



OHSU INNOVATES

2025 Impact Report



2025 Impact Report

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OHSU Innovates is a collaborative network of departments united by one primary objective: to assist scientists in realizing the full potential of their discoveries. While many innovative ideas and breakthroughs emerge from universities, the process of validating, testing and bringing these concepts to market for patient benefit can be long and challenging.

This is where OHSU Innovates steps in, offering support for new technologies, startup companies and collaborations. Our team leverages years of experience to help OHSU clinicians and researchers get their ideas from bench to bedside.

This report showcases some of the extraordinary discoveries being made at OHSU, which OHSU Innovates has had the honor of supporting. We hope these stories encourage you to become a part of the vibrant innovation community at OHSU.

Leadership Message

At Oregon Health & Science University, science and innovation are essential engines for improving health, strengthening our communities and advancing Oregon’s future. As the state’s only academic health center, our responsibility extends beyond basic discovery in the lab or clinical care at the bedside. We must ensure that knowledge translates into real-world impact, and that innovation serves the greatest public good.

Community collaboration is fundamental to building a robust innovation economy. Through OHSU Innovates, we facilitate partnership between our scientists and regional economic development organizations, industry, investors, entrepreneurs and community leaders to advance [Oregon’s 10-year Innovation Plan](#). These partnerships help move ideas into the real world, accelerate commercialization and ensure that breakthroughs generate benefits to communities across the state.

We are intentionally bringing people together to realize the full potential of innovation as a catalyst for technology development and startup growth. As an anchor institution, OHSU plays a critical role in driving economic impact for Oregon and the region. By convening talent, aligning resources and supporting translational pathways, we help create high-quality jobs, attract investment and build durable infrastructure that supports long-term community health and prosperity.

This spirit of collaboration is exemplified by Innovate Collaborate Oregon, a partnership among the innovation and entrepreneurship leadership teams of OHSU, Oregon State University, Portland State University and University of Oregon. Together, and in collaboration with Business Oregon, we envisioned and launched the inaugural Oregon Innovation Showcase — a statewide platform to highlight breakthrough research, emerging technologies and the entrepreneurs turning discovery into solutions.

At its core, OHSU Innovates exists to advance OHSU’s mission. I’d like to thank and congratulate all who contribute to this critical innovation pipeline. By supporting science, entrepreneurship, and partnership, you all strengthen our ability to teach the next generation, heal patients today and discover solutions that improve health for our communities tomorrow.



Bonnie Nagel, Ph.D.



Interim Chief Research Officer and
Executive Vice President
OHSU Research and Innovation

Strengthening Oregon's Innovation Ecosystem

OHSU Innovates works alongside partners across the state to strengthen Oregon's innovation ecosystem, connecting researchers, entrepreneurs, investors and industry leaders. Through strategic collaboration and statewide engagement, we help accelerate the growth of high-impact bioscience ventures and expand opportunity across the region.

Angel Oregon Life and Bioscience Advances Early-Stage Innovation in Oregon

In 2024, OHSU partnered with Oregon Entrepreneurs Network and other regional stakeholders to put on Angel Oregon Life and Bioscience (AOBIO). AOBIO supports local early-stage life and bioscience startups through investment-readiness education followed by an equity investment from local angel investors. The program is one in a series of Angel Oregon events facilitated by Oregon Entrepreneurs Network in collaboration with Oregon Bioscience Association, Oregon Bioscience Incubator/OTRADI, OHSU and Oregon Nanoscience and Microtechnologies Institute.

Participants in the education portion of the program included: Travis Cook, M.S., M.B.A.,

CLP, senior director of OHSU Technology Transfer, Holly Rockweiler, M.S., co-founder and CEO of Madorra and member of the OHSU Entrepreneur-in-Residence Program, David Katz, Ph.D., founder and chief scientific officer of Sparrow Pharmaceuticals and member of the Entrepreneur-in-Residence Program, and Scott Filer, M.P.H., M.B.A., CEO of OHSU startup Promedix and AOBIO 2023 winner.

AOBIO culminated in November 2025 with finalists, including Rachel Dreilinger, CEO of OHSU startup Neuramedica, pitching their companies. The winner, Axia Orthopedics, received an investment of \$185,000.



TRAVIS COOK, M.S., M.B.A., CLP
Senior director,
OHSU Technology Transfer



HOLLY ROCKWEILER, M.S.
Co-founder and CEO, Madorra
Entrepreneur-in-Residence,
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DAVID KATZ, PH.D.
Founder and CSO,
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Entrepreneur-in-Residence Program,
OHSU Innovates

Oregon Drug Discovery Symposium Connects Researchers, Startups and Investors



Panelists and presenters at the first Oregon Drug Discovery Symposium, which drew more than 350 attendees.

(OHSU/Carrsyn Haley)

On April 9, 2025, the Center for Experimental Therapeutics hosted the inaugural Oregon Drug Discovery Symposium (ODDS) at OHSU, drawing more than 350 attendees from across the biomedical ecosystem. The event brought together academic researchers (pre-clinical and clinical), pharma startups, innovation and entrepreneurship professionals and venture capitalists. The program featured a series of talks aimed at accelerating translational research across OHSU, Oregon and beyond.

The Center for Experimental Therapeutics at the OHSU Knight Cancer Institute is working to develop better treatments for patients through collaboration within OHSU and with other academic centers, venture capitalists, biotech and pharma companies around the world.

OHSU will host the symposium again on April 8-9, 2026.

Regional Partners Expand Support for Biotech Entrepreneurs Through the Growth Accelerator Fund



Investors, partners and innovators network at a May 2025 event hosted by the Oregon Bioscience Incubator in partnership with the Biotechnology Collective.

