

OHSU INNOVATES

2021 Impact Report



2021 Impact Report



Supporting our community to create a thriving ecosystem by facilitating the development and commercialization of innovations to improve the health and wellbeing of Oregonians and beyond.

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2021 provided us all the opportunity to show our ability to continue to be resilient and innovative in the face of the global coronavirus pandemic. We've had to reimagine teamwork and community engagement, and introduce added safety precautions so that we can continue to advance medical discoveries and patient care. The research, clinical, education and administration communities at OHSU rose to the challenge and exceeded expectations.

Being in a state of modified operations had a decided impact on our year-end metrics, notably a significant decrease in the number of intellectual property disclosures submitted by OHSU employees. Still, our business units were as busy as ever building OHSU startup companies, securing partnerships and funding innovative projects at OHSU.

I'm happy to highlight several OHSU accomplishments from the past year. First, OHSU startup company Capsigen, Inc., established a partnership with Biogen, Inc. The partners plan to discover and develop novel adeno-associated virus capsids to target central nervous system and neuromuscular disorders. Second, the OHSU/GE partnership continues to thrive. Together, we are co-developing innovative products in the areas of medical imaging, digital health and predictive analytics to coordinate patient care and remote patient monitoring. Third, we provided nearly \$700,000 to support technology development, early-stage startup companies, and entrepreneurial education. This support was made possible by the Oregon Clinical and Translational Research Institute (OCTRI), a donor's generous philanthropic gift, which established the Innovation Development and Entrepreneurship Acceleration (IDEA) Fund, and the state of Oregon, which created the University

Venture Development Fund. Fourth, diversity, equity and inclusion remain a priority and we are developing programming to support underrepresented communities in innovation and commercialization of their ideas. Finally, Travis Cook's and Aditi Martin's teams in OHSU's Technology Transfer and Collaborations and Entrepreneurship offices continue to support and drive innovation as well as bring continuity to the OHSU commercialization network. We are proud of our partnerships and alignment with OCTRI, the OHSU Foundation, OHSU School of Medicine Strategic Partnerships, Knight Cancer Institute Strategic Partnerships, CEDAR Accelerator and the Surgical Innovation Program, which make this support possible.

In summary, OHSU remains committed to supporting the innovation and commercialization efforts of its community. And we continue to move forward, despite the impact of the SARS-CoV-2 virus and the resulting COVID-19 pandemic.



A white handwritten signature of Peter Barr-Gillespie on a dark green background. The signature is fluid and cursive, starting with a large 'P' and ending with a long, sweeping line.

Peter Barr-Gillespie, Ph.D.

EXECUTIVE VICE PRESIDENT & CHIEF RESEARCH OFFICER
OHSU RESEARCH & INNOVATION

Innovators and Technology Highlights

Every day, OHSU community members advance health through learning, teaching, healing and discovery. We are a community of innovators, continuously devising solutions to challenges in healthcare, education and research. One of the roles of OHSU Innovates is to help move our community members' early-stage technologies through the development process, with hopes that they may someday provide great benefit to the university and the greater public.

1. www.ohsu.edu/stem-cell-center/markus-grompe-md

2. www.ohsu.edu/people/joe-w-gray-phd

3. www.ohsu.edu/people/adem-yildirim-phd

4. www.ohsu.edu/knight-cancer-institute/cedar

5. www.youtube.com/playlist?list=PLRulmArwyTFiakJNpqTBXAnAQGLs9_Tqn

Innovative Healthcare Technologies



Sunghee Chai



Markus Grompe

Sunghee Chai, Ph.D. and Markus Grompe¹, M.D. have developed micro-promoters, which drive strong expression in multiple cell and tissue types and are roughly one-tenth the size of traditional promoters. This reduction in size could free up valuable space inside recombinant adeno-associated virus vectors and allow for the delivery of larger transgenes, thereby broadening the therapeutic potential of gene therapy.



Joe Gray

Joe Gray², Ph.D. and colleagues have developed a COVID-19 detection technology in partnership with Zorro Bio, Inc. This technology would allow for rapid, scalable, and low-cost detection of SARS-CoV-2 from face masks and other surfaces. This technology has the potential to improve diagnostics for the current COVID-19 pandemic and could offer future applications for the detection of other viral diseases.



Adem Yildirim

Adem Yildirim³, Ph.D., and colleagues at the Knight Cancer Institute's Cancer Early Detection Advanced Research (CEDAR)⁴ Center have developed novel nanoparticle contrast agents that can accumulate within tumors. These nanoparticle contrast agents⁵ can potentially be used with ultrasound for diagnostic and therapeutic applications to improve tumor detection and care for cancer patients.

