ONVARD



FALL 2018 /// A publication for friends and supporters of Oregon Health & Science University

THE LEGENDARY LOLA

Fighters — and winners — come in all sizes

On the cover: Two-year-old Lola Johnson (with her mother, Sabrina) has battled back from acute myeloid leukemia.

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ONWARD

THE OHSU FOUNDATION MAGAZINE FALL 2018

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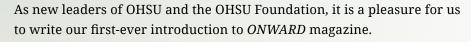
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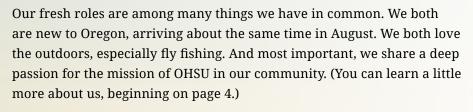
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Welcome to **ONWARD**









This is truly an exciting time at OHSU. As you will read in this issue of *ONWARD*, we are attracting exceptional talent, driving more scientific breakthroughs and creating more collaborative spaces for that great work to be done. You'll see several examples of our progress in the pages of this magazine.

You also will learn more about two of our most dedicated supporters, Barbara and Phil Silver. The common thread connecting all of our achievements is you: Your partnership, your generosity and your deep belief that OHSU is the place where the merging of science, innovation, compassion and tenacity can, quite literally, change the world for the better.

No matter where your interest lies — from educating the next generation of health care leaders to curing the diseases that dramatically impact our lives — we are grateful you are members of our OHSU community, and joining us on this next leg of our journey to improve the health and wellbeing of all Oregonians.

OHSU is an outstanding place with a tremendous legacy. We are excited and honored to be here, and look forward to contributing to the next chapter in the storied history of this institution.

Danny O. Jacobs, MD, MPH, FACS President, OHSU

JANNE JACOBS

Matt McNair

President, OHSU & Doernbecher Foundations



Dr. Danny Jacobs and Matt McNair began their new jobs — Jacobs as president of OHSU and McNair as president of the OHSU Foundation — this past August. We sat down to talk with them together about their first impressions of and aspirations for OHSU.

Q: What was it about OHSU that led each of you to seek new careers here?

Matt McNair: I came first to take a look just because I love Portland. I became even more interested in the job because of the people. Obviously, this is a great institution. And everybody that I met seemed laser-focused on OHSU and its mission, and that was really appealing. Ultimately, the people were so impressive that I wanted to be part of the team.

Dr. Danny Jacobs: Every so often I would get an email or a letter saying, 'Dear Dr. Jacobs, would you be interested in looking at this position'...fill in the blank. This time, my wife and I paused to consider it. I knew a fair amount about the university, because it's a great institution. Also, my wife is familiar with this area, having graduated from Oregon State.

And then as I came here — same thing: great city, phenomenal people, wonderful opportunity. So the prospect of helping move OHSU from top tier to even more rarified air was very attractive to me.

Q: Both of you were aware of the successful Knight Cancer Challenge when you were considering the jobs. Tell me what that meant, being courted by an institution that had just made cancer research and fundraising history?

Jacobs: Well, that was certainly a positive. The Knight Cancer Challenge was an extraordinary

accomplishment by any measure, and it showed me that great things are possible here.

McNair: The challenge brought Oregonians together as a giant team and it showed me a lot about the culture of the institution and the state. The Knight Cancer Challenge is rocket fuel, essentially, to take the institution to the next level.

Q: It's unusual to have new presidents for a university and a university foundation arriving at the same time. What are the challenges and opportunities that presents?

Jacobs: Of the things that I worry about in my first two months here, I have zero worries about the two new presidents starting. We needed to learn each other — I think we've sorted that out. Style — we've sorted that out. Our mission, vision, values and objectives are the same.

McNair: One challenge is that neither one of us has institutional knowledge. But we both have such strong teams, and the community is so strongly oriented around the institution, I don't think that's going to be a problem at all.

From the first few times we've talked, we realized we have a lot in common, between personal interests and philosophies on how organizations should be run. I kept marveling: 'He's saying things exactly as I've said them before.'

Q: You're both new to Oregon and OHSU. What are some of things that have been most noteworthy or surprising to you so far?

McNair: I think how well the organization is run. I wasn't surprised, because that was the reason I came. But I've been really even more impressed than I thought I would be.

Jacobs: In my initial interviews, everyone talked about how decisions are made through the lens of what's in the best interest of Oregonians' health and well-being. It's more than just a slogan. That is palpable.

Q: You're currently in the midst of a \$2 billion fundraising campaign and about \$300 million away from your goal. What excites you most about the ONWARD campaign?

Jacobs: It shows the power of possibility. It means that if we can find the right way to galvanize ourselves around another initiative with a sense of purpose, we can do that.

