



INVESTING IN A CANCER-FREE WORLD

# Ohio State Putting Pelotonia Dollars to Work





## WE ALL WANT TO LIVE IN A CANCER-FREE WORLD, BUT NO ONE EVER SAID GETTING THERE WOULD BE EASY.

Conquering cancer will require better treatments and prevention strategies based on sound scientific research, and research requires money. Lots of it.

In these difficult economic times, when government funding for cancer research is harder to come by, we have to find other ways to support our dream.

Each summer, thousands of people – some of whom haven't ridden a bicycle for decades – take to the roads with one goal: to end cancer. Pelotonia, an annual grassroots cycling tour between Columbus and Athens, Ohio, has attracted riders from throughout Ohio and across the nation. In its first two years, Pelotonia raised a combined \$12.3 million, every cent of which supports cancer research at Ohio State's Comprehensive Cancer Center – Arthur G. James Cancer Hospital and Richard J. Solove Research Institute (OSUCCC – James).

Everyone associated with Pelotonia is investing in a cancer-free world, and I want to share with you the impact that thousands of cyclists and tens of thousands of donors are having on cancer research. Arthur G. James, MD, for whom our hospital is named, once said he didn't know how long it would take to realize the dream of a world without cancer, but he was sure the day is coming. Efforts like Pelotonia are bringing it closer.

On behalf of the entire OSUCCC – James family, I wish to thank all of the riders, donors and volunteers who make possible the work we do every day. See you on next year's ride!

Michael A. Caligiuri, MD  
Director, The Ohio State University Comprehensive Cancer Center  
CEO, James Cancer Hospital and Solove Research Institute

# Investing in the Next Generation

Some of the best ideas in cancer research come from students because they often think “outside the box,” but students have very little chance of obtaining grants to support their work. The Pelotonia Fellowship Program opens the door to funding for the next generation at all levels of student scholarship: undergraduate, graduate, medical school and postdoctoral fellows. The program awards grants to students in any discipline of study who want to conduct cancer research in the labs of faculty mentors at Ohio State. The awards are made by a faculty committee that reviews the applications. Funding from the Pelotonia ride has to date provided \$5 million for the Fellowship Program, which already has awarded 116 grants to 56 undergraduates, 32 grad students, two medical students and 26 postdoctoral fellows. These awards span multiple colleges and departments at Ohio State, bringing many disciplines together in the fight against cancer.



Pelotonia fellowship awardees represent eight colleges at Ohio State, including: Arts and Sciences; Dentistry; Education and Human Ecology; Engineering; Food, Agricultural and Environmental Sciences; Medicine; Pharmacy; and Veterinary Medicine.



## PELTONIA FELLOWS

# Creating a Cancer-Free World

The Pelotonia Fellowship Program (see preceding page) is already making strides toward a cancer-free world, as several student fellowship recipients at varying levels of scholarship - undergrads, grad students, medical students and postdoctoral researchers - are working with faculty mentors to make waves in the world of cancer research. Here are a few examples:



**SHAUNA COLLINS**, a senior in biomedical science at Ohio State who received a fellowship to work in the lab of Don Benson, MD, PhD, of the OSUCCC - James, submitted an abstract that was accepted for presentation at the annual meeting of the American Society of Clinical Oncology last June in Chicago. Collins was first author on the study, which describes the effects of elotuzumab, a drug developed to treat multiple myeloma, on a specific cell of the immune system called the natural killer (NK) cell. The data shows that this drug increases the ability of NK cells to release toxic substances that kill malignant tumor cells. Collins has been to multiple conferences and is also published in the journal *Blood* with her research group. Soon she will present her work at an international conference in Brazil through a program run by the Ohio State Honors and Scholars Center. She plans to attend medical school and is considering a career in hematology.



**APRIL SANDY GOCHA**, a student in Ohio State's Integrated Biomedical Science Graduate Program who works in the lab of Joanna Groden, PhD, has used her Pelotonia fellowship to help "unravel our understanding of how cancer cells survive and proliferate to form tumors." She explains that, while the ends of DNA, called telomeres, normally shorten as people age, cancer cells are able to make their telomeres longer to allow the cells to grow out of control and form a tumor. "We have identified that tumors can use several mechanisms to perform this feat, which is one more piece of evidence to help us understand how cancer cells survive, and which places us one step closer toward our one goal of ending cancer," says Gocha, who recently presented her research at an international conference in San Francisco and is preparing her team's story for publication. After completing her graduate studies, she intends to pursue a career in science writing to help the public better understand scientific research and feel the excitement of discovery.