Impactful Copyright Materials

Whole Grains and Health for Generations Booklet

Whole Grains and Health for Generations is an informational booklet developed by Kent Thornburg¹, Ph.D., and Lisa Rhuman, in partnership with the Bob and Charlee Moore Institute for Nutrition & Wellness at OHSU. This resource was licensed and will be distributed by Bob's Red Mill Natural Foods, Inc. The booklet will provide information on medical research focusing on the negative health effects of the Western diet, and how a woman's diet—both before and during pregnancy—can affect not only her children, but her grandchildren and great-grandchildren.

Inclusive Language Guide

The Inclusive Language Guide² was developed at OHSU to promote inclusivity and diversity and contains a glossary of terms, including those to avoid, and other best practices. This timely resource was recently licensed to the HIV Alliance based in Eugene, Ore., to serve as a foundation for its own institutional guidelines for inclusive language. The sharing and licensing of this valuable educational tool with other institutions has the potential to increase awareness and promote diversity across Oregon.

COVID-19 Vaccination Training Video

Andrea Dayot, B.S.N., R.N., created a training video³ on how to administer COVID-19 vaccines, which was used by thousands of OHSU students and staff who participated in OHSU and community COVID-19 mass-vaccination clinics in Oregon. The training video was also licensed by California's Emergency Medical Services Authority to train California paramedics and emergency medical technicians and was posted to the Public Health Foundation's TRAIN Learning Network, where it has garnered thousands of views and top ratings.

1. www.ohsu.edu/people/kent-l-thornburg-phd

2. www.ohsu.edu/sites/default/files/2021-08/OHSU%20Inclusive%20Language%20Guide_2021.pdf

3. www.ohsu.edu/school-of-medicine/cpd/covid-19-vaccination-training

National Academy of Inventors

The OHSU chapter of the National Academy of Inventors recognizes inventors, innovators, creators and others who promote and support innovation across all disciplines of the university. The local chapter aims to:

- Elevate the visibility of technology and innovation at OHSU
- Promote an understanding of the translational use of inventions and intellectual property at the university and beyond
- Encourage and support entrepreneurship
- Provide a means to advocate for university innovation in the local community
- Recognize the role of innovators

Inductees in the OHSU Chapter



Tapasree Banerji



Sky Ferrara



Tom Scanlan

Honorary Members



Sudarshan Anand



Jessica Grant



Carmem Pfeifer



Thomas Barrett



Joe Gray



David Sheridan



Summer Gibbs



Michael Hutchens

Startup Company Highlights and Milestones

When OHSU intellectual property is the basis for a new company, our goal is to maximize the chances of successfully developing and commercializing the technology while prioritizing OHSU's missions in healthcare, research and education. Starting and running a company can be fraught with challenges. But a combination of groundbreaking ideas, dedicated entrepreneurs and a supportive startup community is a recipe for success. OHSU's support of these entrepreneurial endeavors and the hard work of our faculty, staff and students is highlighted by the growing number of startup companies making an impact in Oregon and throughout the world.



Gail Mandel

Vico Therapeutics

VICOTX.COM

Research by [Gail Mandel](#)¹, Ph.D., focuses on understanding mechanisms of gene regulation in healthy and diseased brains, which has led to numerous innovations in the field of gene therapy. Dr. Mandel's lab developed a novel approach to gene editing in non-dividing cells, such as neurons, which served as the foundational technology for the OHSU spinout company Vico Therapeutics. The company completed a Series A financing round in July 2020 that raised \$31 million to develop RNA modulating therapies for rare neurological disorders, including spinocerebellar ataxia, Huntington's disease and Rett syndrome. In addition, Vico's lead compound received an orphan drug designation from the Food and Drug Administration for the treatment of spinocerebellar ataxia and Huntington's disease. The company also recruited a new chief medical officer and independent director.



Beth Habecker

NervGen Pharma

NERVGEN.COM

Pioneering work by [Beth Habecker](#)², Ph.D., has focused on enhancing our understanding of the mechanisms involved in nerve regeneration after heart attacks. Dr. Habecker's lab generated innovative research that served as the foundational technology for the OHSU spinout company NervGen Pharma. In May, NervGen announced the first subject was dosed with their compound NVG-291 in a Phase 1 clinical trial. This represents an important milestone in the company's journey to develop innovative treatments for nerve damage and neurodegenerative diseases.

1. www.ohsu.edu/people/gail-mandel-phd

2. www.ohsu.edu/people/beth-a-habecker-phd



Wassana Yantasee

PDX Pharmaceuticals

PDXPHARM.COM

OHSU faculty member [Wassana Yantasee](#)¹, Ph.D., is a professor of Biomedical Engineering and holds an appointment at the OHSU Knight Cancer institute, where she leads research into the development of nanotechnology platforms for therapeutic co-delivery of small interfering RNAs, drugs, vaccines and immunotherapies for the treatment of solid tumors. This year, her pioneering work was featured as the cover story of the journal “Advanced Materials” and also appeared in “Celebrating Excellence in the Advanced Materials Family: Women in Materials

Science.” In 2010, Dr. Yantasee launched PDX Pharmaceuticals, an OHSU spin-out company for which she serves as founder and CEO.