(OBI)

The Biotechnology Collective brings together key regional partners to build a coordinated, end-to-end support pathway for biotech entrepreneurs in Oregon and Washington, expanding access to mentorship, investors and commercialization expertise. Leveraging programs such as Angel Oregon Life and Bioscience, Biomedical Innovation Program Commercialization Readiness Program, and the Oregon Innovation Showcase, the collective strengthens early-stage companies through investment-readiness coaching, founder education and curated networking. The Growth Accelerator Fund Competition's support in fiscal year 2024-25 enabled community-focused showcases, investment-readiness training and national-level exposure for local startups across biotechnology subsectors. These activities helped connect emerging founders with industry leaders, students, investors and partners, accelerating their progress from discovery to commercialization. The collective continues to collaborate across partners to identify opportunities, share insights and amplify success stories throughout the region.



OHSU Startup Advances Growth Through the Bend Venture Conference

OHSU startup company, ProMedix Inc., won the Growth Stage track at this year’s Bend Venture Conference (BVC), the largest and longest-standing angel investment conference in the Pacific Northwest. BVC’s Growth Stage track highlights companies that already have gained traction and are poised for rapid expansion. ProMedix Inc.’s CEO, Scott Filer, secured a \$200,000 equity investment as the winner of five finalists.

ProMedix was founded by OHSU emergency medicine professors David Sheridan, M.D., and Matt Hansen, M.D. The company is developing a novel medical device for rapid assessment and monitoring of circulatory dysfunction across multiple disease states.

ProMedix Inc. recently received a Phase II SBIR grant from the National Science Foundation, allowing the team to advance the research and development of their device as it moves toward fully automated measurement of circulatory dysfunction.

Scott Filer, CEO of ProMedix, holds a \$200,000 check after his company won the Growth Stage prize at the 2024 Bend Venture Conference. The OHSU-founded startup develops technology to quickly assess circulation and help detect sepsis.

(Courtesy)



MATT HANSEN, M.D., M.C.R.
Professor of Emergency Medicine, School of Medicine
Co-Director, Innovative, Disruptive, Emergency Applications for Emergency Medicine



DAVID SHERIDAN, M.D.
Associate Professor, Emergency Medicine, School of Medicine

OHSU-Led Projects Earn Top Honors at the Oregon Biotech Summit

Each year, Oregon Life Sciences, the state’s trade association and champion for the life sciences industry, hosts an annual meeting that includes an innovation showcase at which entrepreneurs and researchers pitch their projects and/or companies to investors and industry leaders. Pitches are judged by a panel of experts as well as the audience. The process allows participants to earn votes from the judges, audience or both. This year, three OHSU-led projects won in categories including translational research, early-stage startup and late-stage startup. Matthew Rames, Ph.D., research engineer at OHSU, won in the translational research category. OHSU startup Verendus Pharma, won the early-stage company category based on technology from the laboratory of Michael Cohen, Ph.D., professor of chemical physiology and biochemistry in the OHSU School of Medicine. Siloam Vision, another OHSU startup company, won the late-stage company category based on technology from the laboratory Peter Campbell, M.D., M.P.H., associate professor of ophthalmology, and Yifan Jian, Ph.D., associate professor of ophthalmology and biomedical engineering in the OHSU Casey Eye Institute.



J. PETER CAMPBELL, M.D., PH.D.
Edwin and Josephine Knowles Endowed Professor
Associate Professor of Ophthalmology, School of Medicine



MICHAEL COHEN, PH.D.
Professor of Chemical Physiology and Biochemistry, School of Medicine



YIFAN JIAN, PH.D.
Associate Professor of Ophthalmology, School of Medicine
Associate Professor, Biomedical Engineering, School of Medicine



Matthew Rames, Ph.D., research engineer in the OHSU Knight Cancer Institute (second from left), stands on stage with others after winning the translational research category at the Oregon Biotech Summit’s innovation showcase. OHSU-led projects also took top honors in the early-stage and late-stage startup categories this year. (Oregon Life Sciences)

Support innovation at OHSU.
Help drive regional economic impact through entrepreneurship and research. Make a gift to support startups and next-generation discoveries.

Oregon's Universities Collaborate to Strengthen the State's Innovation Economy

In 2025, Oregon's four public research universities — Oregon Health & Science University, Oregon State University, University of Oregon and Portland State University — advanced their collaborative innovation efforts through Innovate Collaborate Oregon (ICOregon) by co-producing the inaugural Oregon Innovation Showcase with Business Oregon, the state's economic development agency. ICOregon is a statewide alliance that brings together the research, talent and commercialization resources of Oregon's universities to support innovation, company formation and economic growth. The showcase highlighted the impact of this collaboration by connecting university-developed technologies with investors and ecosystem partners from across the region and the country.

Held in May at the Sentinel Hotel in Portland, the event welcomed more than 300 attendees from 11 states. The program featured 88 startup showcase tables, 27 ecosystem partner exhibits and support from 19 sponsors. Attendees largely represented startup founders, entrepreneurs and investors, reflecting the event's focus on supporting early-stage technology development and commercialization.

OHSU's presence at the showcase illustrated the institution's role in advancing translational research. Startups with origins in OHSU science, including Aronora, NeuraMedica Inc., PDX Pharmaceuticals,

Surgivance and Trace Biosciences, presented their technologies and engaged with industry partners and investors. Rachel Dreilinger, co-founder and CEO of NeuraMedica, participated in the deep tech pitch competition and demonstrated how university research can lead to new commercial ventures.

The showcase also emphasized the importance of statewide coordination in supporting early-stage technologies. ICOregon provides a centralized platform for licensing and investment opportunities across Oregon's major research universities. Business Oregon contributes economic development expertise, access to state-level resources and connections with industry partners. Together, these organizations help reduce risk for emerging technologies and strengthen Oregon's innovation pipeline.

OHSU also participated in the Ecosystem Partner Showcase and joined collaborators at the Accelerate Biotech reception, which extended opportunities for connection within the state's bioscience community.

The inaugural Oregon Innovation Showcase demonstrated the value of unified statewide efforts. As planning begins for 2026, OHSU Innovates, ICOregon and Business Oregon remain committed to supporting Oregon's growing deep tech economy.



Organizers of the inaugural Oregon Innovation Showcase, representing OHSU, Oregon State University, Portland State University, the University of Oregon and Business Oregon, gather to celebrate the event's success in advancing Oregon's collaborative innovation efforts.

