

# Circle of HOPE

Spring 2009

## Knights Give \$100 Million to Cancer Institute

“Today will be remembered as the day the game changed in the fight against cancer in Oregon.”

That’s how OHSU President **Joe Robertson, M.D., M.B.A.**, hailed the Oct. 29 announcement of a \$100 million pledge from **Philip H. and Penny Knight** to support the OHSU Cancer Institute.

The game wasn’t the only thing that changed that day. In recognition of the Knights’ exceptional generosity, OHSU renamed its cancer center the OHSU Knight Cancer Institute. The gift is the largest ever made to OHSU and was one of the largest philanthropic donations made in the United States during 2008.

More than 200 cancer institute staff members, OHSU employees and members of the news media gathered at the OHSU Center for Health & Healing atrium for the surprise announcement and celebration. The news was announced by institute Director **Brian Druker, M.D.**, to gasps, whoops and prolonged applause honoring the Knights.



The first \$2 million of the gift has named the Linda Conant Laboratory Suite – a state-of-the-art research facility in the Center for Cancer Cell Signaling memorializing the donors’ late friend, Linda Conant, a breast cancer patient. The balance of the pledge – payable over seven years – will be used at the discretion of institute Director Brian Druker, M.D., to pursue his vision to make our region’s death rate from cancer the lowest in the nation and to shape the way cancer is treated throughout the country.

*(continued on page 3)*

*Phil and Penny Knight at the OHSU press celebration, where Dr. Brian Druker announced their gift.*

## Renowned Cancer Experts Join Knight Leadership Team



*Alan Sandler, M.D.*

The transformational impact of Phil and Penny Knight’s \$100 million gift can already be felt in the recent recruitment of several new leaders to the Knight Cancer Institute. “Part of the funding for these positions comes from the Knights’ gift as well as support from the Hedinger Family Foundation,” said **Brian Druker, M.D.**, institute director. “These funds allow us not only to recruit but also to retain our best and brightest.”

**Alan B. Sandler, M.D.**, an internationally renowned lung cancer specialist, joined the institute this spring as the chief of the Division of Hematology and Medical Oncology and DeArmond Chair for Clinical Cancer Research.

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**Knight Cancer Institute**  
at Oregon Health & Science University

## For More Information

The OHSU Knight Cancer Institute, a designated center of the National Cancer Institute, is dedicated to bringing new hope to cancer patients through compassionate care, groundbreaking research, and partnerships to catalyze better prevention, screening and treatment efforts.

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## Director's Message

### Reaching Out to Patients

The Knight Cancer Institute is working to ensure that everyone in our region, no matter where they live, has access to advanced healthcare and the benefits of progress in cancer research. During the past few months the institute has embarked upon several new collaborations to provide cancer patients with more options in their own communities.

Last fall, OHSU joined forces with Pacific Oncology. Now part of the OHSU community, Pacific Oncology physicians serve on the faculty of the OHSU School of Medicine and all staff members are university employees. Patients will continue to have access to excellent care at Pacific Oncology's locations in Beaverton, Gresham and other communities around Portland. But now they will also have better access to OHSU's world-renowned research, leading-edge technologies and hundreds of world-class, National Cancer Institute-funded clinical trials. These studies give Pacific Oncology patients the opportunity to take part in cancer prevention and treatment regimens that in many cases are available nowhere else in Oregon.

A few weeks ago the OHSU Knight Cancer Institute also celebrated another successful effort to keep Oregonians closer to home while they receive the most advanced cancer care. Through a recent collaboration with Salem Cancer Institute, healthcare providers can share expertise and resources across the state while avoiding duplicative services. The result is better patient care, along with a cost savings for patients and for Oregon overall.

Generous philanthropic partners also are helping us reach out to Oregon communities by funding new research and outreach initiatives. Safeway Foundation, for example, has invested in an exciting project aimed at improving early detection and lowering Oregon's death rate from breast cancer. Safeway's recent grant of \$200,000 will enable the institute to study barriers to breast cancer screening and identify effective ways to encourage women to obtain mammograms. Because a direct correlation exists between low screening rates and higher death rates, the project will begin in Oregon communities known to have lower cancer screening rates. What we learn from these studies will eventually be applied to improving screening rates for other cancers too.

Our primary motivation for all of these partnerships is to improve our community's health and to increase access to specialized care. We simply cannot do this work alone. Support from those in our community is what makes this kind of outreach possible. Challenging economic times often make us realize in a new way the value of being part of a vibrant caring community. Thank you for standing with us in our fight against cancer.

Sincerely,



Brian Druker, M.D.