PDX Pharmaceuticals focuses on the development of novel targeted therapies and therapeutic vaccines for many types of cancer. PDX Pharma’s first two drug candidates are based on nanoparticles co-delivering therapeutics. They function by profoundly engaging and directing the patient’s own immune system, specifically cancer-killing CD8+ T cells, to help treat their underlying cancer. These T cells are thought to be more effective than conventional oncology drugs such as chemotherapeutics and targeted therapy, and may have long-lasting effects due to a reduced tendency for the development of drug resistance. Employing a similar rationale, PDX Pharma’s nanoparticle technology has

also been developed into an effective COVID-19 vaccine candidate.

To date, the company has raised over \$11 million, receiving \$7.7 million in non-dilutive funding from the National Institutes of Health and a \$3.5 million investment from the [Kuni Foundation](#)². This year the company received a perfect score on a fast-track Small Business Innovate Research (SBIR) application and an outstanding score on a phase II SBIR application from the National Cancer Institute. It is being awarded \$4.3 million to develop two immune nanotherapeutics for lung cancer and melanoma. OHSU and PDX Pharmaceuticals were also successful this year in securing protection for two U.S. patents for their jointly-owned nanoparticle platform technology and its therapeutics applications.

1. www.ohsu.edu/people/wassana-yantasee-phd

2. www.kunifoundation.org/resource/pdx-pharmaceuticals-secures-additional-investment-from-the-kuni-foundation-to-advance-new-cancer-fighting-precision-therapies



STARTUP COMPANY MILESTONES

Auxetics

AUXETICSINC.COM

A biomechanically driven company focused on developing a venous stent to address the unique biomechanical aspects of veins, raised \$1.285 million in seed funding. Auxetics was awarded a grant through OHSU's Innovation Development and Entrepreneurship Acceleration (IDEA) fund in 2020. That grant enabled them to complete their stent prototype design phase this year.

Aronora, Inc.

ARONORABIO.COM

A clinical-stage biotechnology company developing safe proprietary antithrombotic (“blood-thinning”) biological drugs, reported positive topline data from a Phase II clinical trial for therapeutic compound AB023's use in renal disease patients. The compound reduced occlusive clotting events with an absence of adverse reactions. The company was also featured¹ in the Portland Business Journal.

Autobahn Therapeutics, Inc.

AUTOBAHNTX.COM

A biopharmaceutical company developing the next generation of regenerative medicines for people affected by central nervous system disorders, acquired a clinical-stage fatty acid amide hydrolase (FAAH) inhibitor from Astellas. The acquisition strengthens the company's brain-targeting chemistry platform. Autobahn also had a successful pre-investigational new drug (pre-IND) meeting with the FDA and recruited new leadership to its Board of Directors.

Capsigen, Inc.

CAPSIGEN.COM

A gene therapy company working to build a new generation of viral-based gene therapeutics using novel vector engineering platforms, entered a strategic research collaboration with Biogen. The collaboration will work to discover and develop novel adeno-associated virus (AAV) capsids that may facilitate the development of new gene therapies for central nervous system and neuromuscular disorders. Capsigen also recently opened a new facility in Vancouver, Wash.

1. www.bizjournals.com/portland/news/2021/01/08/portland-biotech-company-has-big-plans-for-its-car.html

STARTUP COMPANY MILESTONES

Cytotheryx

CYTOTHERYX.COM

A biomedical research company focused on the development of a high-quality source of human hepatocytes (HHCs), received funding from Regenerative Medicine Minnesota and the Launch Minnesota Innovation Grant. The two awards totaled \$130,000 and will help the company address unmet needs for patients with liver-related disease.

Fennec Pharmaceuticals

FENNECPHARMA.COM

A small stage biotechnology company focused on the development of PEDMARKTM (a unique formulation of Sodium Thiosulfate) for the prevention of ototoxicity from cisplatin in pediatric patients, submitted a new drug application for its compound to the FDA.

Inherent Targeting

WWW.INHERENTTARGETING.COM

A company developing nerve-targeted fluorescent contrast agents to improve surgical outcomes, received a \$2.25 million NIH SBIR Fast Track Phase 1/II grant. The company was also accepted into the first cohort of the Sci-Founder fellowship program, which includes mentorship and an investment of \$400,000.

NOUS imaging

NOUSIMAGING.COM

A software biofeedback solution startup company working to improve brain magnetic resonance exams, received 510(k) clearance from the FDA for its FIRMM Software. FIRMM provides real-time monitoring and biofeedback that addresses the significant problem of patient motion during brain MRI.

ProMedix Inc.

PROMEDIXINC.COM

A medical device company aiming to improve early identification of sepsis and decompensation in the emergency department and home environment, was the winner of a West Coast Consortium for Technology & Innovation in Pediatrics Innovation Grant. In addition, ProMedix launched a clinical trial with a third-generation device to validate the technology in sepsis resuscitation.