McNair: The institution has changed already because of the campaign. If you look at some of the talent we've been able to attract, it's just phenomenal. And as we approach the end of the campaign, we just recently got a very generous gift that allowed us to create an innovation fund. So Dr. Jacobs and his teams are going to be able to explore how to improve health care, health education and research in ways that very few people have the luxury to do.

	Danny Jacobs, MD, MPH, FACS President, OHSU	Matt McNair, JD President, OHSU Foundation
Previous position	Executive vice president, provost and dean, School of Medicine, University of Texas Medical Branch	President, Ohio State Innovation Foundation, and vice president for economic and corporate engagement, The Ohio State University
Background	Surgeon and scientific researcher focused on nutrition, organ function and metabolic effects of malnutrition, stress, infection and injury	Higher education fundraising and intellectual property management leader, and attorney in the public and private sectors
Hometown	Camden, Arkansas	Lincoln, Nebraska
Education	Washington University, St. Louis: MD University of Pennsylvania and Brigham and Women's Hospital: residency Harvard University: MPH	University of Nebraska: JD University of Kansas: BS in business administration
Family	Wife, Nancy Jacobs; three grown children; three grandchildren	Wife, Chrissy McNair, three children
What people might find surprising about me	Quite a few people know that I enjoy fly-fishing. But some might be surprised that I tie my own flies — to the tune of hundreds if not thousands over the past six years or so.	I cut my own hair. Seriously. I have been since 2002.



DR GORDON MILLS ISSTOKED.

HEOUGHT TO BE

The Wayne and Julie Drinkward Chair in Precision Oncology at the OHSU Knight Cancer Institute is seeing outstanding early results in studies using cancer drugs in combination, like a one-two punch, to boost their effectiveness.

In one pilot study, four patients out of five are responding exceptionally well. Each patient received a combination of drugs selected to target vulnerabilities specific to his or her cancer.

Early results from a breast cancer study also have exceeded expectations. The study is

combining an immune therapy with a targeted therapy drug and the Knight Cancer Institute recently secured funding to begin a larger-scale clinical trial.

A third study is yielding positive results against cancers driven by a mutated gene common in pancreatic cancer, and also ovarian, colorectal and lung cancers. The drug combination was first identified by Mills and colleagues based on laboratory studies looking for the Achilles heel of these dangerous tumors.



"I am really happy to say that no place, I mean none in the world, is doing the degree of indepth analysis of patients and their tumors that is happening here," Mills said, leaning back in a chair in his sunlit office at the new Knight Cancer Research Building. "This is it. This is as deep an analysis and as great an opportunity as anyone will have anywhere."

A world leader in cancer research, Mills completed his move to OHSU in July from the renowned MD Anderson Cancer Center in Houston, his home base since 1994. Among many leadership roles there, he founded the first cancer systems biology department in the United States. He co-directed the institute's Cancer Moonshot programs for breast and ovarian cancer. He established MD Anderson's center for molecular markers that evolved into the Institute for Personalized Cancer Therapy, which he co-directed. He has authored or co-authored close to 1,000 scientific papers, becoming one of the most widely cited medical scientists in the world.

His vision for the future of cancer treatment is precision oncology: understanding each patient's disease in enough detail to select precisely targeted drugs from the get-go that can halt tumor growth long-term — and with minimal side effects, unlike chemotherapy.

He came to Portland, he said, to help build the leading center for cancer combination therapy in the Pacific Northwest, and to make the OHSU Knight Cancer Institute one of the best places in the world for testing new ideas in cancer therapy.

"And we're gonna do that," he said. "That's why I'm here."



Brian Druker, MD, Director of the Knight Cancer Institute and JELD-WEN Chair of Leukemia Research, established OHSU as a leader in precision oncology when he led the development of the drug Gleevec®. It targets a mutant protein, BCR-ABL1, that spurs the growth of a type of blood cancer called chronic myeloid leukemia, or CML. About 15 percent of all new cases of



No place, I mean none in the world, is doing the degree of in-depth analysis of patients and their tumors that is happening here.