Director, OHSU Knight Cancer Institute  
JELD-WEN Chair for Leukemia Research

*Knights Give \$100 Million (continued from page 1)*

“Brian Druker is nothing short of a genius and a visionary,” said Knight. “Unfortunately, cancer touches all of our lives. Penny and I believe because of the work of Dr. Druker and his talented staff that the Linda Conants of the future will have more quality years to spend with their loved ones.”

Druker said the impact of the gift will be far-reaching. “I am so proud to have Phil and Penny Knight’s tremendous support in our fight to end cancer as we know it. The Knights understand the urgency of our mission. This gift will save lives.”

Druker said his top priority is to recruit and retain outstanding cancer researchers and clinicians to the OHSU Knight Cancer Institute. OHSU can create powerful synergies, he said, by bringing the best and brightest minds together in one place, equipping them with the best resources, and supporting their efforts to target the underlying causes of cancer.

*Director Brian Druker, M.D., unveils institute’s new name at press event.*

The resulting breakthroughs will benefit cancer patients everywhere, Druker said, and Oregonians will benefit from having access to many of them first. “By bringing faculty of the highest caliber to Oregon, OHSU will be better able to provide the latest and most advanced therapies to more cancer patients, while ramping up our statewide cancer screening and prevention efforts through partnerships with community hospitals and healthcare providers.” The game has changed indeed.



*Christopher Amling, M.D., F.A.C.S.*

## OHSU Appoints Renowned Urologic Oncology Expert

In March, **Christopher Amling, M.D., F.A.C.S.**, a highly acclaimed urologic cancer expert, became head of the Division of Urology in the OHSU School of Medicine’s Department of Surgery. Amling is the first prominent recruit to the OHSU Knight Cancer Institute

since it recently received a \$100 million gift from Penny and Phil Knight to advance the fight against cancer in our region. The gift will help the institute recruit and retain outstanding cancer health-care professionals.

Amling is an expert in advanced minimally invasive management of urologic malignancies, including robotic surgery for cancers of the prostate, bladder and kidney. His research has focused on the assessment of outcomes after treatment for prostate cancer and factors such as race and obesity, which may predict more aggressive disease. He is also credited with developing innovative evaluation tools to enhance the education of surgical residents and has authored numerous scholarly articles that have led to improved methods for diagnosing and treating prostate cancer.

Amling will assume the position long held by nationally renowned urologic surgeon **John Barry, M.D.**, who led the OHSU Division of Urology and Renal Transplantation

for 29 years. Barry now will focus on patient care and his duties as president of the American Urological Association.

“I am excited about the future of OHSU urology and look forward to the opportunity to further build the reputation of the urology program that Dr. Barry dedicated himself to for so many years,” said **John Hunter, M.D.**, Mackenzie Professor and Chairman of Surgery, OHSU School of Medicine. “Dr. Amling changes the focus of the program from kidney transplantation to urologic cancer. He is a recognized national and international authority on cutting-edge treatments for prostate cancer, including robotic prostatectomy.”

Amling, an Oregon native, was born in Coquille and graduated from the University of Oregon and OHSU School of Medicine. He completed his urology training at Duke University Medical Center and a fellowship in urologic oncology at the Mayo Clinic. He comes to OHSU from University of Alabama at Birmingham where he served as professor and director of the Division of Urology. Prior to this position, he served as chairman of the Department of Urology at the Naval Medical Center in San Diego.

Among Amling’s many professional honors, he received the prestigious 2009 American Urological Association Gold Cystoscope award – a national award given annually to one urologist in recognition of significant contributions to the specialty of urology within 13 years of completion of residency training.

## NW Prostate Cancer Conference Shares Latest Advances

On Saturday, Sept. 26, 2009, the OHSU Knight Cancer Institute Prostate Cancer Program and the University of Washington will host the 9th Annual Pacific Northwest Prostate Cancer Conference. Leading experts will share the latest advances in prostate cancer research and care in this day-long event for patients, family members, care givers and those who have an interest in prostate cancer. This year's conference will take place in the OHSU Center for Health & Healing on the OHSU South Waterfront campus. Conference registration fees and other details will be announced later this summer. For additional information, please contact 503 494-4393 or [prostate@ohsu.edu](mailto:prostate@ohsu.edu).

## Foundation Grant Boosts Prostate Therapy Progress

The OHSU Knight Cancer Institute has partnered with a new team in the fight against prostate cancer. In an effort to accelerate the rate at which new therapies reach patients, the Prostate Cancer Foundation (PCF) supports a Therapy Consortium of the nation's leading cancer centers focused on building a robust shared infrastructure for conducting prostate cancer clinical trials. As one of the nation's leaders in prostate cancer research and care, the OHSU Knight Cancer Institute Prostate Cancer program was recently invited to be part of this prestigious group.