(Social Enterprises Inc.)

Advancing Clinical-Stage Ventures

OHSU startups are turning breakthrough research into real-world impact. With FDA designations, Phase 2 trials, major financing and new facilities, these ventures are advancing innovative therapies and technologies that improve patient care and drive the biomedical industry forward.

Siloam Vision Brings Novel Retinal Imaging Technology Toward FDA Clearance

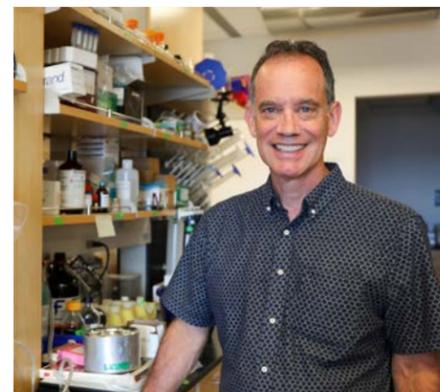


Siloam Vision co-founder and OHSU physician Peter Campbell, M.D., M.P.H., using the iCam OCT for an infant ROP examination. (OHSU/John Valls)

Retinopathy of prematurity (ROP) is the leading cause of blindness in children worldwide. While most adult retinal diseases (such as macular degeneration) are diagnosed with modern imaging devices such as optical coherence tomography (OCT), there are no OCTs commercially available for retinopathy of prematurity. Based on licensed OHSU technology, Siloam Vision developed a new handheld ultra-widefield OCT imaging system to improve care for babies with retinopathy of prematurity. OHSU is the only institution in the world performing Ultra-Widefield Optical Coherence Tomography for retinopathy of

prematurity with the team having performed more than 3,000 OCT-based ROP examinations using this new handheld device under a research protocol. This technology was awarded a U.S. Food and Drug Administration (FDA) breakthrough device status designation with evidence that it will lead to more effective diagnosis of retinopathy of prematurity. It is on track for FDA clearance within the next 12 months with existing funding. Siloam Vision also received a \$1.25 million Business Innovative Research contract from the U.S. Department of the Air Force to advance its ultra-widefield retinal imaging with AI analytics for detecting debilitating ocular pathologies.

Autobahn Therapeutics Advances to Phase 2 Clinical Trials for Novel Depression Treatment



Tom Scanlan, Ph.D., professor of chemical physiology and biochemistry in the OHSU School of Medicine, in his laboratory. (OHSU/Christine Torres Hicks)

Autobahn Therapeutics raised \$100 million in oversubscribed Series C financing to commence two Phase 2 clinical trials for the company's lead program, ABX-002, a potent and selective thyroid hormone beta receptor (TR β) agonist that was first designed and synthesized under the direction of Tom Scanlan, Ph.D., professor of chemical physiology and biochemistry in the OHSU School of Medicine. The company successfully initiated both Phase 2 trials designed to provide clinical proof-of-concept of ABX-002 as an adjunctive treatment for patients with major depressive disorder (MDD) and patients with bipolar disorder depression. Both are debilitating and life-threatening mental illnesses that affect more than 20 million people and 7 million people in the U.S. alone, respectively.

Trace Biosciences Opens New Facility to Advance Surgical Imaging Innovation

OHSU startup company, Trace Biosciences, celebrated the opening of their new Beaverton, Oregon, facility in October 2024. Trace Biosciences, co-founded by OHSU researchers Summer Gibbs, Ph.D., Lei Wang, Ph.D., and Connor Barth, Ph.D., is headquartered in a 3,000 square-foot facility with office and lab space, remodeled prior to moving in to meet the unique needs of the company. The facility is equipped with small molecule chemical synthesis and clinical research capabilities, which will allow Trace to continue to translate and commercialize the innovative nerve-targeting fluorescent dyes they are developing as real-time surgical imaging agents.



SUMMER GIBBS, PH.D.
Professor of Biomedical Engineering, School of Medicine
Douglas Strain Professorship
Biomedical Engineering Graduate Program, School of Medicine
OHSU Knight Cancer Institute, School of Medicine



LEI WANG, PH.D.
Assistant Professor of Biomedical Engineering, School of Medicine
Biomedical Engineering Graduate Program, School of Medicine
OHSU Knight Cancer Institute, School of Medicine



CONNOR BARTH, PH.D.
Co-founder & CEO, Trace Biosciences
Former Senior Research Associate, Biomedical Engineering, School of Medicine

Developing Innovation Talent and Ventures

Across the institution and beyond, programs run by OHSU Innovates are fostering a culture of innovation by providing guidance, mentorship and opportunities that help participants develop skills, collaborate and drive meaningful advancements.

InventOR: Student Innovation in Action

For the second year in a row, an OHSU student team earned top honors at the Invent Oregon Collegiate Challenge, the state's premier competition for student innovators. Held June 2025 at the University of Portland, the event drew 19 collegiate teams from across Oregon, competing for more than \$30,000 in prizes by pitching inventions that address pressing challenges in health, medicine and biotechnology.

This year's \$10,000 grand prize, and \$1,000 People's Choice Award went to EEGonaut, led by Chloé Le Moing, a Ph.D. student in behavioral and systems neuroscience in the OHSU School of Medicine, along with teammates Aaliya Mehnaz Ahmed and Joe Gordon.

EEGonaut is an affordable headset that uses electroencephalography (EEG) and virtual reality (VR) to help children with ADHD, anxiety and emotional regulation challenges build self-regulation skills through short,

brain-powered games. It offers a fun, non-invasive alternative to medication for families, schools and clinicians. Designed as a non-invasive, accessible alternative to traditional therapies and medications, EEGonaut aims to make mental health support available to families everywhere. Le Moing advanced to the InventOR finals as a Wildcard Winner, following success in OHSU's Student Innovator Challenge, which featured 10 student teams. Since competing in InventOR, Le Moing completed OHSU's Biomedical Innovation Program Commercialization Readiness course and is now a semi-finalist in the global Nucleate Activator Program.