Vir Biotechnology, Inc. (NASDAQ:VIR)

VIR.BIO

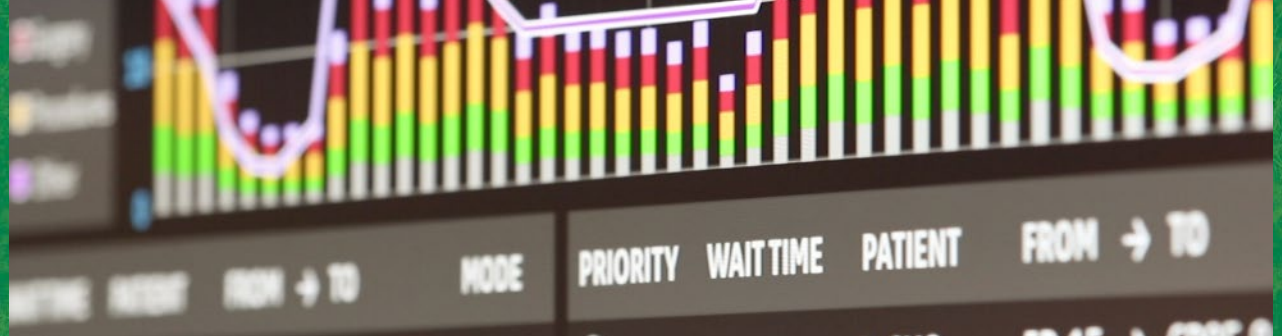
A clinical-stage immunology company focused on combining immunologic insights with cutting-edge technologies to treat and prevent serious infectious diseases, initiated a phase I clinical trial of a vaccine vector platform originally conceived and developed at OHSU. The company also received emergency use authorization of Sotrovimab, an monoclonal antibody developed in collaboration with GlaxoSmithKline plc, for the treatment of COVID-19.

Partnership Highlights

Collaborations are a critical component of carrying out OHSU's mission, and the OHSU commercialization network aspires to develop strategic partnerships to improve care for our communities within the region and beyond. The four areas of impact that guide our partnering strategy include:

- Access to new tools, resources and know-how
- New grant funding opportunities, awarded jointly with partners
- Educational opportunities for our community
- Improvements to patient care

Several announced partnerships established by the OHSU commercialization network include:



GE Healthcare

OHSU's longstanding partnership with GE Healthcare¹ in cardiovascular research, imaging and big data have sparked important innovations, leading to several high-profile publications describing how this partnership has bridged the knowledge gaps of many clinical challenges with unmet needs. Following on this, OHSU will be the first hospital in the Pacific Northwest equipped with GE Healthcare's PET/MRI instrument² which was scheduled to begin running patient scans in November 2021.

In 2017, OHSU partnered with GE Healthcare to launch OHSU Mission Control³, a tool that monitors and analyzes bed capacity and patient flow. Mission

Control improved patient care operations and later became the backbone of the Oregon state-wide COVID Capacity Center.

When the pandemic began, the two organizations created the first virtual intensive care unit⁴, or VICU, in Oregon. In coordination with OHSU's Mission Control, VICU telemedicine brought access to critical care specialists across the state and helped keep patients with critical care needs in their local communities.

In May 2021, OHSU and GE Healthcare renewed their Comprehensive Research Agreement for an additional five years, allowing the organizations to continue combining their expertise to advance research, accelerate delivery of quality care and improve patient outcomes.

1. www.gehealthcare.com

2. www.ohsu.edu/school-of-medicine/diagnostic-radiology/pet-mri-advancing-patient-care-and-accelerating-discovery

3. news.ohsu.edu/2019/10/31/ohsu-mission-control-offers-modern-high-tech-solution-to-historic-challenge

4. www.ge.com/news/press-releases/ge-healthcare-powers-first-of-its-kind-virtual-icu-creating-access-to-critical-care

PARTNERSHIP HIGHLIGHTS

AstraZeneca

The OHSU Knight Cancer Institute is one of nine institutions worldwide, and just one of three in the United States, selected to join¹ AstraZeneca's Partner of Choice² Network in precision oncology. This is the first-ever preferred partnership with a major pharmaceutical company for OHSU. With the Partner of Choice Network, AstraZeneca is bringing together nine of the world's foremost oncology medical centers to apply collective brainpower in expediting research in some of the hardest-to-treat cancers. Each site brings strong translational research capabilities and a desire to change the clinical paradigm through application of innovative translational science to clinical research.

Ionis Pharmaceuticals, Inc.

OHSU's collaboration³ with Ionis Pharmaceuticals incorporates a drug co-development program using proprietary antisense technology from Ionis against novel targets in hematologic malignancies proposed by scientists from the Knight Cancer Institute. This partnership will accelerate the process of bringing novel drugs to cancer patients with limited treatment options.