Gordon Mills, MD, PhD, director of precision oncology, Knight Cancer Institute



/// Dr. Mills consults with Brett Johnson, PhD, (left) and Joshi Alumkal, MD, in one of the shared laboratory areas within the new Knight Cancer Research Building. Johnson is an OHSU scientific program manager; Alumkal is a physician-scientist who researches prostate cancer for the Knight Cancer Institute.

leukemia are CML. With the advent of Gleevec and related drugs, life expectancy for patients with CML climbed to a level equal to that of the general population. The breakthrough proved that understanding the earliest drivers of >>>>

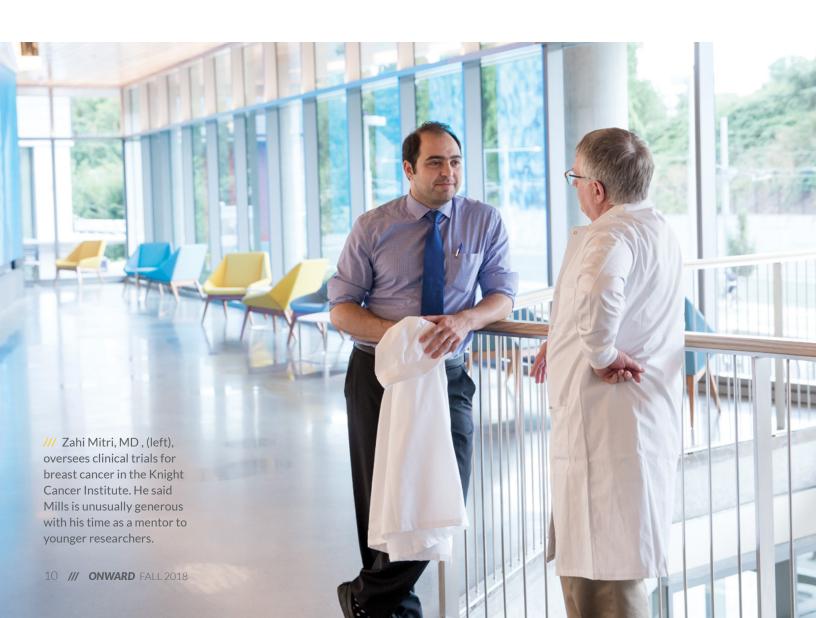
cancer formation can lead to better treatments that target cancer cells more precisely so that healthy cells are left unharmed.

Other cancers, however, have not fallen so readily to the targeted therapy approach. The mutations and signaling modifications driving most tumors are more complex than the events underlying CML. When a targeted therapy blocks one cancer-driving signal, most tumors quickly develop resistance by switching to alternative signaling pathways to sustain growth.

That's why the field is shifting its focus to combination treatments aimed at blocking more than one growth pathway at the same time. "A single agent is easy to work around," Mills said. "A targeted combination is very hard to work around."

TACKLING TRIPLE-NEGATIVE BREAST CANCER

The precision oncology program is aiming to do more than find out if new combination therapies can stop tumors. Mills and fellow investigators want to learn as much as they can about each patient's cancer, how tumor cells adapt to drug combinations and what indications tumors might give to reveal their vulnerabilities to specific treatments.



"We're excited about using this approach as a discovery platform," said Zahi Mitri, MD, an assistant professor in the OHSU School of Medicine's Division of Hematology and Medical Oncology, who is in charge of clinical trials for breast cancer in the Knight Cancer Institute. If the approach works, he said, "you could use it with multiple tumor types without having to reinvent the wheel."

The first trial of the approach is aimed at triplenegative breast cancer, so called because tumor
growth is not driven by the hormones estrogen
or progesterone, nor by an excess of signaling
molecules called HER2 receptors. Treatments are
limited because HER2 and hormone signaling are
used as targets for precision anti-tumor drugs.
The trial is testing a targeted drug called a PARP
inhibitor combined with an immune therapy
drug known as a checkpoint inhibitor, both made
by the pharmaceutical company Astra Zeneca.

The researchers will analyze each patient's tumor, before and during treatment, in deep detail. They'll look at proteins made by tumors, antigens marking the surface of cancer cells, gene mutations, immune system interactions and DNA from cancer cells that makes its way into the bloodstream. With the battery of tests, the researchers hope to find signals that can predict a tumor's sensitivity to specific drugs. They also want to understand how cancer cells evolve to resist treatment.

Working with Mills is exhilarating, Mitri said. "It's been a whirlwind. His experience, and his connections, and his vision have really pushed the program," he said. "I'm really lucky, at this stage in my career, to be working with him."

Mills is the kind of mentor who is brutally honest with his critiques "and that's huge," Mitri said. "If you don't get feedback, you don't get better. I appreciate the constant motivation to get better." He said Mills is also unusually generous with his time and always available when called upon for help. "Everyone knows

about his successful background as a scientist," Mitri said. "I know from having worked closely with him for months that he's completely dedicated to mentorship."