OHSU's second competitor at InventOR was CompressEase, led by Brenda LaVigne, P.A.-C., OHSU M.B.A. student, faculty instructor in the OHSU Department of Surgery, and practicing physician associate in the Wound and Hyperbaric Medicine Clinic.



BRENDA LAVIGNE, P.A.-C
Instructor of Surgery, Division of Vascular Surgery, School of Medicine



JOSHUA VANDERPOOL
Ph.D. candidate, Biomedical Engineering, School of Medicine



Winning both first place and people's choice really means a lot to me and my teammates. It's a huge confidence boost that we're on the right track, making something that resonates with people and could make a difference in their lives. By integrating neurofeedback into a gaming setup, we're hoping to create a future where every child has the opportunity to build self-regulation skills in a way that's fun, affordable and stigma-free."

individualized mentorship from OHSU Innovates Entrepreneurs-in-Residence, while judges from the broader innovation community provide critical feedback to help students refine pitches, prototypes and commercialization strategies before advancing to the statewide finals.

OHSU teams have a history of excelling at Invent Oregon. In 2024, the top prize went to EaziStep, a mobility device created by biomedical engineering doctoral student Joshua Vanderpool, which has since advanced to international competitions. With support from OCTRI and OHSU Innovates, OHSU students gain the mentorship, skills and experience needed to turn bold ideas into meaningful impact.

CompressEase is an automated compression system designed to improve mobility and comfort for patients with circulation challenges. LaVigne's innovation reflects a deep understanding of patient needs, combining health care experience with entrepreneurial vision.

In partnership with OHSU Innovates, the Oregon Clinical and Translational Research Institute (OCTRI) organizes OHSU's Student Innovator Challenge and provides guidance and support for teams throughout the competition. Participants receive



OHSU Ph.D. candidate in neuroscience Chloé Le Moing pitches EEGonaut, an EEG and virtual reality headset that helps children with ADHD and anxiety build self-regulation skills, at the 2025 Invent Oregon Collegiate Challenge. Her team won the \$10,000 grand prize and the \$1,000 People's Choice Award.
(PSU Center for Entrepreneurship)

Interns Build Skills and Advance Academic Research Innovation

At OHSU, the Innovation and Commercialization Internship gives scientists a chance to step beyond the lab to explore careers in technology transfer, business development and patent law. Since 2004, more than 90 interns have participated, gaining hands-on experience while helping shape OHSU’s innovation strategy. Most interns stay for a full year, giving them time to fully engage with mentors and complete impactful projects that drive tangible results.

From April 2024 to March 2025, OHSU doctoral candidates Tavita Garrett, Ph.D., and Ben Woodruff, Ph.D., immersed themselves in the program. Garrett helped launch the Advancing Social Change, Empowerment, and New Discoveries (ASCEND) Award, which helps OHSU community members explore and expand access to innovation and commercialization opportunities. Garrett also analyzed the infectious disease market, generating insights that are informing OHSU’s commercialization strategies in this critical area. She completed her Ph.D. while in the internship and continues her postdoctoral research, studying retinal ganglion cells while bringing a strong understanding of technology commercialization to her work.

Woodruff worked on two distinct projects. For one project, he defined transformative partnership strategies and created roadmaps to advance collaborations between OHSU and industry. Separately, he developed pitch decks and performed market assessments for startup companies. He recently completed his Ph.D. and is now a field application scientist at a biotech company in the San Francisco Bay Area. Woodruff reflected that his internship experience helped him secure his new role and that it was a key differentiator between him and other job candidates.

In April 2025, Ryan Doan, Ph.D., postdoctoral scholar, and Spandana Naldiga, Ph.D., former senior research associate, joined the program. Doan is helping to refine the Regulatory Consultation and Assistance Program, which provides funding for professional regulatory services to accelerate translation from lab to market. He is also assessing how peer institutions manage technology transfer to inform best practices at OHSU.

Naldiga is working on a virtual pharmaceutical model project, which explores how this approach could support OHSU startups. She also completed a market

analysis project for Biomedical Innovation Program Commercialization Readiness Program (BIP-Corp) innovators. Naldiga is preparing to take the patent bar.

The program is a win-win, giving interns hands-on experience, mentorship and career insights while their work helps OHSU shape innovation practices, support startups and translate research into public benefit.



TAVITA GARRETT, PH.D.
Post Doctoral Scholar, Ophthalmology, School of Medicine
Ph.D. Graduate, Neuroscience, School of Medicine, 2024
Intern, OHSU Innovates, 2024–25



BEN WOODRUFF, PH.D.
Intern, OHSU Innovates, 2024–25
Ph.D. Graduate, Cell and Developmental Biology, School of Medicine, 2025



RYAN DOAN, PH.D.
Post Doctoral Scholar, Vollum Institute
Ph.D. Graduate, Neuroscience, School of Medicine, 2023
Intern, OHSU Innovates, 2025–26



SPANDANA NALDIGA, PH.D.
Intern, OHSU Innovates, 2025–26



OHSU Innovates Programs

FOUNDATIONAL EXPERIENCES

Student Innovator Challenge and InventOR Competition

Empowers OHSU students to develop, prototype and pitch their ideas, with coaching and opportunities to compete at the statewide InventOR finals.

Innovation and Commercialization Internship

Provides hands-on experience in technology transfer, business strategy, and patent processes, giving interns practical skills and real-world exposure.

Biomedical Innovation Program Commercialization Readiness Program (BIP Corp)

Guides teams in advancing technologies from lab to market through market research, business planning and risk assessment.

MENTORSHIP AND COMMERCIALIZATION SUPPORT

Entrepreneurs in Residence (EIR) Program

Connects OHSU innovators with seasoned entrepreneurs who offer strategic guidance and help advance promising projects.

SBIR/STTR Workshops

Equips participants with the knowledge and tools to prepare competitive federal grant proposals and secure funding.