Through this agreement, faculty at the Knight Cancer Institute gain exposure to new cutting-edge technology and to the pharmaceutical drug development process.

BridgeBio

OHSU signed⁴ a Master Collaboration Agreement with Bridge Bio Pharma in January 2021. BridgeBio was founded in 2015 primarily to advance single-asset academic technologies through preclinical, clinical and ultimately commercial development. This partnership builds on five years of informal collaborations between the two organizations.

A webinar was hosted by OHSU Collaborations and Entrepreneurship to introduce investigators to BridgeBio, and to begin the process of identifying projects with overlapping interest to both groups. Under the three-year agreement, the BridgeBio team will work closely with OHSU scientists and investigators to advance potential medicines for patients with genetically driven conditions, including cancers. Several early-stage discussions have been planned across a variety of diseases. This collaboration has the potential to provide funding, resources and educational opportunities around drug development to our community, as well as advancing new drugs for unmet needs.

1. news.ohsu.edu/2020/10/29/astrazeneca-selects-ohsu-knight-cancer-institute-as-global-partner-of-choice

2. www.astrazeneca.com/what-science-can-do/labtalk-blog/oncology/collaborative-research-to-advance-innovation-in-oncology.html

3. news.ohsu.edu/2020/01/27/ohsu-ionis-pharmaceuticals-to-develop-drugs-for-undruggable-cancer-targets

4. www.biospace.com/article/releases/bridgebio-pharma-inc-and-oregon-health-and-science-university-establish-collaboration-to-translate-pioneering-research-into-therapies-for-genetically-driven-diseases



PARTNERSHIP HIGHLIGHTS

Pacific Northwest National Laboratories

PMedIC¹ is a joint research collaboration between OHSU and the U.S. Department of Energy's Pacific Northwest National Laboratories. PMedIC was established in 2015 with a mission to support discovery science. The research collaboration seeks to integrate multidimensional patient data such as genetic, proteomic, and metabolic profiles, and integrate this information, with imaging and clinical results, to customize disease treatment and improve human health.

PMedIC includes a diverse set of collaborative projects, including the Pacific Northwest Center for Cryo-EM, Proteogenomic Translational Research Center for Acute Myelogenous Leukemia (AML), and Placental Mitochondrial Function in Gestational Diabetes. PMedIC acts as a clearinghouse for researchers, matching relevant subject matter experts at both OHSU and PNNL. It also assists in putting together teams for the development of joint proposals, helps investigators identify sources of funding and offers assistance with proposal management.

Through PMedIC, OHSU investigators have access to new educational and training opportunities, and to new Pilot awards, supporting generation of preliminary data for grant submissions. Over 60 joint (OHSU-PNNL) publications have resulted from collaborative projects to date. New insights from PMedIC's collaborative approach will inform clinical trials, leading to more customized treatments and better patient outcomes.

1. pmedic.labworks.org

Innovation, Education and Resources

Biomedical Innovation Program

Now in its ninth year, the Biomedical Innovation Program (BIP), a partnership between the Oregon Clinical Translational Research Institute (OCTRI), OHSU Technology Transfer and OHSU Collaborations and Entrepreneurship continues to support early-stage technology development and commercialization, with a goal of improving human health. Targeting medical devices, diagnostic, software development, digital health and drug discovery, the BIP has made 54 awards, totaling \$2.8 million. Unlike traditional grants, the BIP provides proof of concept funding, as well as project management, customized mentoring and a portfolio of innovation and entrepreneur education opportunities.

1. www.ohsu.edu/octri/biomedical-innovation-program-academia-marketplace

BIP: Outcomes & Statistics

OUTCOMES 2013-2021



PROGRAM STATISTICS 2013-2021





In 2021, the Biomedical Innovation Program awarded investigators in two tracks of funding:

Drug Discovery Track

A novel therapeutic target in subarachnoid hemorrhage (SAH)

Nabil J. Alkayed

Development of a Pan-BCR-ABL inhibitor for chronic myeloid leukemia with improved safety

Mallesh Pandrala

Addressing paclitaxel resistance and disease progression in ovarian cancer with small molecule YBX1 inhibitors

Sanjay V. Malhotra

Device and Diagnostics Track

Improving practical activity MRI quantification

Xin Li

Self-administered palate stimulation device for non-invasive headache relief

Austin J. Peters

Deciphering the due date, using AI to predict and improve childbirth

Elise N. Erickson

Novel vascular doppler device for blood flow detection

David Warner, Albert Lwin and Cherrie Z. Abraham

OHSU is grateful for members of our community who provided countless hours of volunteer service reviewing applications, and mentoring applicants and awardees. The BIP would not be possible without their support.