The clinical investigators participating in the Therapy Consortium are among the most respected prostate cancer researchers in the U.S. By offering deep expertise in prostate cancer research as well as a mechanism for rapid advancement of promising investigational agents through clinical trials, the consortium is a powerful motivator for the pharmaceutical industry to focus their innovative efforts on the development of drugs that will markedly improve the treatment of prostate cancer.

Other institutions in the consortium include Cedars-Sinai Medical Center, Dana-Farber Cancer Institute, Johns Hopkins University, Memorial Sloan-Kettering Cancer Center, University of California at San Francisco, the University of Michigan Medical Center, the University of Wisconsin Comprehensive Cancer Center, and the University of Washington.

In awarding this critical grant, the PCF challenges our community to support our prostate cancer program. The PCF support of the OHSU Knight Cancer Institute is an annually renewable \$200,000 challenge grant. The Knight is committed to raising \$200,000 in matching funds each year to maintain PCF support. Your gifts designated to the institute's Prostate Cancer Program will help achieve this goal. To make a gift please call 503 494-3607 or visit our web site at [cancer.ohsufoundation.org](http://cancer.ohsufoundation.org) and select "prostate cancer research."

### Golf for a Good Cause - The Prostate Cancer Challenge!

Golfers wanted! The 2009 Prostate Cancer Challenge will be held Monday, Oct. 5, at the Columbia Edgewater Country Club, 2220 NE Marine Drive, in Portland. To date, this annual golf outing has raised more than \$210,000 for prostate cancer research at the OHSU Knight Cancer Institute. Be a part of this progress! Form a team, sponsor a hole, or make a direct donation to advance prostate cancer research and care. Check-in begins at 11 a.m. and shotgun start is at 1 p.m. For more information, please call 503 515-6474 or visit [www.pcchallengegolf.com](http://www.pcchallengegolf.com).

*Lisa Domenico and store manager Troy Steele (center) with Dan Floyd (far right), surrounded by Safeway employees at Safeway Pearl District.*

## Safeway's Support Accelerates Breast Cancer Research and Outreach

Regular breast cancer screening is known to save lives. Yet in Oregon – with the nation's third-highest incidence of the disease – too many women are missing out on the life-saving advantages of early cancer detection. The Safeway Foundation and **Lisa Domenico, M.B.A.**, aim to change all that.

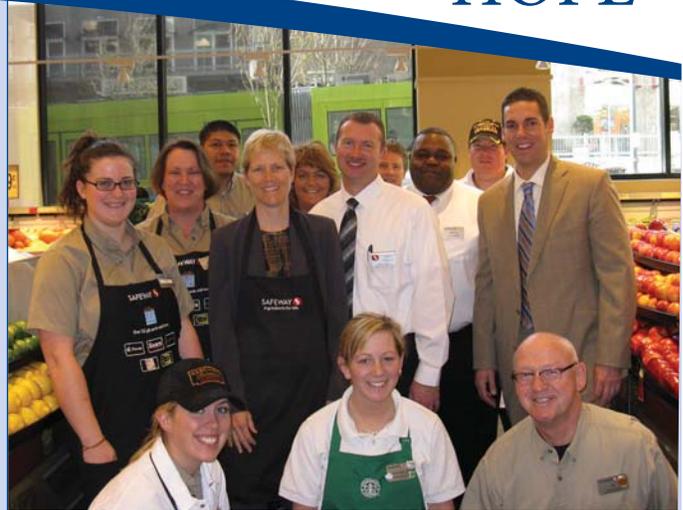
As the OHSU Knight Cancer Institute's new associate director of regional cancer control strategies, Domenico's mission is to reduce the mortality rate from cancer in our region, beginning with breast cancer. She will lead the Knight's efforts to build community alliances that help shatter the barriers to quality breast health.

As former president of the board of the Susan G. Komen for the Cure Oregon and Southwest Washington affiliate and an eight-year breast cancer survivor herself, Domenico knows those barriers better than most.

All told, 27 percent of Oregon women over age 40 do not receive a regular mammogram; rates are even lower among rural residents and people of color. The range of reasons includes the lack of a nearby healthcare provider, income or insurance issues, language barriers – even fear of the procedure itself or the bad news it may yield. Domenico said any lasting solution will require greater public awareness of screening recommendations and risk-reduction approaches, along with strategies to overcome the specific obstacles women are facing in their communities.

