 2017

Researchers who are furthering the understanding of human brain development through neuroimaging will gather in Portland later this month for a symposium co-hosted by the UO and Oregon Health & Science University, the latest example of researchers from the two institutions working collaboratively.

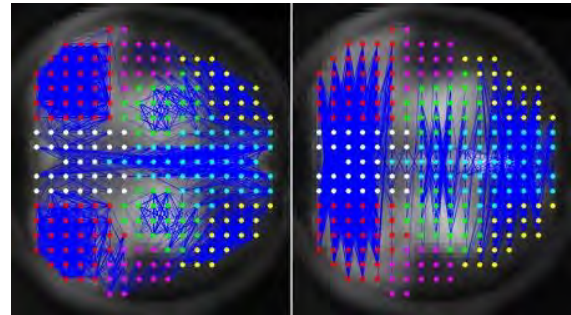
"We're proud to partner with OHSU to bring some of the most prominent developmental neuroscientists in the field to Oregon," said Fred Sabb, director of the Lewis Center for Neuroimaging and a courtesy instructor in the UO's Department of Psychology. "It's also a great way to highlight the important research that's being done on our campus and at OHSU."

Sabb, along with psychology professors Nick Allen and Jenn Pfeifer, worked with OHSU researchers on a local organizing committee to bring the Flux Congress 2017 to the Pacific Northwest in its fifth year. It draws top developmental cognitive neuroscientists, who examine how the brain matures throughout childhood and into adulthood in order to recognize and process the outside world.

Development of cognitive and social processes are critical for mental health as many neuropsychiatric disorders are first recognized in childhood and adolescence. Geared toward professional and student scientists, physicians and educators in the field, the program caters to researchers using magnetic resonance imaging, near-infrared spectroscopy and other neuroimaging techniques.

With a strong focus on translational research and promoting public information, Flux Congress explores more than just psychological brain development. Researchers also will be discussing implications on education, health, juvenile law, parenting mental health and other fields.

David Conover, the UO's vice president for research and innovation, will deliver opening remarks at the conference, along with Dan Dorsa, OHSU's senior vice



president for research. Conover said he enthusiastically supported the idea of the UO co-hosting the symposium, and his office helped fund the costs of the meeting.

"Research is all about making connections across disciplines to solve the challenges that society faces," Conover said. "Flux Congress provides a forum for scientists, educators and students to come together to exchange ideas and share knowledge to ensure the future of developmental cognitive neuroscience research. We're pleased to be working with OHSU to bring this important event to Oregon."

UO neuroscientist Cris Niell will give a presentation on his research examining the development and plasticity of neural circuits in mice. Niell is using imaging techniques to study the maturation of cortical connectivity during adolescence. The collaborative research project, studying brain development during adolescence in both mice and humans, involved UO researchers Allen, Sabb and child development and preventive intervention specialist Leslie Leve, as well as OHSU neuroscientist Damien Fair.

"It's a remarkable time in neuroscience, as we're developing tools that allow us to measure brain activity in unprecedented detail," Niell said. "This conference provides an exciting opportunity to bridge these approaches in basic research to studies of

human development, as well as to improve mental health and well-being.”

Following the October 2016 launch of the Phil and Penny Knight Campus for Accelerating Scientific Impact, researchers from the UO and OHSU have been seeking opportunities to work together. UO President Michael Schill and OHSU President Dr. Joe Robertson have described the Knight Campus as a powerful platform for partnerships between scientists and researchers at the UO and OHSU. In April, researchers from the two institutions met for a day-long summit in Monmouth to brainstorm possible collaborations.

Agenda Item #2

Annual Research Report

Q&A for FY18 Research and Innovation Annual Report

QUESTION: How did UO's research metrics look in 2017-2018?

ANSWER: For the fiscal year ending June 30, 2018 (FY18) UO's total external awards and expenditures increased by most measures. Here are a few of the highlights:

- \$121.9 million in grants, contracts and competitive awards, up 5% from the previous year.
- 568 grants were awarded to UO, a 1% increase from the previous year.
- UO submitted 1,065 proposals.
- UO's sponsored project expenditures, which represent the university's spending of awards received in the past, went up by 6.9 % to \$119.4 million.

FY18 new awards over \$5 million:

<u>PI Name</u>	<u>Title</u>	<u>Home Department</u>	<u>Agency</u>	<u>Amount</u>
Newman, Judith	Early Intervention/Early Childhood Special Education Services	Early Childhood (EC) Cares Program	Lane Edu. Service District	\$ 10,767,741
Westerfield, Monte	Zebrafish International Resource Center	ION	NIH	\$ 9,635,376

Q: What did UO's innovation metrics look like in FY18?