BIP REVIEWERS

Eric Agdeppa

Mark Ahn

Jennifer Akeroyd

Juan Barraza

Mark Bruns

Ann Demaree

James Dirksen

Rachel Dreilinger

Peter Galen

Bruce Girton

Linda Hansen

Josh Hoyt

Douglas Kawahara

Jeff King

Lenard Lichtenberger

Les Mace

Akiva Mintz

Bill Newman

Michael Payne

Brigitte Piniewski

Skip Rung

Reneé Shirley

Sandra Shotwell

Candice Smith

David Starr

Brie Stoianoff

Charla Triplett

Travis Woodland

Barbara Wexler

David Winter

BIP CORP TEACHING TEAM

Ann Demaree

Juan Barraza

Tom Barrett

Nicholas Kenyon

Edmund Pendleton

Ramya Raman

Steve Runnels

Richard Rylander, Jr.

BIP Corp/I-Corps@NCATS

OCTRI's BIP Commercialization Readiness Course¹ (BIP Corp) integrated the I-Corps@NCATS² curriculum in 2021, bringing to OHSU a nationally vetted and evidence-based framework for commercializing academic life science technologies and a network of 22 Clinical and Translational Science Award (CTSA) hubs³ supporting translation and entrepreneurship activities. Graduating teams validate the commercial potential of their technology, derive critical data to support competitive SBIR/STTR proposals and attract collaborators. They also gain access to National Science Foundation and NIH National I-Corps courses.

1. www.ohsu.edu/octri/innovation-and-entrepreneurship
2. doi.org/10.1017/cts.2020.561
3. ncats.nih.gov/ctsa/about

BIP CORP METRICS: 2018-2021



65
PARTICIPANTS



57%
OHSU PARTICIPANTS

INSTITUTIONAL REACH



TEAMS FROM

OHSU, Portland State University, Oregon State University, University of Oregon, Providence and the Oregon Bioscience Incubator



**TECHNOLOGIES
ADVANCED**



**PATENTS AND
COPYRIGHTS**



**STARTUPS
FORMED**



**FOLLOW-ON
FUNDING**

OHSU Invent-a-thon

The inaugural OHSU Invent-a-thon¹, held in October 2020, sparked interdisciplinary collaboration to build innovative solutions to pressing healthcare challenges in digital health and the medical technology industry. Spearheaded by OHSU's Surgical Innovation Program² with over 60 industry and academic partners, this event channeled more than 500 participants into 49 teams pitching solutions within 48 hours. Fifteen teams were awarded a combined \$28,000 by industry and investment experts. The Post-Hack pitch event held three months later selected eight continuing teams to pitch their progress for \$40,000 in prizes. Twenty-four teams remain active and nine companies have been formed.

1. inventathon.org

2. www.ohsu.edu/school-of-medicine/surgery/surgical-innovation-program

INVENT-A-THON 2020



461
PARTICIPANTS



94
MENTORS

18%
OHSU PARTICIPANTS

IDEA Fund

In 2020, the OHSU Foundation received a generous donation to support innovation and entrepreneurship at the institution. OHSU Technology Transfer and OHSU Collaborations and Entrepreneurship, given charge of allocating these funds, created the Innovation Development and Entrepreneurship (IDEA) Fund to address three key areas. Those areas are gap funding, startup company support, and innovation and commercialization educational support.

IN FY 2021, the IDEA fund supported OHSU startups ProMedix and SomnoSeal. ProMedix is developing HydraSense to provide a rapid, accurate and noninvasive assessment at the clinical bedside or remote care setting to help diagnose sepsis and monitor patient decline and response to treatment. SomnoSeal is developing a novel mouth sealer to decrease oral leaking and improve compliance with nasal masks and nasal pillows for continuous positive airway pressure (CPAP) treatment of obstructive sleep apnea.



Rob Arnold



David Katz



Steve Runnels



Richard Rylander

EIR and Startup Mentorship

The Entrepreneur-in-Residence (EIR)¹ program pairs OHSU investigators and entrepreneurs with seasoned business executives to provide individualized startup mentorship. The EIR program's entrepreneurs have diverse backgrounds in industries ranging from pharmaceuticals to medical device and software, and they engage early with OHSU startups to provide strategic guidance around technology development, commercialization, and fundraising.

INNOVATION, EDUCATION AND RESOURCES

EIR on the Front Lines - War on Melanoma and Sklip

Oregon ranks in the top 10 of incidence rates for Melanoma, the deadliest form of skin cancer. To address this significant public health problem, OHSU and Sklip cofounders, OHSU Dermatologists Alexander Witkowski, M.D., Ph.D., and Joanna Ludzik, M.D., Ph.D., developed the Sklip™ Dermatoscope² to better engage consumers in virtual skin care.

Sklip allows users to capture dermoscopic images of their concerning moles using a smartphone attachment and have those images analyzed by an OHSU physician. EIR Rob Arnold has worked closely with Sklip and the OHSU War on Melanoma team to develop strategies to increase consumer engagement and enhance outreach and donor support. Together, these efforts



ensure that there is strong alignment between public/private interests and ongoing public health campaigns.