**MARKUS MAIR**, a postdoctoral researcher from Austria, received a Pelotonia Fellowship award for “Genetic Dissection of the Tumor Microenvironment,” a project that he is conducting in the lab of Gustavo Leone, PhD, along with graduate student Huayang Liu and postdoctoral researcher Piotr Daniel. The team has established a novel genomewide approach to identifying genes in normal cells surrounding the tumor that have an impact on tumor development and progression. Through this approach, they have identified such genes and are evaluating their findings. Mair says this tumor microenvironment project is a challenging approach to understanding crosstalk between the tumor and surrounding tissue. He notes that results from this screening might be relevant for many types of cancer. “In the future we will be able to treat cancer patients more efficiently by targeting the tumor microenvironment and the tumor in combination,” he adds.



**DUSTIN GABLE** was a senior majoring in biomedical science when he received a Pelotonia fellowship for a project relating to his study of the role of microRNA-1 in the progression of skin cancer. Gable had been working in the lab of Amanda Toland, PhD, a researcher at the OSUCCC – James, since his freshman year and considers it a life-changing experience because it influenced him to pursue a career in biomedical research. “She taught me to think independently and creatively, to attend conferences, to constantly learn about (biomedical) advances, and to form close relationships with scientists around the world,” he says, noting that he also participated in a summer internship program under the direction of Michael Grever, MD, chair of Internal Medicine, in which he shadowed teams of physicians at The James while conducting his research. This sparked his interest in combining medicine with research. Last August he entered medical school in the MD/PhD program at The Johns Hopkins University. He plans to combine his translational research with a career in pediatrics or internal medicine.

**ELISE BLANKENSHIP**, an Ohio State undergrad, was one of 74 college students nationwide selected last spring by the Council on Undergraduate Research (CUR) in Washington, D.C., to present their work to elected officials on Capitol Hill during the CUR’s 2011 “Posters on the Hill.” Blankenship, who at the time was a third-year Food and Nutrition Science major, was chosen from a field of nearly 700 applicants by the CUR, which promotes student-faculty research. She works in the lab of Nancy Lill, PhD, a researcher at the OSUCCC – James. Blankenship’s research mainly involves a potential new combination therapy for triple-negative breast cancer, an aggressive and deadly subset of the disease. Her poster was titled “Efficacies of Chemotherapeutic Agents, Alone or Combined With EGF Family Ligands, in Killing Breast Cancer Cells.” Blankenship is not a Pelotonia fellow, but her work is supported by a Pelotonia idea grant that was awarded to Lill and to OSUCCC – James researchers Charles Shapiro, MD, and Weiqiang Zhao, MD, PhD.

# Stimulating New Ideas and Approaches

Asking questions that lead to brilliant ideas is at the root of scientific discovery. Quantum leaps in science are made by this type of innovative thinking, but funding for the early pursuit of such initiatives is hard to obtain. However, the Pelotonia Research Award Program provides “idea” grants that allow creative teams of scientists to embark on research that could lead to discoveries resulting in better treatments and prevention strategies. To date, 16 research teams have received Pelotonia idea grants totaling nearly \$2.5 million. The teams represent collaborations among several colleges and departments, as well as three academic institutions (including Nationwide Children’s Hospital). The awards are issued via a peer-review process conducted by scientists not competing for the grants. The grants cover an array of studies, from the genetics of triple-negative breast cancer to imaging of precancerous pancreatic lesions; from neurofibroma tumorigenesis and therapy to the molecular mechanisms of the body’s natural killer cells against multiple myeloma; from the role of the *ATF3* gene in the development and treatment of chronic lymphocytic leukemia to genomic aberrations driving metastatic squamous cell carcinoma (a type of skin cancer).