A: The UO continues to have great success in translating UO research into products that generate economic activity and societal impact. Some of the markers of that success include the following:

- Disclosures — inventions, copyrighted works, biological materials, software and related trademarks — jumped from 28 to 42.
- Science-based invention disclosures increased from 10 to 18.
- Investment in intellectual property rights — filing patents on inventions, registering for federal trademarks and registering copyrights — rose by 58%.
- Patent filings increased from 8 to 17.
- UO is now ranked No. 5 in the Association of American Universities in licensing per research dollar and No. 30 in patents per research dollar.
- UO received \$9 million in licensing income, of which 89% was reinvested into academic units, distributed to UO innovators and returned to the state.

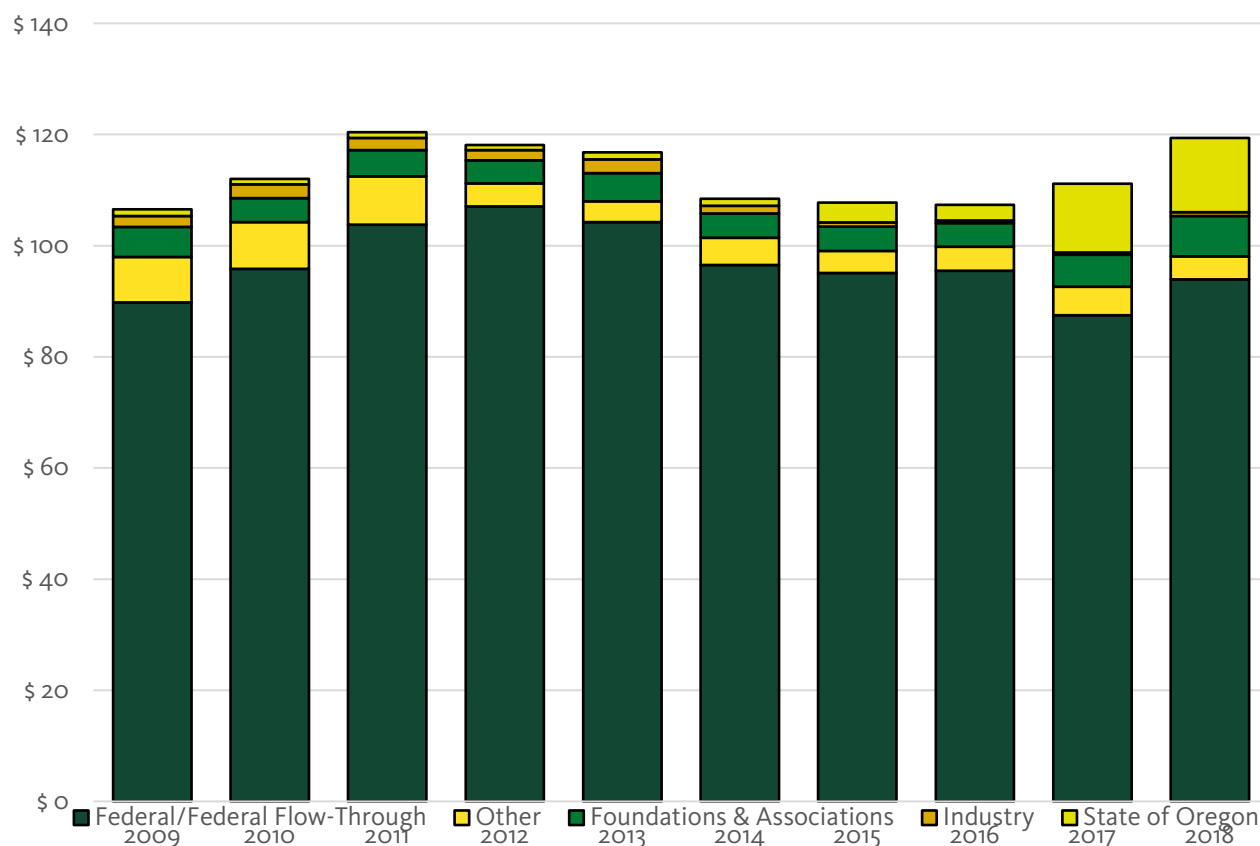
UO saw an uptick in increase in agreements between UO researchers for the exchange of proprietary materials such as data, software and research materials. Such data sharing agreements are likely to increase as the Knight Campus for Accelerating Scientific Impact comes online.

Q: What has our trend been—and what do we expect it to be—on the growth of sponsored research dollars and the number of different sponsoring agencies/entities.

A: Over the last 5 years, sponsored project expenditures have increased.

- Expenditures decreased slightly, but were essentially flat, from FY14-FY16. During this time industry sponsorship decreased, but state funding increased.
- Expenditures increased between F16-FY18. Since FY16 sponsored expenditures have increased about \$12 million (or about 11%).

Expenditures on Sponsored Projects (in millions):



Spending did not increase equally across all categories of sponsors. Awards from foundations and associations increased in this period, from \$ 4.4 million to \$7.3 million. Federal awards have not changed significantly throughout this period, except a slight decrease in FY17.

We anticipate future growth in the coming years. In July 2018 we were awarded \$18 million for sponsored projects. This is more than twice what we received in July in FY14 under ARRA.

Q: What is the outlook for Federal Funding?

A: See below tables.