DOING THINGS DIFFERENTLY

Mills said it's revitalizing for him to have the opportunity to work with young scientists such as Mitri, who are the ones who will take what their predecessors have learned about cancer and use it to improve outcomes for patients. "We have more exciting tools and more opportunities now to make a difference than ever before," he said.

The Knight Cancer Institute is positioned to make rapid progress, in his estimation. "It is young. It is flexible. And it is willing to do things differently," he said. There are many larger cancer institutes, but that size usually comes with a big, inflexible bureaucracy with built-in resistance to venturing into unknown areas.

Referring to Druker, Mills said: "The Knight Cancer Institute has a leader who is invested in change, who is invested in combination therapy, who is invested in making this institution better."

Early detection of cancer, a focus of the Knight Cancer Institute, fits well with the goals of precision oncology. As it stands, almost all targeted therapies have been developed to treat patients who already have been treated with chemotherapy or radiation therapy, and their tumors have had a chance to evolve and become more complex and resistant to further treatment. "By moving things up front to the first time we treat patients, and by treating earlier and earlier disease, we're going to have remarkable improvements in patient outcomes," Mills said. >>>>

Philanthropic support for the Knight Cancer Institute is making a big impact, five years after Nike co-founder Phil Knight and his wife, Penny, pledged to donate \$500 million if OHSU could match it in two years. OHSU met the challenge with time to spare, with contributions from more than 10,000 people. At this time of unprecedented opportunity for progress in cancer research, federal support has stalled. From 2003 to 2015, the National Institutes of Health lost 22 percent of its capacity to fund research due to budget cuts and

donors is also extending the reach of research already funded by federal grants. A portfolio of philanthropic and federal support is helping the Knight Cancer Institute attract companies in the pharmaceutical and diagnostics industries for the collaborations needed to make discoveries available to patients.

"We are developing a public-private-industry collaboration that allows us to do things that we couldn't do otherwise," Mills said.

Everyone knows about his successful background as a scientist. I know from having worked closely with him for months that he's completely dedicated to mentorship.

> Zahi Mitri, MD, assistant professor, OHSU School of Medicine, **Division of Hematology and Medical Oncology**



inflationary losses, according to the Federation of American Societies for Experimental Biology.

"Every penny we bring in from philanthropy is leveraged extensively," Mills said. Support from donors is enabling Knight cancer researchers to generate the preliminary findings they need to successfully compete for federal grants. Philanthropy is also essential for recruiting world-class talent. For example, Wayne and Julie Drinkward donated \$2.5 million to establish an endowed chair in precision oncology, which helped make it possible to recruit Mills from MD Anderson Cancer Center. Support from

Cancer medicine is beginning a new chapter. Already, targeted therapy drugs and immune therapies are helping patients with cancers for which there were no effective treatments 10 years ago. The amount of work left to do is enormous, but the pace is accelerating. To imagine the progress, think in terms of compound interest, Mills said. Compound interest grows slowly at first, then starts to balloon.

There are powerful results coming out of the Knight Cancer Institute today. But wait until you see what's happening during the next five to 10 years, Mills said. "We are going to see wonderful things."

Meet three more cancer researchers — united by a common goal: creating a world free from the burden of cancer.

Read their incredible stories at OnwardOHSU.org/PrecisionTherapy

BY THE NUMBERS

What's in the Building?



The Knight Cancer Research Building was designed with one overriding goal:

to encourage team science and collaboration.

East Promenade

GREENSPACE

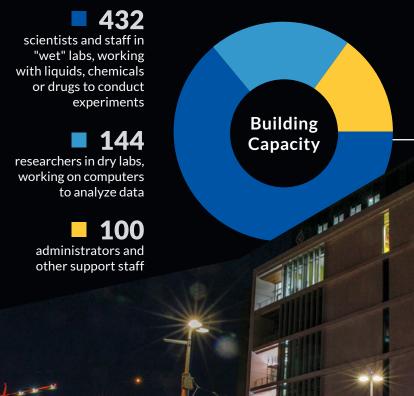
WILLAMETTE RIVER

320,000 sq. ft.

7FLOORS

676 SCIENTISTS & STAFF

ONWARD FALL 2018 /// 13







Doernbecher's team helped save Lola Johnson's life — and then she turned herself into a legend

The year 2017 was a big one for the Johnson family. Sabrina was beginning a brand-new career with the Beaverton police force. She and her husband, Michael, had just bought a new house in Tigard. Their two young children, Orlando and Lola, were thriving.

And then Lola got sick.

At first, the Johnsons thought it was a cold. Doctors told them it could be bronchitis. But antibiotics didn't help, and their happy, active 15-month-old became a listless little girl, pale and too tired to walk. Things came to a head one evening when Sabrina picked Lola up from her crib.