OHSU's War on Melanoma and Sklip were recently featured on KATU-TV³. OHSU and Sklip are now working on a joint study to confirm patient engagement in virtual skin care. Sklip is also pursuing FDA clearance for an artificial intelligence-powered version that it intends to bring to market in 2022.

1. www.ohsu.edu/collaborations-and-entrepreneurship/entrepreneur-residence-program
2. www.ohsu.edu/war-on-melanoma/sklip-home-dermoscopy
3. bit.ly/3DaPZH1

Making an Impact



Andrew Adey



Anne Carlson

OHSU and Illumina Honored with Deals of Distinction™ Award

OHSU Technology Transfer is thrilled to have another licensing deal from OHSU recognized by the Licensing Executives Society (U.S.A. and Canada), Inc.¹ with a Deal of Distinction award.

The LES Deals of Distinction Award² is an annual industry sector award program of LES, which recognizes worthy licensing deals and promotes creative and innovative solutions to business issues involving contracts.

This is the second straight year that OHSU has received this award, and is a testament to the commercial impact of OHSU research and innovation. The award-winning deal was negotiated by Anne Carlson, Ph.D., on behalf of OHSU. It exclusively licensed OHSU's rights in three co-owned technologies that were developed over five years under a research collaboration between OHSU and Illumina. OHSU's Andrew Adey, Ph.D., led the research collaboration.

1. www.lesusacanada.org

2. members.lesusacanada.org/news/news.asp?id=530807



Todd Camp



Cadence True

The OHSU Innovation and Commercialization Internship

The OHSU Innovation and Commercialization Internship¹ is an entrepreneurial education program that gives interns the opportunity to gain real-world experience in the fields of technology transfer, business development and intellectual property law. Over 80 interns have participated in the program since 2004. Many interns have used their internship experience to successfully transition to careers in the innovation ecosystem.

1. www.ohsu.edu/tech-transfer/careers-and-internships

MAKING AN IMPACT

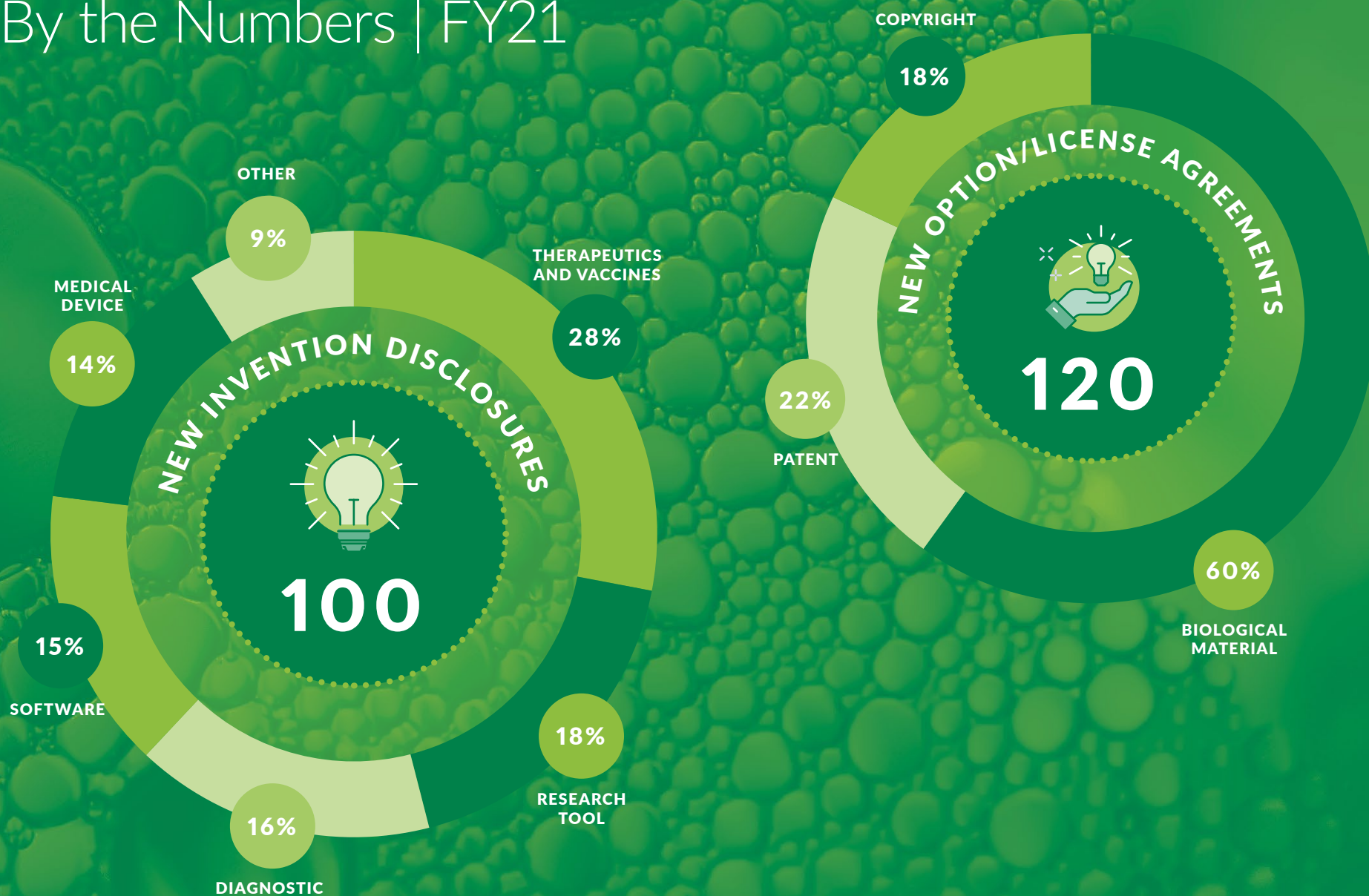
Todd Camp became interested in business development when he joined a team at the OHSU Knight Cancer Institute to work on a collaboration with a biotech company. The industry partnership gave him the opportunity to experience a more outward-facing role and the chance to work closely with the KCI Strategic Partnerships management team. Realizing that he may want to pivot his career from the bench towards business, Todd joined the OHSU Innovation Commercialization Internship program.