Agency	FY17 Final	FY18 Final	FY19 House	FY19 Senate
Ntl Science Foundation	7.5M	7.8M	8.2M	8.1M
Ntl Inst. of Health	34.1M	37.1M	38.3M	39.1M
Inst. of Edu. Sciences	605M	613M	613M	615M

Agency	FY17 Final	FY18 Final	% change
Ntl Science Foundation	7.5M	7.8M	3.90%
Ntl Inst. of Health	34.1M	37.1M	8.80%
Inst. of Edu. Sciences	605M	613M	1.30%

Source: AAU & APLU funding charts

Q: What were some of the notable new awards in FY18?

A: UO researchers received 568 grants, contracts and other competitive awards. Examples spanning the UO's many departments and institutes include:

- A \$3.3 million grant to Beth Stormshak, a professor in the Department of Counseling Psychology, and the [Prevention Science Institute](#) from the U.S. Department of Education to examine family-centered interventions in schools to reduce social and behavioral problems.
- [A \\$600,000 grant to Stephanie LeMenager](#), who holds the Moore Endowed Chair in the Department of English, and the [Center for Environmental Futures](#) from the Andrew W. Mellon Foundation to strengthen the academic humanities, expand interdisciplinary partnerships and deepen the center's commitment to environmental work, justice and sustainability.
- [A \\$750,000 grant to Dejing Dou](#), a professor in the UO's Department of Computer and Information Science, creating the [Center for Big Learning](#), which combines artificial intelligence, big data and large-scale "deep learning."
- A \$2 million grant to James Brau, a professor in the Department of Physics, and the [Center for High Energy Physics](#) from the National Science Foundation funding a three-year research program involving the UO's experimental high-energy physics group.

- A \$1.5 million grant to Kryn Stankunas, a professor in the Department of Biology and the [Institute of Molecular Biology](#), from the National Institutes of Health to study how zebrafish organs perfectly regenerate to their original size and shape.
- An \$888,000 grant to Kevin Van Den Wymelenberg, a professor in the Department of Architecture and the director of the [Energy Studies in Buildings Laboratory](#), from the Oregon State University College of Forestry and the U.S. Department of Agriculture to study microbial diversity in mass-timber buildings.

For a rundown of all of the awards received in 2018, visit the UO's [monthly award reports](#) page.

Q: How do our researchers fare in dollars per TTF?

A: UO Faculty members brought in an average of \$93,491 in FY16. The percentage change in UO's average from FY03 of FY16 was 28.5%. The average percentage change among AAU public universities was 26.8%.

Q: How much sponsored research is paid directly to our faculty for research we lead vs. that which comes to our faculty as a sub-award from other institutions?

A: The UO receives most awards as the lead institution. In some cases, the university is a participant in projects with multiple other universities in which a researcher from another institution serves as the lead. Multi-institution awards are very common in the federal funding of science and partnerships, and collaborations are increasing as government agencies place more emphasis on team science. UO is committed to these kinds of projects and we can expect to see an increase in sub-awards as we look to further our partnerships with our institutions through initiatives such as the OHSU/UO Seed Grant Program. In FY18, about \$17 million of that was received through a sub-award — the rest were direct awards. In FY18, the University of Oregon sub-awarded about \$13 million to other institutions.

The top five organizations which we received sub-awards through were:

- Oregon State University (\$800,000)
- University of California, Davis (\$700,000)
- Harvard University (\$500,000)
- Oregon Social Learning Center (\$500,000)
- UO Foundation (\$500,000)

The top five organizations which received sub-awards in FY18 were:

- University of Connecticut (\$1.1 million)
- University of South Florida (\$1.1 million)
- University of Missouri (\$600,000)
- Arizona State University (\$500,000)
- George Washington University (\$500,000)

These figures have all been rounded to the nearest \$100,000.

Q: What is the UO's federally negotiated rate to recover Facilities and Administrative (F&A) costs? How do we compare to our peer institutions?

A: Facilities and Administrative (F&A) payments are reimbursements for costs that universities have already paid for in expenses incurred in conducting federally-sponsored research and other sponsored activities. F&A costs cover a portion of the university's infrastructure and operational costs related to sponsored activities such as the maintenance of sophisticated, high-tech labs for cutting-edge research; utilities such as light and heat; telecommunications; hazardous waste disposal; and research compliance and administration necessary to comply with various federal, state, and local rules and regulations.

The UO's on-campus F&A rate for research is 47.5%. Some agencies and foundations do not allow the federally negotiated rate to be charged. Consequently our effective F&A rate is much less than 47.5%.

These figures will show UO's F&A rate is lower compared to peers:

Public AAU

Lowest	University of Oregon	47.50%
Highest	University of Virginia	61.50%
Median		55.5%

Private AAU

Carnegie Mellon University	51.3%
Harvard University	69%
Median	60%

Oregon Institutions

OSU	47%
UO	47.50%
PSU	48.50%
OHSU	54%

Q: How will the Knight Campus for Accelerating Scientific Impact (KCASI) change our portfolio?