"She was so weak, she couldn't even hold her head up," said Sabrina. "Then I looked down and her lips started going purple."

The family rushed Lola to the Emergency Department at OHSU Doernbecher Children's Hospital. "When we walked in, they took one look at her, grabbed her out of my arms and rushed her back to start working on her," Sabrina said.

"At one point, there were at least 10 people in the room working to stabilize her breathing," said Michael. "It was overwhelming."

Kellee Parker, MD, a fellow in the OHSU Hematology and Medical Oncology fellowship program, remembers that night well. "I had just left the hospital to go home when I got a call from the Emergency Department saying they had a young patient in respiratory distress with significantly low blood counts. I wanted to see her, so I turned around and came back."

What Dr. Parker found was a child who was barely clinging to life. "Lola's blood counts were the lowest I've seen with any of our patients. In a child her age, hemoglobin should be around 12. Lola's were 1.3. She had a fever, she had the flu and she was very, very anemic. Looking at her, I had a pretty good idea that it was going to be leukemia." >>>>



The next morning, it fell to Matthew Dietz, MD, to break the news to the family. "I remember thinking, 'Oh man, this family has already been through so much and they haven't even had three hours of sleep. I don't want to go in there and tell them that their daughter might have cancer.' Even though there is so much we can do for their child, it's not news that you want to deliver."



Of course we needed information, but we also needed a doctor to just sit in the silence with us and let us get past the tears. Dr. Dietz was that doctor.



Sabrina Johnson, Lola's mother

/// Life is back to normal now for Michael and Sabrina Johnson, their son, Orlando (top left) and Lola.



It certainly wasn't what Sabrina and Michael wanted to hear, but they were grateful for the compassionate way that they were told. "Of course we needed information, but we also needed a doctor to just sit in the silence with us and let us get past the tears," said Sabrina. "Dr. Dietz was that doctor."

A series of tests confirmed that Lola had acute myeloid leukemia, a cancer of the blood and bone marrow. And with that, life for the Johnson family turned upside down. Lola required blood transfusions, respiratory support and chemotherapy; she also had to be quarantined in the hospital for a month to protect her from further infection.

As Sabrina explained, their time in isolation was, well, isolating. "We hadn't been home and we hadn't seen our son, because we couldn't expose Lola to any germs. That first week and a half, it was a lot of non-stop crying."

However, it wasn't long before lifelines started coming in from every direction.

Team Lola Mobilizes

Fortunately for the Johnsons, their roots in Portland run deep. Michael had worked in Portland for years, where he's currently a site safety manager for Raimore Construction; Sabrina went to Benson High School and coached volleyball there for seven years. Michael's father, Steve Johnson, is a retired professional basketball player who played for the Portland Trail Blazers in the 1980s. And between Sabrina and Michael. they could count four generations of extended family. Many of those family members stepped up in the early days to offer support. Lola's grandparents volunteered to watch Orlando, while Sabrina's aunt, Dawn Nelson, set up a GoFundMe account to help cover medical costs. More than \$23,000 in donations poured in, many from perfect strangers.

"So many of us have been touched personally by cancer; I think people just wanted to help any way they could," said Dawn.

As a new police recruit, Sabrina was terrified that she would lose her job and her health insurance. She needn't have worried; the Beaverton police force rallied around their rookie, providing meals, knitting blankets and dropping off toys at the hospital.

Jim McGuire, chaplain for the Beaverton Police Department, orchestrated the effort with help from officer Daniel "Doc" Coulson.

"First, we made it very clear that we weren't about to leave her behind with no job and no insurance. Then we notified the other officers about the situation. Many of them donated their vacation and sick days so that Sabrina would have enough time off to see her daughter through this," explained McGuire.

Lola's medical team was also rallying around their young patient. It required quite a few players — among the doctors, fellows, residents, nurses, medical students, dieticians and child life specialists, Drs. Dietz and Parker estimate that between 80 to 100 people were directly involved in Lola's care. While it may sound extraordinary, that level of care is not unusual in complex cases at Doernbecher.

Little Girl Turned Legend

Just days after starting treatment, Lola began to bounce back — and the pale, quiet child was replaced by a vivacious, mile-a-minute little girl. On any given day, you could find Lola racing up and down the hall or charming the nurses at their station. "She went from being the sickest child on the floor to being the most active



toddler, running around and giving these huge belly laughs," said Dr. Parker.

"She had so much life in her, you'd never guess she was sick," added Dr. Dietz. "I used to joke with her dad, 'Can you imagine what she's going to be like when her counts are normal?"