Domenico said her passion for the project stems from her own cancer experience. "I had everything going for me in terms of insurance, access to care, and so forth – but it was still a very difficult time," she said. "The opportunity to make it easier for women who lack one or more of those advantages is what draws me to this work."

Buoyed by a generous \$200,000 grant from the Safeway Foundation, Domenico's program will focus initially on the northern Oregon coast, where screening rates are below the state average and some 12,000 women have not had a mammogram in the past two years.



The grant will support start-up activities such as creating a strategic plan, assembling a coalition of local stakeholders in a selected coastal community, and outlining a pilot breast health project. As the plan is put into action, its results will guide plans for similar interventions throughout the region and, ultimately, for other forms of cancer.

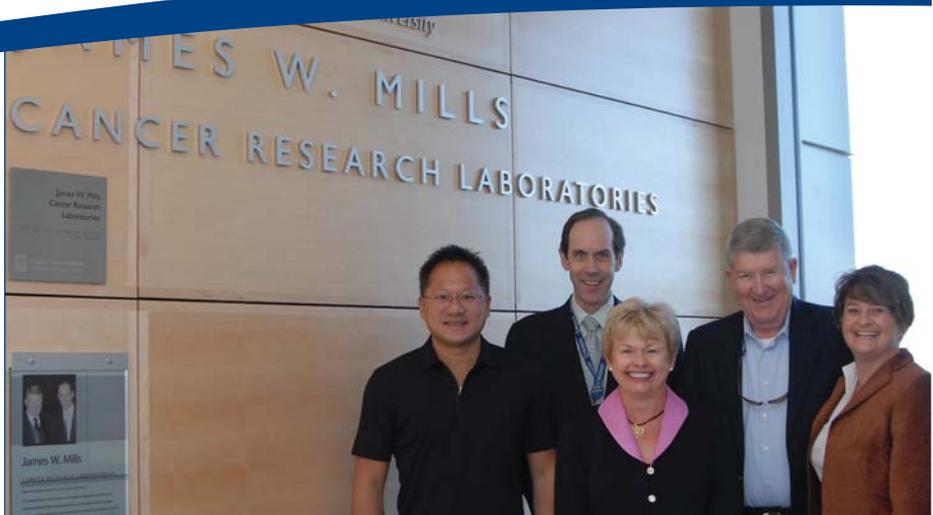
"We're grateful to the Safeway Foundation for providing such strong leadership," Domenico said.

"Breast cancer research and awareness fundraising is an important October tradition at Safeway," said **Dan Floyd**, director of public affairs and government relations at Safeway. "The disease is a major health threat to women, and we are committed to funding programs at top cancer centers focused on leading-edge research. OHSU is a perfect fit for Safeway."

Last year, support from the Safeway Foundation helped to fund research focused on using a special type of MRI technology to differentiate between malignant and benign breast tumors. Preliminary data shows that this technology can better distinguish benign from malignant breast masses than traditional methods of interpreting MRIs and could reduce the number of women who undergo unnecessary biopsies.

"The Safeway Foundation's investment will advance our efforts to reduce cancer death rates in Oregon," said Knight Cancer Institute Director **Brian Druker, M.D.** "Because Oregon's breast cancer rate is consistently among the nation's highest – and because the benefits of recommended screening are so well established – breast cancer is an ideal place to begin."

*Jen-Hsun (far left) and Lori Huang (right) with James and Lynda Mills (center) and Brian Druker, M.D., at the entryway of the new cancer research laboratory floor. The Huangs established these laboratories in honor of Lori's father, James W. Mills. He was born in Oregon City, attended school in Oregon, graduated from Oregon State University and was certified as a registered professional engineer in Oregon. Mills has been a long-time supporter of research focused on the discovery of new cancer-fighting drugs such as Gleevec, which was developed at OHSU under the leadership of Dr. Brian Druker.*



## Center for Cancer Cell Signaling Opening

In November 2008, OHSU proudly opened the doors of its new Center for Cancer Cell Signaling. Located on the fifth floor of the new world-class Biomedical Research Building, the center's **James W. Mills Cancer Research Laboratories** and the **Linda Conant Laboratory Suite** will speed the search for the next generation of targeted cancer therapies bringing researchers years closer to discoveries of important new treatments.

We wish to thank the nearly 500 friends whose generous contributions enabled us to reach our \$10 million goal to build out this state-of-the-art laboratory floor. We are grateful for your partnership in our mission to defeat cancer.

We are especially grateful to **Lori and Jen-Hsun Huang** for their incredible commitment of \$5 million in honor of Lori's father to establish and name the James W. Mills Cancer Research Laboratories and to **Phil and Penny Knight** for their \$2 million gift in memory of a close family friend, which has named the Linda Conant Laboratory Suite.