A: Once KCASI is fully implemented with about 30 faculty and their teams engaged in externally sponsored research, we expect our sponsored research to increase by roughly \$30 million dollars.

FY18 Research and Innovation Annual Report

University of Oregon Board of Trustees

Sept. 6, 2018



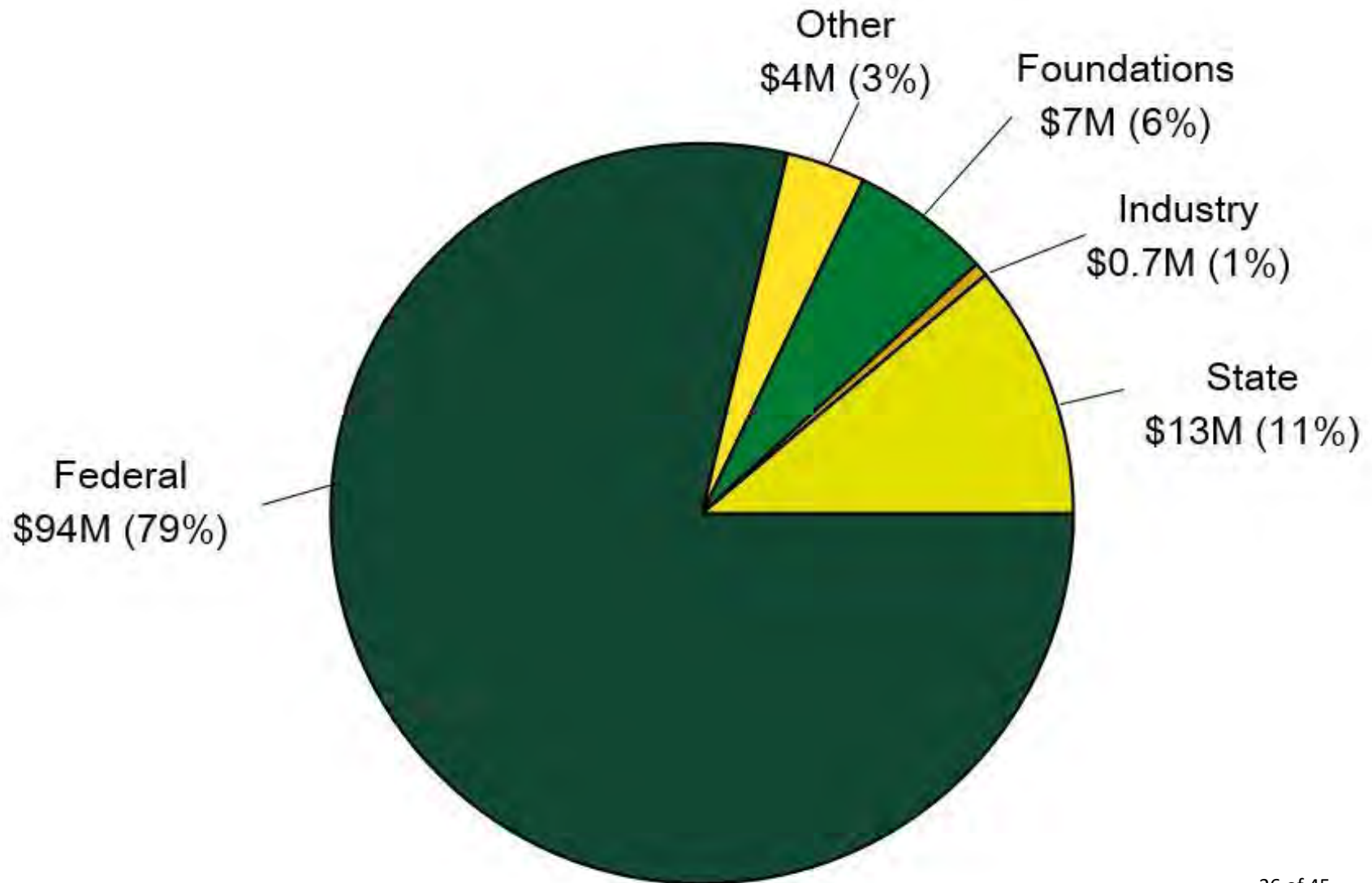
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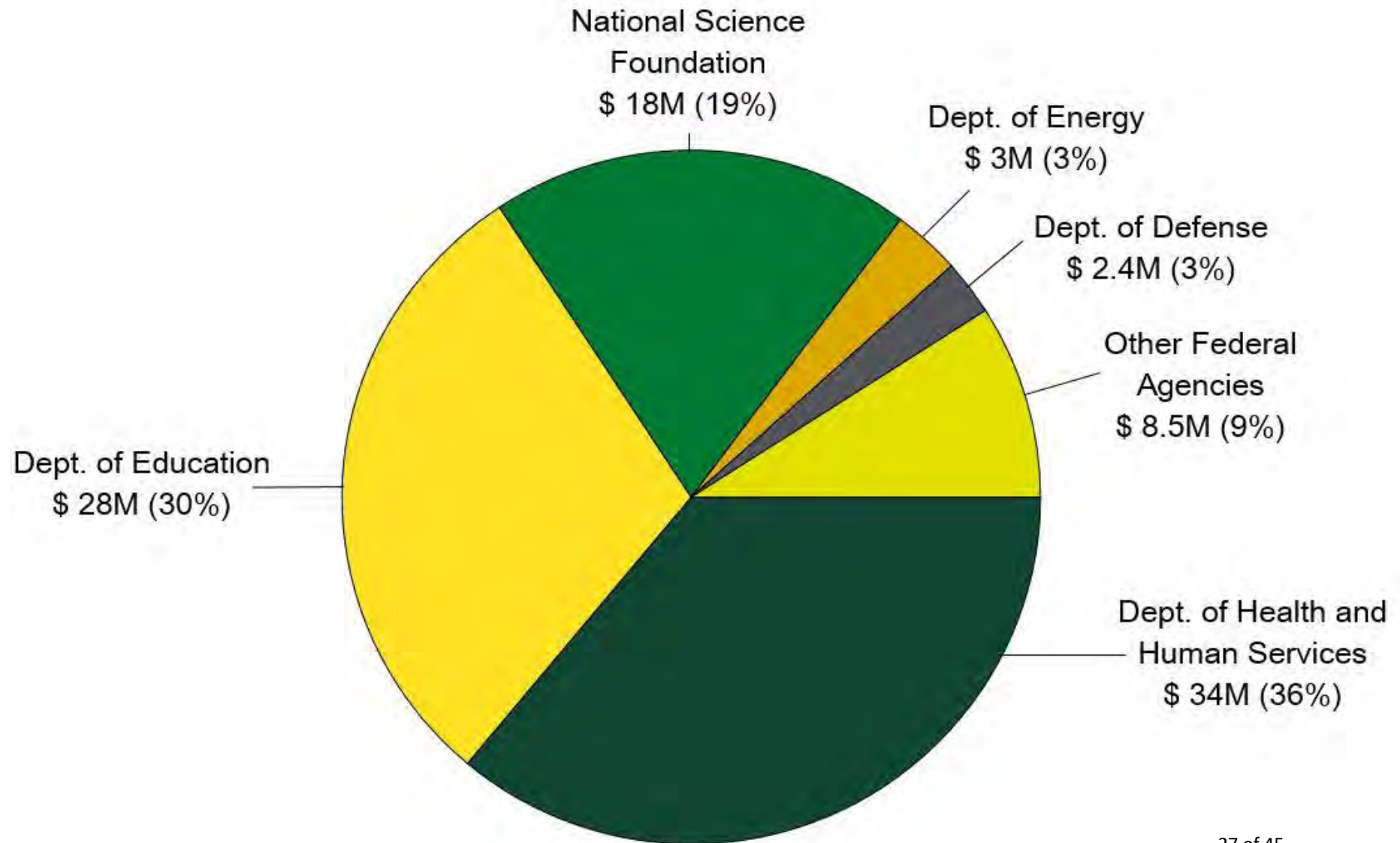
FY18 Sponsored Project Metrics