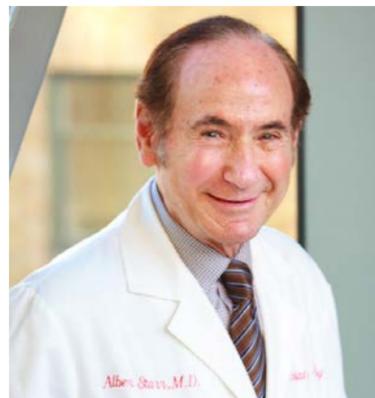
Drug and Device Advisory Committee (DDAC)

Provides expert feedback on product development, regulatory strategy, and commercialization to help teams navigate complex health care pathways.

Celebrating Medical Innovation Icons

OHSU innovators have advanced medicine on a global scale, pioneering discoveries and technologies that improve patient care and inspire future generations.

Visionary Cardiac Surgeon and Innovator Albert Starr Passes at Age 98



Albert Starr, M.D., a pioneering heart surgeon who co-developed the world's first artificial mitral valve and led advances in cardiovascular care for more than 50 years, died Dec. 11, 2024. (OHSU)

OHSU lost a giant in the field of cardiovascular medicine when Albert Starr, M.D., died on Dec. 11, 2024, following an astonishingly productive career as a surgeon, teacher and innovator that spanned more than half a century.

Starr may be best known for collaborating with fluids engineer M. Lowell Edwards in 1958 to create the world's first artificial mitral valve, two years later successfully implanting the valve in a patient at what was then known as the University of Oregon Medical School. The invention became the foundation for modern valve technology and helped to establish a culture of collaboration and innovation that endures at OHSU to this day.

It was the first of a string of firsts in his career. In 1963, he performed the world's first successful triple valve replacement; in 1985, he performed Oregon's first heart transplant; and in September 2012 he returned to OHSU from Providence St. Vincent to become chairman

of the newly created Knight Cardiovascular Institute, established with a \$125 million philanthropic investment from Nike co-founder Phil Knight and his wife, Penny.

Starr continued to work closely with Edwards Lifesciences for many years and helped to expand OHSU's use of minimally invasive approaches to heart valve repair and replacement. Today, patients can often go home from the hospital within a day of undergoing a transcatheter heart valve procedure — thanks to the innovation and drive that started with Starr.

Pioneering Ophthalmic Innovator David Huang Honored by the National Inventors Hall of Fame

David Huang, M.D., Ph.D., the associate director and director of research at the OHSU Casey Eye Institute, professor of ophthalmology and biomedical engineering in the OHSU School of Medicine, and Wold Family Endowed Chair in Ophthalmic Imaging, was inducted into the National Inventors Hall of Fame Class of 2025. He co-invented optical coherence tomography (OCT), which has transformed eye care and improved the detection and management of eye diseases.

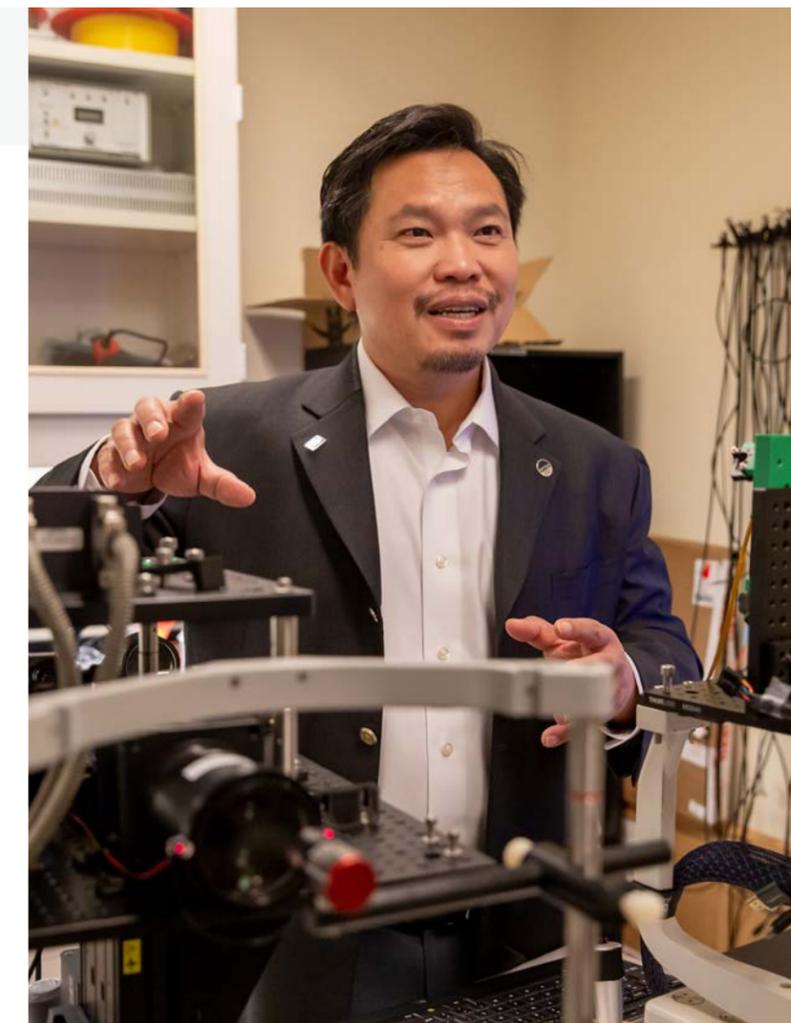
“We knew OCT was going to be very useful in ophthalmology because of its ease of use, high resolution and three-dimensional nature,” Huang said.

The National Inventors Hall of Fame honors exceptional U.S. patent holders whose inventions shape industries and employ millions. Each inductee class celebrates their innovations and inspires future inventors who will transform the world.

Huang said the development of the anti-vascular endothelial growth factor (VEGF) around 2000 also helped encourage the adoption of OCT.

“It was being developed for neovascular age-related macular degeneration and turned out to be a blockbuster treatment that very effectively saves vision in patients suffering from this leading cause of blindness. OCT imaging was needed to provide predictive biomarkers for identifying patients who would benefit from anti-VEGF treatment and the outcome measures to assess the treatment effectiveness. OCT is now used by clinicians to decide when and how often patients need anti-VEGF injections.”