We also extend a heartfelt thanks to many of our other lead supporters, including Edward and Susan Blumenfeld, John and Gerri Ceserani, Wayne and Sandra Ericksen, Ruth, Jane and Jim Fisher - Jim Fisher Volvo, Al and Jan Gleason, the Greenbrier Companies, the Mike and Lorri Kehoe Family, Wayne and Joan Kingsley, Bob and Linda Kraus, The Kuni Family and Kuni Automotive, Julie and Eric Leuvrey, the McDowell-Catt Foundation, Jim and Lynda Mills Foundation, Janet and Eric Parsons, Precision Castparts Corp., Dick and Deanne Rubinstein, Rob and Suzanne Shick, and the Wessinger Foundation. Thank you to Wayne and Julie Drinkward, Cecil and Sally Drinkward and the many employees at **Hoffman Corporation**, where Mr. Mills once worked, who stepped forward near the end of our campaign to raise \$275,000 to achieve our goal.

Our deepest gratitude also goes to Dick Rubinstein and Rob Shick, our campaign co-chairs, for their tireless dedication to making this cancer research floor a reality. To take a tour of the Knight Cancer Institute, including our new laboratory floor, please call the OHSU Knight Cancer Institute Office of Development at 503 494-3607.



*Linda Conant (1948-2008) enriched the lives of her family, friends and countless others in her world. Fittingly*

*the laboratories that bear her name are dedicated to enhancing and extending the lives of cancer patients everywhere.*

*"Linda Conant was an amazing mother, wife, grandmother and friend. She was selfless and always put her family and friends first. Linda dedicated much of her free time to working with high school youth groups, coaching and volunteering. Our world is a better place because of Linda. We love and miss her daily," reads the plaque in the research floor's entryway.*

## Art Inspires Patients and Staff Alike

Enhancing the patient experience is a key goal of the Marquam Hill Art Committee (MHAC). Comprising volunteers and two university representatives, the committee oversees the placement of art throughout OHSU's facilities.

"The art provides a more humane atmosphere for faculty, patients, staff, students and visitors," said **Barbara Kimberley**, MHAC chairwoman. "In placing art at OHSU, we hope to create a healing, comforting and at the same time intellectually stimulating environment."

Since its founding 25 years ago the committee has placed more than 800 works of art in patient care and research areas across campus. The majority of artwork on campus is by artists with ties to the Northwest. Some of the featured artists are represented by galleries or belong to the Regional Arts Council. The committee also occasionally curates shows such as "The Art of Recycling," an exhibit held in the OHSU BICC Gallery last spring. The exhibit featured work created by artist Raymond Alexander using Abaca fiber from recycled manila file folders.

Recently, several original works were placed in cancer care areas in the Peter O. Kohler Pavilion. These pieces have captured the attention of both visitors and faculty, who have commented on how much they enhance both patient care space and family waiting areas.

"The artwork really adds a long-undervalued dimension to the overall experience of the patients, their caregivers and even our staff in the Knight Cancer Institute's Department of Radiation Medicine," said **Charles R. Thomas, Jr., M.D.**, department chair.

Kimberley says because of OHSU's long-term commitment to the healing value of art in patient care areas, construction projects frequently budget a small amount of money for the acquisition of new pieces. The MHAC also accepts donated pieces of art; however, acceptance is based on jury review by the committee. To learn more about the art at OHSU, contact **Maryann Lockwood** at [lockwood@ohsu.edu](mailto:lockwood@ohsu.edu).

*Maryann Lockwood, Deanne Rubinstein and Barbara Kimberley with artist Ron Kaplan.*



*Norman and Donna Harbert and their daughter Ann Skoog pose with Michael Deininger, M.D., Brandon Hayes-Lattin, M.D., and Brian Druker, M.D., in the new AYA Clubhouse on the 14th floor.*



## New Cancer Patient Floors Open

In February, the OHSU Knight Cancer Institute celebrated the opening of two new inpatient floors for cancer patients in the Peter O. Kohler Pavilion. The 13th floor will house the inpatient care spaces for medical and surgical patients with a variety of cancer diagnoses. The 14th floor care spaces are equipped for patients who undergo bone marrow transplants or require treatment for hematologic disorders. All rooms on both floors are single-occupancy, providing greater privacy and comfort. Another special feature is an adolescent and young adult (AYA) patient gathering space on the 14th floor. Named in honor of the Harbert Foundation for its generous support of the AYA Oncology Program, this room provides a place for AYA cancer patients to socialize with peers of their own age.