<u>Description</u>	<u>FY18</u>	<u>% Change from previous year</u>
Number of Proposals Submitted	1,065	+ 9.7%
Dollar Amounts of Proposals Submitted	\$ 421M	- 6.4%
Number of Awards	568	+ 1.4%
New Awards	\$ 121.9M	+ 5.2%
Total Expenditures	\$ 119.4M	+ 6.9%
Total Research Expenditures	\$ 81.4M	+ 4.8%
F&A Recovered	\$ 22.4M	+ 2.4%

FY18 Total Funds Awarded by Sponsor Type



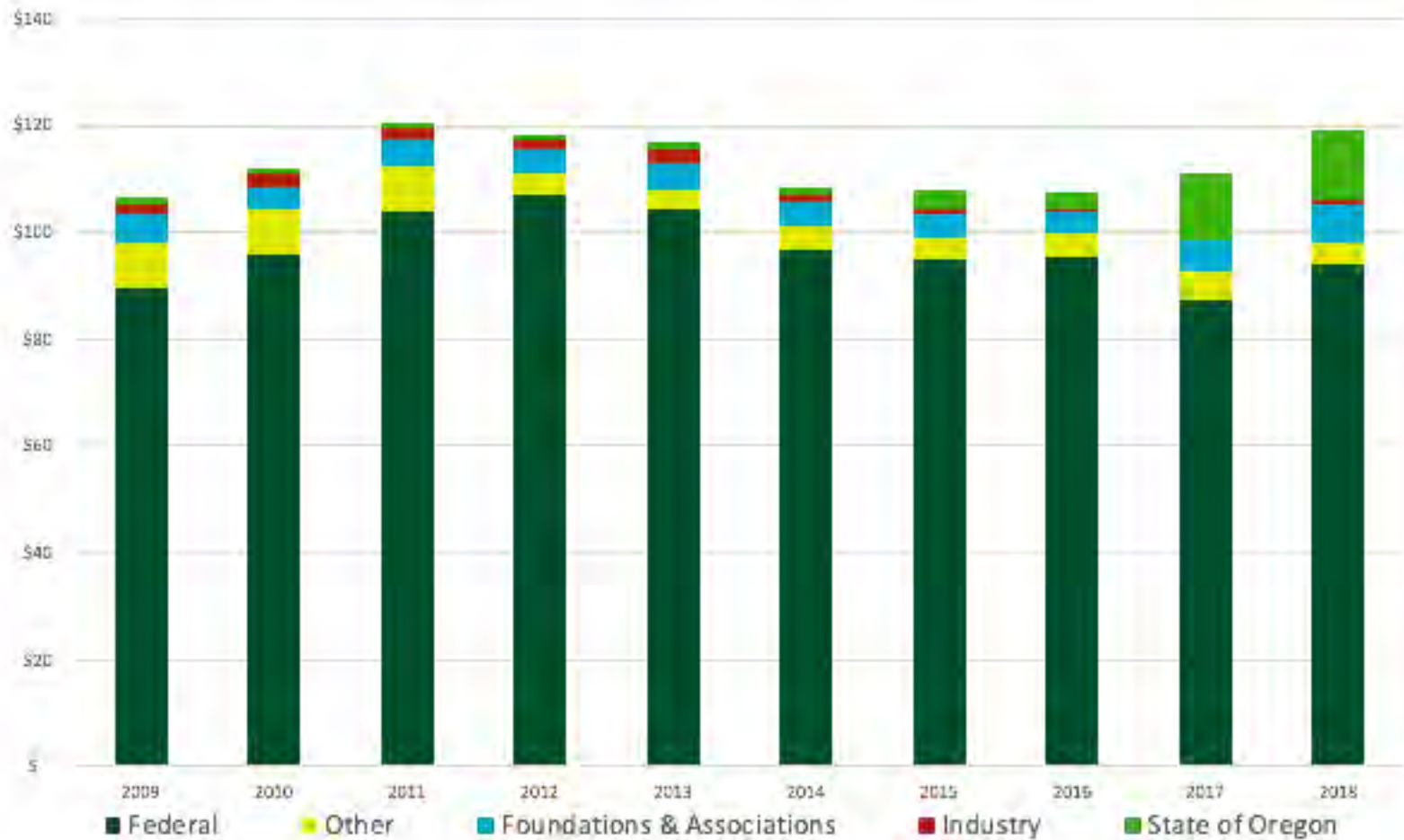
FY18 Federal Funding Awarded by Agency



FY18 Innovation Metrics

<u>Description</u>	<u>2017-2018</u>	<u>Change</u>
Licensing Revenue	\$ 9M	No Change
Disclosures/Faculty New Ideas	42	+ 50%
Science-based disclosures	18	+ 80%
Patent Filings	17	+ 113%
AAU Licensing Ranking (per \$)	#5	NA
Total # of Active Startups	25	+ 9%

Total Expenditures (FY09-18)



FY18 Awards



UO biologist Monte Westerfield's \$9.6 million grant from the NIH to expand UO zebrafish research was the largest research award in FY18

Research \$\$ Per TTF

Per Capita Federal R&D among AAU public institutions

- UO faculty members brought in an average of \$93,491 in FY16
- The percentage change in UO's average from FY03 to FY16 was 28.5%
 - The average percentage change among AAU publics was 26.8%



UO's Beth Stormshak received a \$3.3 million grant from the USDE to examine family-centered interventions in schools to reduce social and behavioral problems