To say that Lola has responded well to treatment would be an understatement. Her blood counts are now like those of a child who never had leukemia, a remarkable fact given how ill she was. In fact, her medical team calls her a legend. "I can't remember who first gave her the title, but she definitely earned it," said Dr. Dietz.

A Backyard Miracle

While it's too soon to say whether Lola is in full remission, she's doing so well that she only has to go in every other month for checkups. That means she can get back to doing all the things she loves — like twirling, playing at the park and bossing her big brother around. Lola is also celebrating some pretty big milestones — like turning 2. "It wasn't a big party, but I got her the fluffiest, pinkest dress I could find," laughed Sabrina.

"I'm so proud of how Michael and Sabrina handled everything," added her grandfather, Steve. >>>>

"They really pulled together, and because of it, Lola will be able to experience the fullness of life."

Looking back at the experience, Sabrina and Michael said they realize how lucky they were to find such excellent care so close to home.

"In the hospital, we met a family staying on campus that had come all the way from Alaska. Others had packed up and just moved here from other states. Having Doernbecher essentially right in our backyard was incredible," said Sabrina.

Michael continued, "As a parent, you're supposed to keep your kids healthy and safe. When you can't, you feel unbelievably helpless. To find people who can help, and they're right here in Portland, well...I'm just forever grateful."

Everyone who was involved in Lola's journey agrees on one thing: it takes a team effort to see a child through cancer.

"No one person has the expertise to provide all the different kinds of care that Lola needed," said Dr. Dietz. "The doctors were treating her disease, but we also had nurses and volunteers to make sure she was building her developmental skills. The chemo took away Lola's appetite, so we had dieticians to help with that. Then there were child life specialists, who provide resources to help kids cope during their hospital stay. They stepped in to support Lola and her parents so they could continue to move forward as a family."

As the Johnsons learned, childhood cancer affects more than the child — it affects the whole family as well as their community. But for every challenge that arises, the team at Doernbecher is there to meet it, standing shoulder to shoulder with their young patients and the people who love them.

"The staff up there was cheering on Lola just as hard as we were," said Sabrina.

"Although we were so happy to finally leave the hospital, there were also some tears, because it truly felt like we were saying goodbye to extended family. But right now, I know they're giving that same love and energy to another child who needs it."

Jordan. Penelope. Bennett.

Three more kids who defied the odds — thanks to Doernbecher Children's Hospital, and supporters like you.

Read their amazing stories at OnwardOHSU.org/Kids



Our ONWARD campaign — driven forward by contributions from thousands of people like you — is helping to transform science and redefine what's possible in health care. The remarkable campaign, which began in 2013, has now raised \$1.7 billion toward its seven-year goal of \$2 billion.

Your passionate support is spurring advances every day at OHSU. Here are some recent highlights.

Stopping cancer in its tracks

An OHSU-led team of scientists led by Raymond Bergan, MD, has discovered a drug compound that freezes cancer cells before they can spread, which could revolutionize treatment for common types of breast, colon and prostate cancer. Most treatments and research today focus on killing cancer cells. The OHSU team's research, published in June in the research journal *Nature Communications*, is the first to show that it may be possible to stop cancer cells from spreading throughout the body, before they become lethal.

The multidisciplinary team of investigators includes Bergan's team at OHSU, a chemist from Northwestern University and teams of researchers from Xiamen University in China, the University of Chicago and the University of Washington.

A site to behold: Casey breaks ground on new facility

The Casey Eye Institute broke ground in early June on a new multi-use facility named after the lead funders — the Oregon State Elks. The Elks Children's Eye Clinic will be located next to the Casey Eye Institute headquarters on Marquam Hill. In addition to serving children, the 60,000-square-foot building will also house pioneering research programs for adults, including the Wold Family Macular Degeneration Center.

The center is named for the late philanthropist John S. Wold and his family.

New hope for children with cystic fibrosis

The OHSU-Doernbecher Cystic Fibrosis Center is helping to lead the way in transformative new treatments for children with cystic fibrosis.

The center, led by Doernbecher's Mike Powers, MD, Credit Unions for Kids Professor in Pediatrics, was among the sites that participated in clinical trials that led to the Food and Drug Administration approval over the past few years of two new protein "modulator" treatments for cystic fibrosis. The treatments help a defective protein that causes cystic fibrosis to work better, and significantly >>>>

/// The Gary & Christine Rood Family Pavilion, a five-story guest house in Portland's South Waterfront, will house patients and their families traveling for care at OHSU and Doernbecher Children's Hospital. It will open early next year.



improve lung function for about 60 percent of cystic fibrosis patients. The center is now participating in clinical trials for the next generation of similar treatments. Researchers believe those treatments might improve lung function for up to 93 percent of cystic fibrosis patients.