*From L to R: Lori Ellingson, R.N., Brian Druker, M.D., Bonnie Cox, R.N., Peter Rapp, and Kevin Billingsley, M.D., cut the ribbon to the 13th floor in the Peter O. Kohler Pavilion.*



*Leadership Team (continued from page 1)*

“I am very excited to be joining a division with such a talented group of physicians and researchers,” said Sandler. “My goal is to continue the work of Drs. Druker and Beer and to build an oncology program that is not only considered one of the best in the region but nationally as well.”

“To have one of the top lung cancer experts in the country is an essential part of our mission to ensure that no patient has to leave our region for expert care,” said Druker.

Lung cancer is the leading cause of death from cancer in Oregon and the United States. In fact, more people die of lung cancer than of the next three most common cancers (breast, prostate and colon) combined. Physicians are also seeing lung cancer more often in people who have never smoked. Sandler said more than half of all Americans currently diagnosed with lung cancer are either former smokers or have never smoked.

Sandler previously was the medical director of thoracic oncology and co-director of the Center for Management Research in Healthcare at Vanderbilt University in Nashville, Tenn. He received his medical degree at Rush Medical College in Chicago and completed his residency and medical oncology fellowship at Yale University School of Medicine.

**Tomasz Beer, M.D.**, internationally recognized director of the OHSU Prostate Cancer Research Program, has been appointed deputy director of the institute. In this role, he will oversee and coordinate the development of the clinical care and clinical research programs, as well as manage the development and implementation of the institute’s strategic and operational plans.

“Tom Beer’s promotion was not only essential to move our cancer programs forward,” said Druker, “but also is further recognition of Dr. Beer’s accomplishments and the excellence that is already present at our institution.” As one of the premier prostate cancer researchers and clinicians in the country, Beer will continue to serve as the Grover C. Bagby Chair for Prostate Cancer Research.

Also joining the Knight Cancer Institute is **David M. Dilts, Ph.D., M.B.A.**, director of clinical research. A systems engineer, Dilts has been leading national efforts to streamline the clinical trial process. At OHSU he will focus on transforming the operations of the institute, with the goal to make it known as the world leader in designing, fostering and managing cancer clinical trials.

Dilts was the founding director of the Engineering Management Program and co-director of the Center for Management Research in Health Care at the Owen Graduate School of Management at Vanderbilt University in Nashville, Tenn. He completed both his doctorate and his M.B.A. at the University of Oregon Graduate School of Management.

**Neil Swanson, M.D.**, chairman of the OHSU Department of Dermatology, recently accepted appointment as the associate director for clinical operations for the Knight, in addition to maintaining his role in the Dermatology Department. Swanson is an international lecturer, textbook author and clinical expert regarding the detection and treatment of skin cancer.

These appointments add to the institute’s outstanding senior leadership team that also includes institute Director **Brian Druker, M.D.**; **Charles Thomas, M.D.**, chair of the Department of Radiation Oncology; **Kevin Billingsley, M.D.**, chief of the Division of Surgical Oncology and Hedinger associate professor; **Grover Bagby, M.D.**, founding director of the OHSU Knight Cancer Institute; **Patricia Carney, Ph.D.**, associate director for population studies; **Lisa Domenico, M.B.A.**, associate director of regional cancer control strategies; **Richard Maurer, Ph.D.**, associate director for basic research; **H. Stacy Nicholson, M.D., M.P.H., F.A.A.P.**, professor and chair, Department of Pediatrics, Credit Unions for Kids Chair and Physician-in-Chief, OHSU Doernbecher Children’s Hospital; and **Chris Ryan, M.D.**, interim associate director for clinical research.

*The GIST Cancer Research Fund (GCRF) has given nearly \$500,000 to OHSU for GIST cancer research since 2003. This spring the GCRF and friends visited with cancer researchers and staff at OHSU.*

## Research Updates

### Study May Lead to More Targeted GIST Treatments

An OHSU Knight Cancer Institute study focused on gastrointestinal stromal tumors (GIST) found that the genetic variations in the disease appear to determine which medications will be most effective. In GIST, the drug Gleevec targets mutations of the KIT or PDGFRA enzymes. KIT mutations are found in 80 to 85 percent of tumors, while PDGFRA mutations exist in about 5 percent of tumors. So-called wild-type tumors – accounting for 10 to 15 percent of GIST tumors – carry no mutations of KIT or PDGFRA.