Other recognitions that Huang has received for co-inventing OCT include the 2023 Lasker-DeBaakey Clinical Medical Research Award and the National Medal of Technology and Innovation.



David Huang, M.D., Ph.D., co-inventor of optical coherence tomography, continues his pioneering work at OHSU's COOL Lab, advancing the technology that transformed eye care. (OHSU)

Recognizing 2025 OHSU Innovation Award Winners

Each year, the OHSU Innovation Awards recognize researchers, clinicians and collaborators who are turning bold ideas into real-world impact. The 2025 honorees exemplify this spirit, advancing precision medicine, developing new diagnostic tools, building partnerships and translating discoveries into solutions that improve health locally and globally. Meet the 2025 OHSU Innovation Awardees.

New Innovators of the Year Award



Kate Blise, Ph.D., and Sam Sivagnanam, M.S., receive the 2025 OHSU New Innovator of the Year Award for creating a precision medicine platform, pictured with then OHSU Interim President Steve Stadum.

(OHSU/Jordan Sleeth)

Kate Blise and Sam Sivagnanam Advance Precision Medicine Through Data Innovation

Kate Blise, Ph.D., and Sam Sivagnanam, M.S., both computational biologists at OHSU, received the 2025 OHSU New Innovator of the Year award for developing a new software platform that will help scientists quickly and easily visualize and interpret tumor tissue datasets in a precision medicine setting.

The fast-growing field of precision medicine generates extremely large and complex datasets, which are challenging to evaluate. Blise and Sivagnanam's software gives researchers a tool to explore these datasets and generate actionable information.

The award recognizes their commitment to advancing this technology and their active

participation in OHSU's innovation programs. It follows a grant they received earlier in 2025 from OHSU's Biomedical Innovation Program, which helps fund further development of their platform and support its move to the market.

Career Innovation Excellence Award

David and Deborah Lewinsohn's Longstanding Commitment to Advancing Tuberculosis Diagnosis and Care

David Lewinsohn, M.D., Ph.D., professor of medicine in the Division of Pulmonary and Critical Care Medicine in the OHSU School of Medicine and Deborah Lewinsohn, M.D., vice chair of research and professor of pediatrics, in the OHSU School of Medicine, received the 2025 Career Innovation Excellence Award.

This award honors an OHSU member or team who has shown a record of invention and entrepreneurship over the course of their career. The Lewinsohns have demonstrated a true passion for innovation, successfully building partnerships with industry and working to translate their research into real-world solutions that benefit society.

Tuberculosis (TB) remains a major global health challenge, particularly in low-resource regions where access to accurate diagnostics is limited.

The Lewinsohns' jointly run laboratory

has spent years studying immunology, focusing particularly on understanding how the human immune system recognizes infection with *Mycobacterium tuberculosis*, the bacteria that causes TB, and why young children are more vulnerable to severe TB. By examining the body's immune response to *Mycobacterium tuberculosis*, their lab aims to support vaccines and diagnostic tests for the disease.

Throughout their careers, the Lewinsohns have been prolific innovators, disclosing 23 new technology disclosures during their time at OHSU. In 2011, they co-founded the OHSU startup company ViTi, which partnered with a leader in the diagnostics industry to develop a new test for TB in children, including those in underserved and vulnerable communities around the world.



David Lewinsohn, M.D., Ph.D., and Deborah Lewinsohn, M.D., receive the 2025 Career Innovation Excellence Award for their career-long contributions to tuberculosis research and patient care.

(OHSU/Jordan Sleeth)



Kenneth Riley, Jr., Ph.D. candidate in biomedical engineering, celebrates with mentor Thuy Ngo, Ph.D., associate professor of molecular and medical genetics and CEDAR member at OHSU, after receiving the 2025 Early Career Innovator Award.

(OHSU/Jordan Sleeth)

Early Career Innovator Award

Kenneth Riley Develops a Noninvasive Diagnostic Approach for Early Disease Detection

Kenneth Riley Jr., a Ph.D. candidate in biomedical engineering and member of the Cancer Early Detection Advanced Research Center (CEDAR) at the OHSU Knight Cancer Institute, was awarded the 2025 Early Career Innovator Award at the 2025 OHSU Innovation Awards. The honor recognizes early-career researchers, postdoctoral fellows and medical residents who develop technologies that solve real-world problems.

Riley is developing a first-in-class diagnostic platform that detects genome-wide epigenetic changes from a small volume of blood. The noninvasive approach could enable early disease detection or monitoring of treatment response, improving on methods that require multiple tests or invasive procedures. His research is guided by Thuy Ngo, Ph.D., associate professor of biomedical engineering and molecular and medical genetics in the OHSU School of Medicine and a member of CEDAR. While Ngo provides scientific mentorship, OHSU Innovates supports early-career researchers

with guidance on commercialization, patent strategy and training to help move innovations closer to clinical impact.

Since receiving the award in March 2025, Riley has participated in the Biomedical Innovation Program Commercialization Readiness Program, an NSF I-Corps-based short course that helps biomedical innovators connect with potential customers and develop business strategies. He also earned the judges' and people's choice awards in basic research at the Oregon Bio 2025 Innovation Showcase hosted by the Oregon Life Sciences Association.

Beyond research, Riley is active in Nucleate, a global trainee-led nonprofit that empowers the next generation of biotech leaders. His success reflects the impact of combining scientific excellence with entrepreneurial training, setting the stage for innovations that could transform patient care in the years ahead.

Partnership Excellence Award

Joanna Pucilowska Builds Collaborative Pathways to Clinical Impact

Joanna Pucilowska, M.S., Ph.D., director of Immune Monitoring and Cancer Omics Services and senior director of business development and operations at OHSU Knight Diagnostic Laboratory, received the 2025 Partnership Excellence Award.

