

OHSU Knight Cancer Institute **Leadership**

The OHSU Knight Cancer Institute has an extraordinary record of innovation and accomplishments that have fundamentally changed the way we approach cancer. Equally, its leaders recognize the importance of forming collaborations with partners who bring unique expertise to accelerate the development of new treatments for patients. This team has challenged existing beliefs, developed entirely new approaches to targeting cancer, and changed our understanding of how we will fight cancer. And now it is time to launch the next stage of the war on cancer: finding it at its earliest, more curable stages.



Brian Druker, M.D.

In 1993, Dr. Brian Druker was recruited to OHSU from Harvard's Dana Farber Cancer Institute. He dreamed of creating better treatments and believed the best approach to attack cancer was at the molecular level. This new paradigm, now known as targeted therapy, was considered by many in the scientific community to be voodoo science and not worthy of funding. At OHSU, Druker was given a lab and the freedom to focus on his research. He formed a partnership with researchers at the pharmaceutical company Ciba-Geigy who had a compound Druker believed might attack the molecular abnormality that fueled a certain type of leukemia – CML, or chronic myeloid leukemia.

Druker discovered the drug could do what so few compounds had done before – kill cancer cells but leave healthy cells alone. The drug company, now merged to become Novartis, had no experience with cancer therapies and was reluctant to invest in a drug that had a relatively small patient population. He wasn't just a researcher isolated in his lab; he was an oncologist with patients who desperately needed new treatments. Druker waged a five-year battle to convince the drug company to do a clinical trial. Druker oversaw the Phase I clinical trials in which all patients had their blood counts return to normal within six months – an unheard of response. And 14 years later, the results remain astounding. Patients once expected to live less than five years are now expected to live a normal life span, simply by taking one pill a day.

The drug, now known as Gleevec, has heralded a new era in cancer treatment. Today, there are more than 50 targeted therapy treatments and hundreds more in development. Gleevec was featured on the cover of *Time*. Druker has been honored with medicine's most prestigious awards including the Lasker Award (America's Nobel), the Japan Prize, the Albany Medical Prize and many others. He is a member of the National Academy of Science, American Academy of Arts and Sciences and the Institute of Medicine.

"The success of what we accomplish will not be measured in new buildings, medical awards or headlines. It will be measured in patients living full lives," Druker said.



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Tomasz Beer, M.D.

Finding the best treatments for men battling prostate cancer has been a lifelong crusade for Dr. Tomasz Beer. Since 1999, Beer has led or co-led 96 prostate cancer clinical trials, of which 74 were multicenter studies. Beer is known for leading the investigation of many novel therapies for prostate cancer. Among them are the hormone blocker enzalutamide, immunotherapies sipuleucel-T and ipilimumab, and the antisense oligonucleotide custirsen.

In all of these cases, Dr. Beer leads or has led large national and international studies. Recently, Dr. Beer's work demonstrated that enzalutamide, an androgen receptor blocker, significantly extends survival in men with advanced cancer. Dr. Beer and the Knight prostate cancer program led or co-led the development of this agent from the very first Phase I clinical trial to the crowning achievement of a positive result in a global trial that involved 1,717 participants.

Dr. Beer in 2012 was selected as a leader of one of the nation's best known and most promising prostate cancer initiatives – the “Dream Team” project funded by the Prostate Cancer Foundation, Stand Up To Cancer, and the American Association for Cancer Research. This prostate cancer “Dream Team” is made up of researchers from across the country and will investigate how treatment-resistant tumors manage to thwart existing therapies. The “Dream Team” also includes OHSU researchers Dr. Joshi Alumkal and Dr. George Thomas. Their work aims to develop new tests to identify treatment resistance early on and new therapies to help overcome it.



Joe Gray, Ph.D.

The future of all cancer research and treatment begins with creating a detailed blueprint of cancer's molecular architecture. In 2010, OHSU recruited internationally renowned cancer and genomic researcher Joe Gray, Ph.D.

Gray, a physicist, is known for breakthroughs that have changed clinical practices for cancer patients including aspects of flow cytometry, a technique for counting and examining microscopic particles, such as cells and chromosomes. He also helped develop the widely used FISH and CGH tests that help determine what treatments are used for breast cancer patients.

Because of his background, Gray has been tapped to play leadership roles in the world's most important and ambitious cancer research projects. He plays an instrumental role in the Cancer Genome Atlas Project, a collaboration of scientists whose objective is to map the genomic characteristics of 20 different types of cancer, work that is illuminating the pathways through which cancer grows. His long list of accomplishments also prompted the Stand Up To Cancer initiative to ask him to help lead one of the “Dream Teams” of breast cancer researchers.

Gray is the director of the OHSU Center for Spatial Systems Biomedicine, where he is engaged in a collaboration with Intel to develop advanced computational technologies to intercept and manage the large volumes of complex patient data generated through modern genomics. An integrated OHSU/Intel team is working on a research data center equipped with an Intel supercomputing cluster. The team's first projects will be focused on genetic profiling of patients' tumors to look for patterns in how the disease progresses and how to relate this information to how the tumor will respond to treatment.



Lisa Coussens, Ph.D.

Lisa Coussens, Ph.D., knows cancer all too well. She has watched her mother and brother battle the disease. She is a pioneer in studying how cells that surround a tumor can fuel its growth. She was recruited to OHSU in 2011 and is the associate director of basic research.

For the past 20 years Coussens has studied how cancer usurps the immune system. Her work has upended a long-held belief that immune cells that surround cancer cells are overwhelmed and unable to effectively fight the cancer. Her research has shown that some of these immune cells are not only shut down, but are fueling the growth of the tumor. She has launched the first-ever human trial to combine chemotherapy with a drug to eliminate the immune cells that are enhancing the growth of the tumor. She is one of two researchers in the country awarded a \$6.5 million Komen for the Cure Promise Grant to translate her findings into better treatments.