**Michael Heinrich, M.D.**, professor and section chief of hematology/medical oncology, and **Christopher Corless, M.D., Ph.D.**, vice chairman for research and professor of pathology, analyzed tumor specimens from almost 400 GIST patients who were treated with Gleevec. The presence and type of mutation predicted their response to Gleevec: patients with a certain type of KIT mutation (KIT exon 11, present in 70 percent of GIST patients) had the best response to Gleevec, followed by wild-type GISTs, and then GISTs with KIT exon 9 mutations. Data also indicate that patients with exon 9-mutant GIST did better if they received double the usual daily dose of Gleevec.

“What these findings mean is that we can begin to develop an individualized approach to the treatment of GIST. We can tailor therapy based on the genetic makeup of the tumor,” said Heinrich. The findings were published in two papers in the *Journal of Clinical Oncology*.

### Why Gleevec-Type Drugs Control, But Do Not Eradicate, Leukemia

OHSU Knight Cancer Institute researchers are closer to understanding why certain chronic myeloid leukemia mutations are not stopped by Gleevec or similar targeted cancer therapies. Gleevec works by shutting down a critical protein, BCR-ABL, which causes leukemia cells to grow uncontrollably. However, Gleevec also affects other



proteins, specifically the KIT protein, which exists on the surface of certain cells and binds to a growth factor that causes them to divide.

**Amie Corbin**, senior research scientist, said the study found that Gleevec's success in suppressing leukemia cell growth may be due to its ability to simultaneously inhibit both proteins. “This suggests that the reason Gleevec is so clinically successful may be due to its capacity to inhibit both the cancer-causing BCR-ABL and the complementary protein KIT,” Corbin said.

“Most of the time we consider ‘off-target effects’ such as those seen with imatinib [Gleevec] against KIT as detrimental because they may cause side effects,” said **Michael Deininger, M.D., Ph.D.**, associate professor and head of the Hematologic Malignancies program. “Our study indicates that things are a little more complicated: some off-target effects may actually be critical for the efficacy of the drug.”

### Drug Blocks Bone Marrow Cancer Mutation

Knight researchers have found that an experimental oral drug successfully blocks an enzyme that causes some bone marrow cancers. The oral drug CYT387 was tested in mice as well as in human cells, and in both cases it blocked the growth of certain bone marrow cancers called myeloproliferative disorders (MPDs).

“The drug was found to be very effective against a specific type of cancer cells that are driven by an enzyme mutation called JAK2-V617F,” said **Thomas Bumm, M.D., Ph.D.** “In the mouse model, the drug blocked JAK2-V617F, normalized blood counts and reduced enlarged spleens back to a normal size.” Without this drug, the mutated JAK2 enzyme leads to MPDs.

Principal investigator **Michael Deininger, M.D., Ph.D.**, said there is a good chance that CYT387 may enter clinical trials later this year.

Research Updates (continued from page 9)

## MRI Method More Accurate in Detecting Breast Tumors

Knight researchers are developing a new breast cancer screening method that will likely reduce or eliminate unnecessary biopsies. The research effort, led by **Charles Springer, Ph.D.**, professor of physiology/ pharmacology and biomedical engineering, uses a magnetic resonance imaging (MRI) technique and the researchers' newly developed software – called the “shutter-speed” model – to analyze image data of from breast cancer patients. In the recent study, the new method distinguished malignant from benign tumors 100 percent of the time. The findings were published in two papers in a November 2008 issue of the *Proceedings of the National Academy of Sciences*.

“While standard mammography is effective, it also results in a very significant number of false-positive results,” said Springer, director of the OHSU Advanced Imaging Research Center. “This means that following a positive mammographic indication, a large fraction of women are referred to undergo the physical and mental stress of a biopsy procedure only to learn – typically three-quarters of the time – that they in fact do not have breast cancer.”

These results show the team's progress in developing a new minimally invasive, yet precisely accurate, approach to breast tumor detection, which they hope will be in practice within three years.

## Novel Nutrition Study to Begin

**Jackilen Shannon, Ph.D.**, assistant professor, Department of Public Health and Preventive Medicine, was recently awarded a three-year grant from the National Cancer Institute. The proposed translational research study will examine the effect of sulforaphane (from broccoli sprout extract) supplements in women newly diagnosed with certain types of breast cancer. This project proposes that sulforaphane, a natural compound found in cruciferous vegetables, may act as an HDAC inhibitor without the side effects of pharmacologic agents. Inhibitors of HDAC have been shown to kill existing cancer cells and decrease the growth of new cancer cells in breast cancer samples both in the lab and in live subjects.

## New Breast Cancer Study Receives NCI Grant

A team of primary investigators including **Patty Carney, Ph.D.**, associate director of Cancer Prevention and Control, recently received a \$3.5 million multi-site study grant from the National Cancer Institute. The proposed translational research study will bring together pathologists, health services researchers and the evidence-based practice center to examine outcomes associated with different kinds of abnormal breast tissue that are difficult to interpret. They hope their research will lead to improved diagnosis of breast cancer.