Pucilowska shows a strong entrepreneurial spirit and works closely with OHSU Innovates to support and build new collaborations. She played a key role in launching the Immune Monitoring and Cancer Omics, or IMCO, services at the OHSU Knight Diagnostics Laboratory, launching several new technologies. These services are available to all investigators and allow for precise monitoring of patient immune responses, with the goal of improving or developing new standards in patient care.

As director of IMCO, Pucilowska has built partnerships with academic, government and industry leaders by providing comprehensive state-of-the-art research and assays in immune monitoring. Over the past four years, she has facilitated more than 80 collaborations, some of which have grown into strong, multifaceted partnerships. These projects have provided valuable insights into drug effectiveness in human trials, including international, multi-institutional clinical trials, and have supported the advancement of new technologies developed by biotech diagnostic companies.

[Read the OHSU Innovation Awards Announcement.](#)

Browse the full list of 2025 honorees and learn about their recognitions.



Joanna Pucilowska, M.S., Ph.D., of OHSU Knight Diagnostic Laboratory, poses with Steve Stadum, then OHSU interim president, after receiving the 2025 Partnership Excellence Award for building collaborative research partnerships and launching new IMCO services.

(OHSU/Jordan Sleeth)

Driving Women's Health Innovation

Efforts to enhance women's health are taking shape in new ways that reach patients and communities alike. At OHSU, researchers and clinicians are developing initiatives that support women and families throughout pregnancy, postpartum and beyond.

OryGyn Moves Forward with Accessible Fertility Diagnostics



Jeff Jensen, M.D., M.P.H., pitches OryGyn, an OHSU startup developing office-based solutions for women's health, at Angel Oregon Life and Bioscience 2025.

(Jason DeSomer/Whatever via OEN)

OHSU startup OryGyn received its first unrestricted funding through a Small Business Innovation Research grant awarded in 2025. OryGyn is developing office-based solutions to improve diagnostics and treatments in women's health.

The company's first product in development is a low-cost in-office device designed to assess tubal occlusions, one of the most common causes of infertility and a key part of the initial infertility evaluation.

OryGyn was founded by Jeff Jensen, M.D., M.P.H., professor and vice chair of research of obstetrics and gynecology in the OHSU School of Medicine, with the

goal of advancing accessible and innovative reproductive health care technologies. OryGyn has established residence at the Oregon Bioscience Incubator and was named a finalist in the Angel Life and Bioscience Investment.

Center M Expands, Bringing Maternal Mental Health Care to 17 Clinics

For nearly 25 years, Ellen Tilden, Ph.D., devoted her career to supporting women throughout pregnancy, birth and postpartum, but after 12 years of clinical work it became clear that caring for women one at a time was insufficient for solving the challenges her patients face. Tilden then completed her doctoral training in 2015 to advance research addressing why the U.S. has such alarmingly high maternal mortality rates. When she discovered that many maternal deaths were linked to untreated mental health conditions — including suicide and overdose — she realized the standard prenatal care model, which rarely assesses mental health, was missing a critical opportunity. She also learned that maternal stress during pregnancy negatively impacts fetal brain

development, leaving that future child vulnerable to mental health issues. Tilden committed to realizing a solution that could improve the lives of both mothers and their children.

In 2020, Tilden, an associate professor of nurse-midwifery with the OHSU School of Nursing and obstetrics and gynecology in the OHSU School of Medicine, led a multidisciplinary team to design this new solution: Center M. Adapted from a proven mindfulness-based cognitive behavioral therapy that reduces perinatal depression risk by 75%, they reengineered the model to be affordable, accessible and practical for real-world prenatal care clinics. Center M uses clinic-based social workers, one-hour group sessions offered in-person or via telehealth, and a smartphone app that supports skill-building and integrates mental health screening into pregnant patients' daily lives. This pregnancy-timed intervention is designed to help both the pregnant patient and growing fetus.

Early results have been promising. Participants reported significantly greater mindfulness, improved emotional regulation and fewer depressive symptoms that continued into the postpartum period.

Center M is now expanding through partnerships, including in 17 prenatal clinics across Oregon, with particular outreach to rural communities. In collaboration with Providence health system, a Spanish-language version of Center M was recently completed. By redesigning mental health care to fit seamlessly into prenatal settings where women can access it, Tilden and her collaborators are advancing an innovative, sustainable model — one that aims to transform maternal/child mental health outcomes in Oregon and beyond.



Ellen Tilden, Ph.D., associate professor in the OHSU School of Nursing and obstetrics and gynecology in the OHSU School of Medicine, helped develop Center M, a prenatal program designed to integrate mental health care into routine pregnancy care.

(OHSU/Christine Torres Hicks)

Spotlighting Technology Innovations

Breakthrough technologies are opening new possibilities in medicine and research. Developed across OHSU, these innovations highlight the university's role in advancing high-impact science and creating solutions that could improve health worldwide.

Toward a One-and-Done Universal Flu Vaccine



The laboratory of Jonah Sacha, Ph.D., is working on the development of a universal flu vaccine. (OHSU/Christine Torres Hicks)

A research program led by Jonah Sacha, Ph.D., professor and chief of the division of pathobiology at OHSU's Oregon National Primate Research Center with colleague Douglas Reed, Ph.D., associate professor of immunology at the University of Pittsburgh Center for Vaccine Research, points to a potential one-and-done universal influenza vaccine that could deliver lifetime protection even as the virus continues to evolve. In a study published in the journal Nature Communications, an OHSU-developed vaccine based on the common herpes virus cytomegalovirus generated strong T cell immunity in nonhuman

primates. The vaccine protected more than half against the highly lethal H5N1 virus currently circulating globally in dairy cows despite using the 1918 flu strain as a template. If successful in humans, this approach could dramatically shift global health preparedness by removing the need for annual flu shots and enabling faster responses to emerging viral threats. The platform is already in clinical trials for HIV, signaling broad market potential across multiple high-impact infectious diseases.

As researchers project a viable universal flu shot within five to 10 years, both investors and public health leaders are watching closely.