Cystic fibrosis is a genetic disease that causes persistent lung infections and eventually limits a person's ability to breathe normally.

OHSU team provides vital insight into repeat strokes and heart attacks

An OHSU cardiology research team led a study that shows why people who have a stroke or heart attack may be more likely to have another one — and suggests a new way to decrease that risk. The research team, led by Jonathan R. Lindner, MD, found that heart attacks in mice caused inflammatory cells and platelets to more easily stick to the inner lining of arteries, particularly where plaque had already built up within the arteries. That caused plaque to become unstable and contributed to blood clots that led to another heart attack or stroke.

/// Jude Rochon of Astoria, 6, received his new 3D prosthetic hand created by OHSU's Albert Chi, MD.

The study found treating the mice with a powerful antioxidant decreased plaque buildup and lowered inflammation to pre-attack levels.

OHSU testing promising new Parkinson's treatment

OHSU is one of several sites participating in a clinical trial testing a new immunotherapy drug that could slow or stop the progression of Parkinson's disease. Immunotherapy is a type of treatment that boosts the body's natural defenses to fight disease. Scientists believe the treatment may be able to help people early in the disease, within two years of diagnosis. Joseph Quinn, MD, is leading the clinical trial at OHSU.

The drug uses antibodies produced by the immune system to target a specific protein that clumps together in masses called Lewy bodies. Scientists believe Lewy bodies kill brain cells, leading to Parkinson's.

Working together to improve the health of rural Oregonians

In May, leaders from OHSU and the Sky Lakes Medical Center broke ground on what will become the Sky Lakes Collaborative Health Center

in Klamath Falls. The nearly 100,000-square-foot building will be home to Sky Lakes' primary care providers and medical clinics and serve as statewide headquarters for OHSU's Campus for Rural Health. OHSU's partnership with Sky Lakes promises to improve health care throughout Oregon by helping to prepare a new generation of health care professionals to practice in rural communities.

The center is expected to open for business in 2020.



/// Isabelle Baconguis, PhD, is a structural biologist, shown here with the FEI Titan Krios™ Cryo-Transmission Electron Microscope, which captures high-resolution images of macromolecules.

HIV vaccine vector also proves promising for tuberculosis

An OHSU team led by Louis Picker, MD, gained international attention when it published its groundbreaking results on a vaccine that appeared able to clear the virus that causes AIDS from the body. Now, the team has shown that it might be able to use the same approach to eradicate tuberculosis.

According to research published in the journal *Nature Medicine*, the new vaccine showed significant promise in completely protecting against, or reducing the severity of, TB in animal studies. This promising work receives significant support from the Bill & Melinda Gates Foundation.

The future is now: a thought-controlled bionic arm

Albert Chi, MD, an OHSU trauma surgeon, has helped to develop a remarkable surgical procedure that allows patients to control prosthetic arms with their thoughts. Chi's team also recently launched the first U.S. clinical trial of pediatric bionic arms produced on 3D printers.

School of Public Health launches campaign for new downtown headquarters

The OHSU-PSU School of Public Health has begun its \$10 million capital campaign for a headquarters in downtown Portland that will advance its collaborative work in educating the public health leaders of tomorrow. The new headquarters will be the hub of activity for public health education, research and advocacy for learners, educators and the community.



OHSU to become a national center for advanced imaging technology

OHSU will become one of three national centers for a new imaging technology that could transform research in cancer, neuroscience and a host of other areas by allowing never-before-seen views of how cells function. The National Institutes of Health awarded a total of \$128 million to three groups to expand research using the new imaging technology, called cryogenic electron microscopy (or cryo-EM). OHSU partnered with the Pacific Northwest National Laboratory in Richland, Wash., to win one of the multi-million-dollar grants. OHSU's bid was significantly helped by the philanthropic support and industry partnerships that helped establish the university as a national leader in cryo-EM and other advanced microscopy.

You can find more information about giving and inspiring stories about patients, care providers and scientists by visiting:

OnwardOHSU.org/ProgressReport2018

DONOR SPOTLIGHT /// Barbara & Phil Silver



hey did not grow up hearing about OHSU. No OHSU doctor ever saved either of their lives. Ten years ago, Barbara and Phil Silver — newly arrived in Portland from Connecticut — had never even heard of OHSU.