Team Science

New awards totaled \$121.9 million in FY18

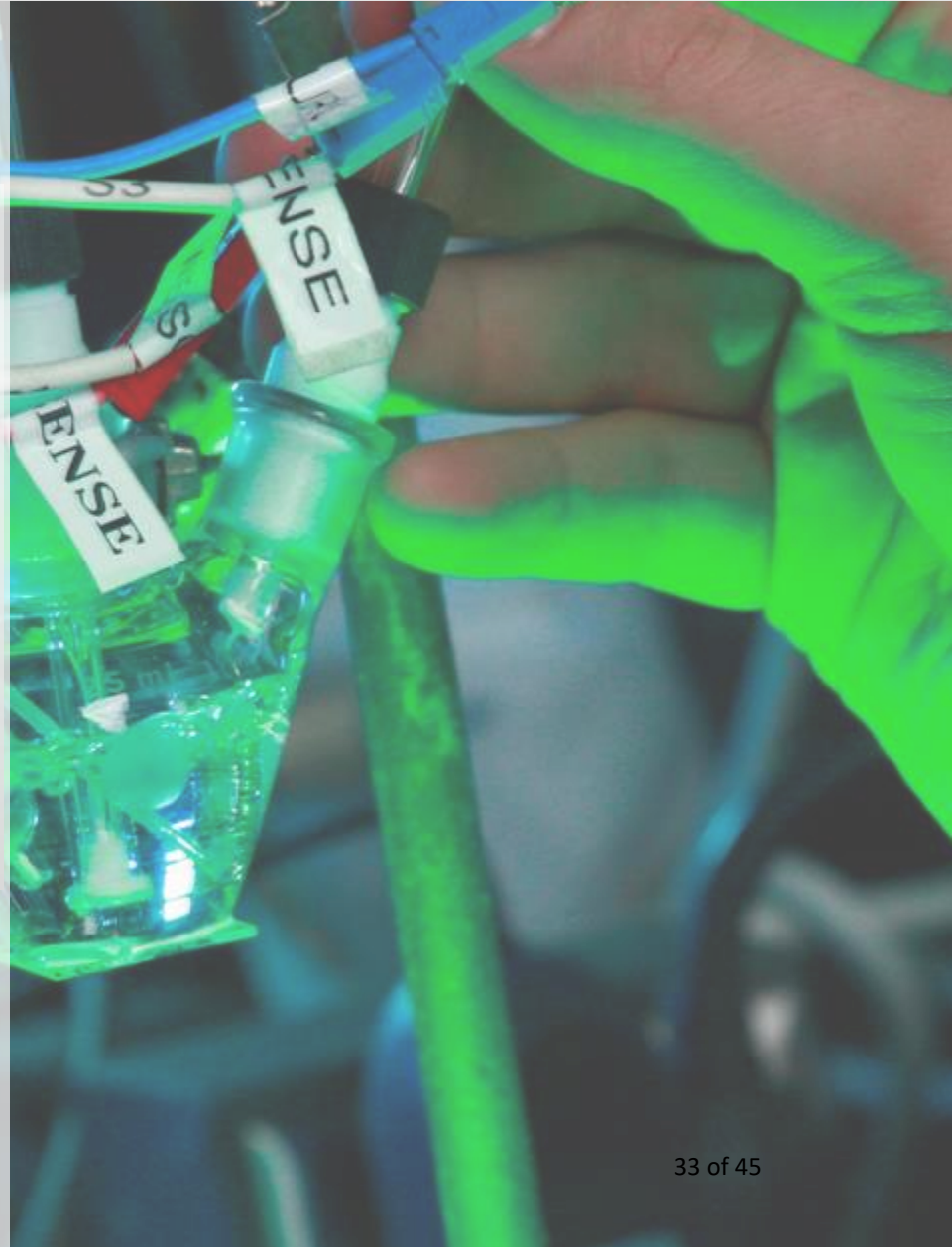
- UO received \$17 million in sub-awards
- And sent out \$13 million in sub-awards



UO biologist Judith Eisen speaks with OHSU professor of pediatrics Stephen Back during a summit to discuss research collaborations

Facilities and Administrative (F&A) Costs

- Are a reimbursement for actual costs spent on research
- Encompass everything from utilities to compliance to infrastructure
- Does not cover the full cost of research



UO F&A Rate vs. Select Peers

Oregon Institutions

<u>INSTITUTION</u>	<u>RATE</u>
Oregon State University	47%
University of Oregon	47.5%
Portland State University	48.5%
Oregon Health & Science Univ.	54%

Public AAUs

Lowest	University of Oregon	47.5%
Highest	University of Virginia	61.5%

Private AAUs

Lowest	Carnegie Mellon University	51.3%
Highest	Harvard University	69%

Looking Ahead

Outlook for federal funding

- Likely budget increases for NSF, NIH and DoE in FY19
- What will happen in FY20?

Agency	% Change from FY17 to FY18 Final	% Change FY19 Proposed House	% Change FY19 Proposed Senate
Ntl Science Foundation	3.9%	5.2%	3.8%
Ntl Inst. of Health	8.8%	3.3%	5.3%
Inst. of Edu. Sciences	1.3%	none	0.3%

Looking Ahead



New Initiatives

Knight Campus

- \$30 million boost in research
- Additional core facilities
- New integrated laboratories to support team science

Institutional Hiring Plans

- Clusters of excellence
- Data science initiative

Star Faculty and New Hires

New Core Facilities and Infrastructure

- High-performance computing
- High speed internet connectivity (100G)
- Lab renovations in Huestis, Pacific, and Klamath Halls

New Partnerships

- OHSU-UO seed grant program

Diversifying Our Funding Sources

1. Research Development

- Launch new Research Development Services unit
 - Assist faculty in expanding funding options
 - Expand large proposal submission

2. Focus on the Impact Cycle

- Broaden federal agency funding
 - New faculty working on translational research
 - More funding from DOD, DOE, USDA, etc.

3. Expand Industry-Sponsored Research

- Thermo Fisher partnership
- Knight Campus
- Development officers focused on corporate relations

4. Private Foundation Support

Thank You



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**Office of the Vice President
for Research and Innovation**

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Agenda Item #3

Core Education Redesign

Core Education Brief
Board of Trustees Meeting
9-6-18

This brief provides an update on ongoing efforts to revitalize the UO Core Education (previously “General Education”) curriculum. Core Education refers to course requirements required of all UO students, regardless of major.