## Rubinstein Radiation Research Scholar

**Kristina Hoot, Ph.D.**, a student in the OHSU Medical Scientist Training Program, has been named the Rubinstein Radiation Research Scholar for 2009-2010.

The scholar program provides support for the research career development of the next generation of academic radiation oncology investigators. This year's award was made possible by the generous philanthropic support of Dick and Deanne Rubinstein.

“The Rubinstein Scholar program is a great opportunity for an outstanding OHSU medical student who has an interest in radiation medicine to pursue innovative research and mentor with an OHSU faculty member,” said **Charles Thomas, M.D.**, chair of the Department of Radiation Medicine. “It is my hope that students selected will continue to evolve into physician-scientists who become dominant intellectual presences on the academic radiation medicine and translational cancer biology scene for years to come.”

Hoot also recently received a 2009 Research Medical Student Grant awards from the Research and Education Foundation of the Radiological Society of North America. Her goals are to continue her career development in the arena of academic radiation medicine following her graduation from the OHSU School of Medicine in 2010.



*Bradda Chamberline, a patient at Doernbecher Children's Hospital, with Olympic swimmer Eric Shanteau.*

## Knights Cancer Institute Designated a National Center of Excellence

Kenna Warsinske was just 19 when she learned she had cancer. She also learned that as she fought this life-threatening disease, the treatments that could save her might also deprive her of having children later in life.

Kenna is one of approximately 70,000 Americans each year who are diagnosed with cancer during their reproductive years. Although changes in reproductive function are now recognized as prevalent side effects of cancer therapy, the OHSU Adolescent and Young Adult Oncology Program at the Knight Cancer Institute is helping people like Kenna find options for preserving their fertility.

The OHSU AYA program is the only one of its type in Oregon – and one of a few in the nation – devoted to developing and sharing more effective methods to diagnose, treat, follow and care for cancer patients aged 15 to 40. Through OHSU's partnership with Fertile Hope, a national advocacy group that provides support and education about fertility, Kenna was able to access grant funding to preserve her eggs for fertility treatment in the future. Because of that link, the chance to be a mom is still within her grasp.

This spring, Fertile Hope recognized the OHSU Knight Cancer Institute as a leader in addressing fertility in cancer patients with its Center of Excellence designation. OHSU is one of only seven healthcare facilities in the nation to hold this honor.

"This is a time when these patients are fighting for their lives, and to be able to plan for something they may not access for years to come can allow them to be hopeful about the future," said **Brandon Hayes-Lattin, M.D.**, director of the OHSU Adolescent and Young Adult Oncology Program, and co-chairman of the LIVESTRONG Young Adult Alliance.

The award was presented during National Young Adult Cancer Awareness Week in early April at an event featuring **Eric Shanteau** as keynote speaker. Shanteau, an Olympic swimmer and testicular cancer survivor, postponed his treatment to participate in the 2008 Beijing games. Although he did not advance to the finals, the 24-year-old Olympian achieved a personal-best time in the 200-meter breaststroke at the games. Following his successful surgery, Shanteau has resumed his swimming career and is a vocal advocate for other young cancer survivors.

*Brandon Hayes-Lattin, M.D., and Eric Shanteau visit with patients in the Adolescent and Young Adult Oncology Clubhouse.*



*From L to R: Tom Beer, M.D., deputy director of the Knight Cancer Institute; Brandon Hayes-Lattin, M.D., director, OHSU AYA program; Joyce Reinicke, vice president, Fertile Hope; David Lee, M.D., OHSU reproductive endocrinology and infertility specialist; Eric Shanteau, 2008 Olympic swimmer*

## Video Game Gives Patients Power

One challenge in treating young cancer patients is helping them understand the importance of continuing their medication even when they start feeling better. A non-profit called HopeLab has developed a novel educational tool that young patients are actually excited to use – a video game called Re-Mission. In the game, the player passes through the body literally shooting cancer cells and fighting infections, helping young cancer patients be active participants in fighting their disease. Results of a large randomized controlled trial recently published in the medical journal *Pediatrics* found that playing Re-Mission increased teen cancer patients' sense of power and control over cancer and helped them stay on course with chemotherapy and antibiotic treatments. OHSU was one of the original trial sites, and HopeLab is now seeking patients to serve as paid consultants to give feedback on what they like about the game. For more information or to download a free copy of the game, visit [www.HopeLab.org](http://www.HopeLab.org).



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