As an intern, Todd prepared market and intellectual property landscape reports, developed marketing plans and became a power user of numerous competitive intelligence platforms. He became comfortable working outside his area of expertise, translating knowledge across technical areas and discussing business strategy. With his newfound passion and aptitude for business, Todd left the bench behind and is now a Business Development and Strategic Alliance Specialist at the biotechnology company Cepheid and a graduate student in the MBA program at Oklahoma State University.

Cadence True, Ph.D., was another 2020 intern who used the internship experience to forge a new career path. Cadence had spent a significant portion of her career working on science with real-world applications, but decided to change her focus to the translation and commercialization of academic research. She joined the internship program and worked on projects related to how technologies are evaluated, marketed and licensed. With a keen ability to translate scientific concepts in terms that are easily understood by a nonscientist, she drafted effective marketing plans and collateral to help license OHSU technologies.

Recognizing her zeal for technology marketing, Cadence decided to transition from faculty researcher to technology transfer professional. She became a Technology Collaboration Manager in OHSU Technology Transfer in April 2021. She is responsible for promoting technologies and connecting OHSU researchers with the right potential partners to further commercialize their innovations. She is still active in the internship program, sharing her excitement for technology transfer in her role as a mentor and educator to the current interns.

By the Numbers | FY21





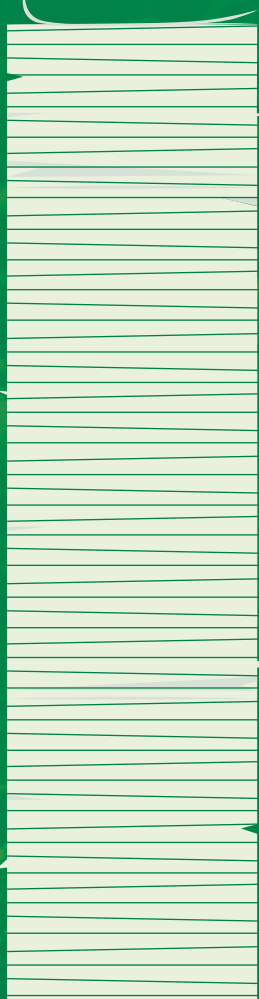
6
NEW
STARTUP
COMPANIES



5
NEW STARTUP
COMPANIES
BASED IN OREGON

201

TOTAL PATENT
APPLICATIONS FILED



96

US PATENT
APPLICATIONS FILED

38

PATENT APPLICATIONS
FILED ON NEW MATTER
PROVISIONALS, US UTILITY,
NON-US



504

MATERIAL TRANSFER
AGREEMENTS



108

INDUSTRY-SPONSORED
RESEARCH
AGREEMENTS



224

NON-DISCLOSURE/
CONFIDENTIALITY
AGREEMENTS



384

OTHER RESEARCH
AGREEMENTS¹

Our Team



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Sri Balakrishnan



Philip Barish



Teresa Bennett



Brandy Burtis



Anne Carlson



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Ronn Leon



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Lisa Lukaesko



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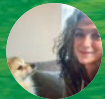
Melissa Mudd



Arvin Paranjpe



Michael Roberts



Ann Trione



Cadence True



Trina Voss

Sponsors

We welcome and appreciate the collaborative nature of organizations and community members that want to be a part of the ongoing innovation and entrepreneurial efforts at OHSU. A special thanks to our sponsors for their support!





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