New Drug Combinations Boost Cancer Immunotherapy

A research study led by OHSU Knight Cancer Institute senior faculty, Sanjay Malhotra, Ph.D., Shivaani Kummar, M.D., and Lisa Coussens, Ph.D., have identified various drug combinations that may slow the progression of tumor growth when paired with standard-of-care immune therapy. The study was published in Cell Reports Medicine in August 2024.

The drug combinations were identified using a cell-based assay, or lab test, that was developed by the research team to identify macrophage-secreted proteins that inhibits T cell cytotoxic activity. Macrophages are a type of immune cell that can protect tumors by suppressing T cell responses.

Macrophages play a role in fostering solid tumor progression, and blunt a patient's immune response against tumors. Because of this, identifying new drug combinations that interfere with macrophage-mediated T cell inhibition may lead to new, effective treatments. The researchers tested 1,430 Food and Drug Administration-approved small-molecule drugs using the assay to find compounds that could restore T-cell activity when paired with immune therapy.

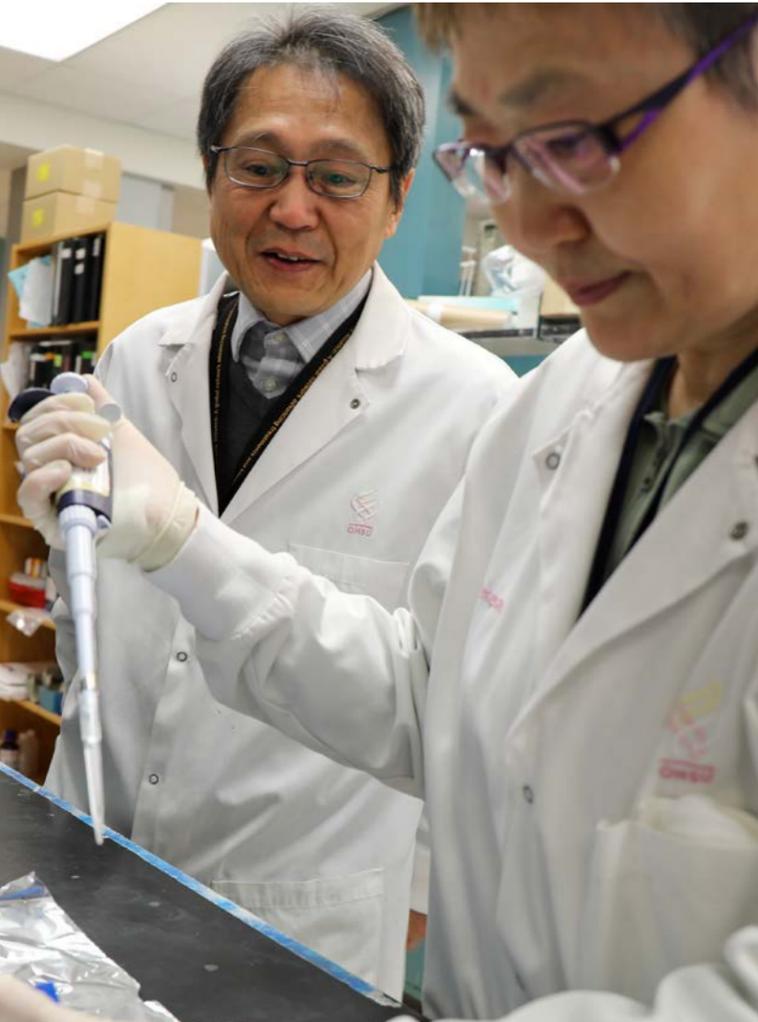
In preclinical models, some combinations slowed tumor growth and improved survival when used with checkpoint-inhibiting therapy, suggesting potential strategies to enhance the effectiveness of immunotherapy for some solid tumors.



LISA COUSSENS, PH.D.
Professor and Chair, Cell, Developmental and Cancer Biology, School of Medicine
Hildegard Lamfrom Endowed Chair in Basic Science



Shivaani Kummar, M.D., associate chief executive officer of the OHSU Knight Cancer Institute and co-director of its Center for Experimental Therapeutics, and Sanjay Malhotra, Ph.D., co-director of the Center for Experimental Therapeutics, outside the Knight Cancer Research Building, where their team studies drug combinations that may enhance immune therapy against tumors. (OHSU/Christine Torres Hicks)



Optimizing Gene Delivery to the Kidney with Targeted Therapies

Hiroyuki Nakai, M.D., Ph.D., distinguished professor of molecular medicine in the OHSU School of Medicine Department of Molecular and Medical Genetics, along with former postdoctoral scholar Taisuke Furusho, M.D., Ph.D., and colleagues, have identified new ways to improve gene delivery to the kidneys, a major step toward more effective treatments for a broad spectrum of kidney diseases, spanning both genetic and non-genetic forms of chronic kidney disease.

By testing 47 adeno-associated virus (AAV) capsids and multiple delivery routes, the team found that certain capsids, such as AAV-KP1, can precisely target kidney cells when injected closer to the kidney through the renal vein or renal pelvis without liver-related side effects.

Their findings overcome the long-held belief that AAV gene therapies are ineffective in kidneys and open the door to developing kidney targeted genetic treatments.

Nakai said this research provides valuable insights into how to optimize AAV-based gene delivery to the kidney in both basic research and gene therapy. It shows that the best results come not just from choosing the right virus capsid, but also from carefully considering how and where to administer it, depending on the condition of the disease. These findings could pave the way for more effective treatments for people suffering from kidney diseases in the future.

Hiroyuki Nakai, M.D., Ph.D., and his team at OHSU have developed targeted gene delivery methods for kidney diseases, overcoming previous limitations and paving the way for more effective treatments.

(OHSU/Christine Torres Hicks)



By the Numbers FY25

RESEARCH EXPENDITURES

\$553M

TECHNOLOGY DISCLOSURES

95

NEW OPTION/LICENSE AGREEMENTS

54

U.S. PATENT APPLICATIONS FILED

46

U.S. PATENTS ISSUED

14

STARTUPS FORMED

4

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