## “IDEA GRANT” PRINCIPAL INVESTIGATORS



Peter Houghton, PhD



James DeWille, PhD



Qianben Wang, PhD



Victor Jin, PhD



Don Benson, MD, PhD



Jianhua Yu, PhD



Electra Paskett, PhD, MSPH



Denis Guttridge, PhD



Amanda Toland, PhD



Nancy Lill, PhD



Jianqiang Wu, MD, PhD



Patrick Green, PhD



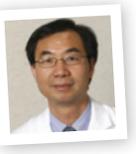
Charles Shapiro, MD



Mark Bloomston, MD



Tsonwin Hai, PhD



Weiqiang (John) Zhao, MD, PhD

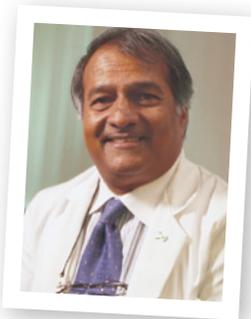


Chris Weghorst, PhD



Bhuvanewari Ramaswamy, MD

## Developing New Hope



Kaumaya



Bekaii-Saab



Byrd

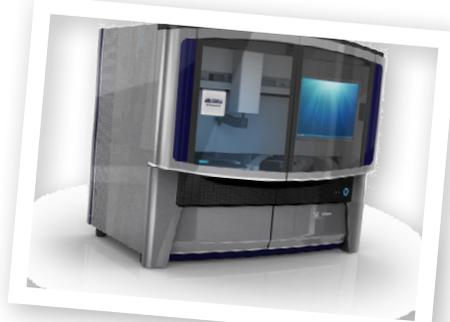
Developing and testing new therapeutic agents is costly and time-consuming, but these experimental agents offer the most promise for preventing, treating and ultimately curing cancer. Pelotonia funds support two important cancer drug development projects at Ohio State: an early-phase clinical trial on the safety of a novel anticancer vaccine to prevent several types of solid tumors, and a phase II clinical trial that will supplement an ongoing study of a new drug against chronic lymphocytic leukemia (CLL). The vaccine trial, led by overall chair **Pravin Kaumaya, PhD**, and clinical principal investigator **Tanios Bekaii-Saab, MD**, opened at The James last July; six patients have been treated to date. The CLL drug discovery trial, led by **John C. Byrd, MD**, involves an agent called PCI-32765 in combination with a monoclonal antibody called Ofatumumab. An interim analysis of the ongoing phase II study indicated that PCI-32765 is highly active and well-tolerated in CLL patients undergoing initial treatment or who have relapsed and are resistant to other therapy.

## Providing Tools for Discovery

Many cancer researchers could not function without sophisticated equipment that helps them with such critical procedures as sequencing genes, sorting and characterizing individual cells, bioimaging, microscopy and data collection, to name just a few. Funding from the Pelotonia rides has helped bring nearly \$2 million worth of the world's most advanced technology to the OSUCCC - James to support the needs of more than 200 cancer researchers. Maintaining state-of-the-art technology is critical for our scientists to remain competitive in the fight against cancer.



With its many lasers, the Special BD FacsAria analytical cytometer brings new high-speed capabilities for sorting normal and cancer cells for genomic characterization.



The SOLiD™ System is a highly accurate, massively parallel, gene-sequencing platform that supports a range of applications.



The HiSeq™ 2000 Sequencer escalates sequencing throughput to enable researchers to sequence deeply, broadly and economically, accelerating the path to personalized medicine.

# Bringing the Best to Ohio State

Funds raised by the Pelotonia rides have been committed to continuing to recruit some of the brightest minds in cancer, bringing and keeping world-class expertise at Ohio State. Below are some of the new basic, clinical, translational and population scientists who will strive every day - in the lab, the hospital and the community - to create a cancer-free world.



**ERIN BERTINO, MD**  
Assistant Professor - Clinical  
Division of Medical Oncology  
Department of Internal Medicine  
Recruited from Ohio State



**RICHARD GOLDBERG, MD**  
Physician-in-Chief, OSUCCC - James  
Professor, Division of Medical Oncology  
Department of Internal Medicine  
Recruited from University of North Carolina  
at Chapel Hill



**DELIANG GUO, PhD**  
Assistant Professor  
Department of Radiation Oncology  
Recruited from UCLA



**MARK LUSTBERG, MD, PhD**  
Assistant Professor  
Division of Infectious Diseases  
Department of Internal Medicine  
Recruited from Ohio State



**ERIN OLSON, MD**  
Assistant Professor  
Division of Medical Oncology  
Department of Internal Medicine  
Recruited from Dana Farber Cancer Institute  
Harvard Medical School



**FLAVIA PICHIORRI, PhD**  
Assistant Professor  
Division of Hematology  
Department of Internal Medicine  
Recruited from Ohio State



**PAUL REITER, PhD, MPH**  
Assistant Professor  
Division of Cancer Prevention and Control  
Department of Internal Medicine  
Recruited from University of North Carolina  
at Chapel Hill



**PETER SHIELDS, MD**  
Deputy Director, OSUCCC - James  
Professor, Division of Cancer Prevention  
and Control, and Division of Medical Oncology  
Department of Internal Medicine  
Recruited from Lombardi Comprehensive  
Cancer Center, Georgetown University



**COLLEEN SPEES, PhD, MD**  
Assistant Professor  
Division of Medical Dietetics  
and Health Sciences  
School of Allied Medical Professions  
Recruited from Ohio State



**MENG WELLIVER, MD**  
Assistant Professor  
Department of Radiation Oncology  
Recruited after completing residency  
at University of Pennsylvania



**TERRY WILLIAMS, MD**  
Assistant Professor  
Department of Radiation Oncology  
Recruited after completing residency  
at University of Michigan



**CHRISTINA WU, MD**  
Assistant Professor - Clinical  
Division of Medical Oncology  
Department of Internal Medicine  
Recruited from Lombardi Comprehensive  
Cancer Center, Georgetown University



**JIANHUA YU, PhD**  
Assistant Professor  
Division of Hematology  
Department of Internal Medicine  
Recruited from Ohio State

**CATALIN MARIAN, MD, PhD**  
Assistant Professor  
Division of Cancer Prevention and Control  
Department of Internal Medicine  
Recruited from Lombardi Comprehensive  
Cancer Center, Georgetown University

**FEN XIA, MD, PhD**  
Associate Professor  
Department of Radiation Oncology  
Recruited from Vanderbilt University