Where We Started

We have a core education curriculum that:

- has not been substantively updated in well over 25 years
- has an unclear purpose and goals to students and faculty
- does not provide a common foundation for students
- contains 800+ courses spread across 3 broadly defined group requirements:
 - Arts and Letters
 - Social Science
 - Natural Science
- has a confusing and outdated multicultural requirement

Revitalization Strategy Focused on What Really Matters

We learned some important lessons during our recent accreditation project focused on core education. In reviewing the literature, consulting with other institutions, attending conferences, and hosting relevant experts on campus, we arrived at several conclusions that inform our efforts:

- the structure of the core education curriculum seems to have little impact on important affective and cognitive outcomes for students.
- many institutions have engaged in extensive “general education reform” efforts lasting 5-10 years that have focused on requirements and structure
- several large-scale research studies suggest that the following have the largest positive impact on student outcomes:
 - Good teaching and relationships with faculty. The practices of good teaching are well-established in the research literature.
 - High expectations and academic challenge
 - Interactional diversity – exposing students to meaningful interactions with others with different backgrounds, values, beliefs and experiences.
 - Student-student interaction in academic contexts
 - High-impact practices (HIP’s), defined as first-year seminars and experiences, common intellectual experiences, learning communities, writing-intensive courses, collaborative assignments and projects, undergraduate research, diversity and global learning. Note how these all incorporate several, if not all, of the elements above.

With these key lessons in mind, we’ve embarked on a reimagining of core education at UO that is based on our best evidence of what works. It’s also important to note that the revitalization

of core education at UO is part of a larger context of revitalizing the undergraduate student curricular and co-curricular experience. It is but one part of that larger effort.

Progress to Date

Our first steps were intended to clarify the purpose and goals of core education as a foundation upon which to innovate. This past academic year (AY 17-18) we:

- Redefined “general education” as “core education”
- Established the Core Education Council whose charge is to provide faculty oversight and to spur innovation in core education over time
- Approved through the Senate four core education learning goals based in our mission as required by our regional accreditor. Each core education course will be required to address at least two of these learning goals, named “Methods of Inquiry”:
 - Critical thinking
 - Creative thinking
 - Written Communication
 - Ethical Reasoning
- Approved through the Senate a renaming of the core education “group” requirement to “Areas of Inquiry”
- Replaced the old multicultural requirement with one-course required in each of two new categories
 - US: Difference, Inequality and Agency
 - Global Perspectives

The changes above are all effective for the Fall 2019 incoming class.

In addition to core education, several parallel efforts have been taking place that all address the key lessons from our project. These include increasing teaching excellence, creating a first-year experience, addressing key gateway courses, especially in math, and aligning advising in Tykeson Hall around academic themes to name a few.

These changes reflect a very productive year for the Senate. In our research, we’ve not seen one institution able to approve new learning goals for core education or revise its multicultural requirement in one academic year, much less do both. In most cases, we’ve seen these types of changes take 3-5 years.

Next Steps

Next steps involve both bringing the new core education curriculum to reality and innovating in the curriculum.

While the changes described above are effective for the Fall 2019 incoming class, to fully operationalize them, the 800+ existing courses will all need to be resubmitted for review by our committee on courses. The plan is for this to happen over the next 3 summers. While that is happening, all currently approved courses will continue to count as previously approved.

In addition, the Core Education Council will be tasked with the following in its first year:

- Establishing a plan to assess student learning under the new “Methods of Inquiry”
- Exploring curricular innovations, such as themed academic clusters in core education
- Beginning discussions about how the bachelor of arts and the bachelor of sciences are determined
- Exploring ways to streamline requirements for students

Challenges

Transforming the undergraduate experience for students requires the aligned efforts of thousands of faculty and staff on campus. Institutional change of this scale requires changes in:

- Pedagogy - at the course/faculty level
- Structures - have to be willing to challenge historical/conventional structures which might thwart innovation (e.g. course lengths, credits, the term, etc.)
- Policies - what policies are needed to achieve our goals, and who has to be involved in changing those policies? (e.g. course evaluations, course approval requirements, teaching assignments, incentives to innovate)
- Resources – innovation takes faculty and staff time and effort

These are not insurmountable but require careful engagement of stakeholders across campus, and a consistent and concerted focus over time.

Core Education Revitalization Update

Board of Trustees Meeting

9-6-18

Areas of Inquiry

Methods of Inquiry

	Arts and Letters		Social Science		Natural Science
Critical Thinking					
Creative Thinking					
Written Communication					
Ethical Reasoning					

Core Education – Big Questions

What are the critical issues at play in the access to clean water?

- 40 students max
- 28 Credits – 24 group satisfying
- 5 credit reduction in core ed requirement (leaves 16 credits)
- Includes a culminating project directed by seminar faculty
- Address and assess all 4 core education learning outcomes
 - Written communication
 - Critical thinking
 - Creative thinking
 - Ethical reasoning