And yet today, the Silvers are among OHSU's most important supporters. They have helped advance more than a dozen key initiatives, including the Center for Women's Health, the Center for Health Systems Effectiveness, the Knight Cancer Challenge, the OHSU-PSU School of Public Health and the Gary & Christine Rood Family Pavilion.

So what was it that inspired them to become two of the university's most committed, hands-on supporters?

According to the Silvers, it all comes down to people. "We've been so impressed with the people we've met," said Phil. "That's what gives us confidence in OHSU."

Semi-retired and wanting to be close to their sons and their growing families, the Silvers moved to Portland in 2008. As Barbara began looking for new volunteer opportunities, one of the first people she met was Ellen Richardson (wife of Mark Richardson, MD, the OHSU School of Medicine

/// Phil and Barbara Silver and Sara Merten (right), executive director of the Silver Family Foundation.

dean who passed away in 2017). Through Ellen, she became involved with the ARCS Foundation, an organization that sponsors outstanding PhD candidates attending OHSU and other universities. Barbara's experience with ARCS introduced her to the fascinating research taking place at OHSU, and led her to join the Circle of Giving, which supports women's health research at OHSU.

Barbara found the Circle of Giving very rewarding. "You get to see clear impact. We give small grants to scientists at the beginning of their career, and they parlay that into more funding from other sources," she said.

Michelle Berlin, MD, MPH, director of the OHSU Center for Women's Health, recognizes Barbara as one of her most stalwart supporters. "Barbara's investments in promising research and generosity with her time are essential to our success," said Berlin, who also is the Julie Neupert Stott Professor in Women's Health.

Barbara's experience with the Circle of Giving led her to explore other areas of OHSU, and soon she was volunteering at the neonatal intensive care unit at OHSU Hospital and attending faculty lectures. Recognizing a committed volunteer who had the potential to do more, the OHSU Foundation asked Barbara to join its board of trustees.

Barbara began an eight-year term on the OHSU Foundation Board of Trustees in January 2013, and has chaired, co-chaired and served on several board committees.

Phil, semi-retired from his role as founder and co-CEO of packaging giant Silgan Holdings Inc., was also looking for ways to engage with his new community. He had enjoyed the intellectual stimulation of running a large enterprise, and now he was ready to focus on innovation in health care.



Phil and Barbara have this wonderful optimism about youth and the power of education and community.



SARA MERTEN, EXECUTIVE DIRECTOR, SILVER FAMILY FOUNDATION

Again, it was the personal connection that created the philanthropic partnership.

"My interest in OHSU came out of our relationship with Mark and Ellen Richardson. I spent a lot of time talking to Mark about his work as the dean of the School of Medicine. He had an idea about asking people to invest in innovation – not just giving – and that resonated with me," said Phil.

Knowing Phil's interest in economics, Mark Richardson arranged for him to meet John McConnell, PhD, the director of OHSU's Center for Health Systems Effectiveness. McConnell, an economist, was launching a bold research project that would assess whether Oregon's health care reform initiative was succeeding.

"I was very impressed with John, and fascinated by his research," said Phil. "We decided to sponsor his work and began meeting with John every couple of months to check on progress. It's gratifying to see that his work has now gained national recognition."

The admiration is mutual. "Phil's personal engagement has been inspiring. He understands what's at stake and has consistently challenged us to go further, to make sure our analysis is making an impact," said McConnell.

The Silvers make most of their philanthropic investments through the Silver Family Foundation, which they launched soon after settling in Portland. Sara Merten serves as the executive director and helps to maintain a long-term vision and structure to the foundation's

giving, which includes funding for effective youth development programs throughout the Pacific Northwest. "Phil and Barbara have this wonderful optimism about youth and the power of education and community," said Merten.

When asked what motivates his philanthropy, Phil said, "We want our children to be positive elements in the community. Both of our sons are trustees of the foundation, and now they are involving their children, too. It's a family project."

Barbara added, "We love meeting interesting people, learning new things and joining a community."

Their philanthropy ranges over many areas, but the ultimate goal is clear. The Silvers have chosen to invest in people and initiatives with a high potential to do good.

Just this past summer, the OHSU Foundation and the Silver Family Foundation collaborated to create the Silver Family Innovation Fund, designed to catalyze innovation and impact throughout OHSU and Doernbecher Children's Hospital. The fund will provide targeted grants to stimulate bold thinking and novel approaches to challenges in health policy, research, children and family services and other impact areas.

"The new fund will foster a robust culture of innovation in all areas of the university, from education to research to clinical care to statewide outreach," said OHSU President Danny Jacobs, MD, MPH, FACS. "OHSU is fortunate to have farsighted supporters like the Silvers."



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