THE OHIO STATE UNIVERSITY COMPREHENSIVE CANCER CENTER – ARTHUR G. JAMES CANCER HOSPITAL AND RICHARD J. SOLOVE RESEARCH INSTITUTE

TOWARD A CANCER-FREE WORLD

# 2021 Accomplishments Report

Image: “Patient-Derived Organoids Hit the Bullseye: Empowering Translational Research and Precision Oncology” by Vijaya Bharti, PhD, MS

The James

The Ohio State University
COMPREHENSIVE CANCER CENTER

cancer.osu.edu

# contents




**THE OHIO STATE UNIVERSITY COMPREHENSIVE CANCER CENTER – ARTHUR G. JAMES CANCER HOSPITAL AND RICHARD J. SOLOVE RESEARCH INSTITUTE (OSUCCC – JAMES) LEADERSHIP TEAM**

*(listed alphabetically)*

**DAVID E. COHN, MD, MBA, FACHE**
Chief Medical Officer

**WILLIAM B. FARRAR, MD**
Chief Executive Officer, James Cancer Hospital and Solove Research Institute

**RYAN GOERLITZ, MBA, CPA**
Chief Financial Officer

**DAVID GOSKY, MA, MBA**
Executive Director for Research Administration

**MELISSA HALL**
Associate Vice President, Growth Marketing and Reputation Strategy

**KRIS KIPP, MSN, RN**
Executive Director, Clinical Services and Chief Nursing Officer

**JENNIFER MCDONALD**
Assistant Vice President, Development

**JEFF PATRICK, PharmD**
Director, Drug Development Institute

**BECCA PETERSON, PhD**
Senior Director, Strategic Initiatives

**RAPHAEL E. POLLOCK, MD, PhD, FACS**
Director, The Ohio State University Comprehensive Cancer Center

**PETER SHIELDS, MD**
Deputy Director, The Ohio State University Comprehensive Cancer Center

**NANCY SINGLE, PhD**
Director, Clinical Research Operations

**AMY WARE, MHA, MED**
Senior Adviser to the CEO

**TED YANK, MHA**
Senior Director of Research Administration


**To learn more about the OSUCCC – James, visit cancer.osu.edu. To read the 2021 Accomplishments Report online, visit cancer.osu.edu/report.**

## THE OSUCCC – JAMES INVITES YOU TO JOIN OUR ONLINE COMMUNITY

**cancer.osu.edu/blog**

**facebook.com/OSUCCCJames**

**twitter.com/OSUCCC_James**

**youtube.com/OSUTheJames**

**cancer.osu.edu/linkedin**

**soundcloud.com/thejamescancerfreeworld**

# Empowering translational research and precision oncology

At first glance the colorful image (inset and on front cover) may resemble a stained-glass window on a great cathedral, but it depicts far more than meets the eye.

This image, the winning entry in an Art of Cancer Research Contest held as part of the OSUCCC – James' 2021 Annual Scientific Meeting, shows individual patient-derived organoids (PDOs) arranged in a circular pattern as a stylistic interpretation of novel cancer therapy targets that these PDO models help uncover.

**"Working in cancer drug discovery in Dr. Vilgelm's lab honed my skills and heightened my interest in translational cancer therapeutics. I moved with my mentor when she came to Ohio State."**

*Vijaya Bharti, PhD, MS*

It's the work of **Vijaya Bharti, PhD, MS**, a postdoctoral researcher in the Department of Pathology at the Ohio State College of Medicine whose research focuses generally on translational therapeutics and specifically on developing effective therapies for breast cancer, melanoma and other malignancies. Her studies utilize patient-derived models such as PDOs, as well as immunocompetent mouse models.

"My current focus is on developing combination therapies and investigating the effect of drugs on the tumor immune microenvironment (area surrounding the tumor)," says Bharti, whose mentors are **Anna Vilgelm, MD, PhD**, and **Ramesh Ganju, PhD**, both of the Department of Pathology and the OSUCCC – James. "The goal is to find ways to mobilize tumor-targeting immune cells into the tumor to facilitate a 'hot' immune tumor microenvironment. We want to determine if we can harness chemokines (proteins) produced by tumor cells as a stress response to drug treatment to augment the efficacy of immunotherapy."

She explains that organoids are tiny, self-organized, three-dimensional tissue cultures derived from patient tumor cells. The organoids in her winning image – captured via fluorescence microscopes – were derived from 19 patients with melanoma. After being treated with drugs and drug combinations, the organoids were stained with green fluorescent dye to identify live cells, red fluorescent dye to identify dying cells, and a blue DNA dye, and then arranged circularly to complete the image, which is part of a study that has been submitted for publication in a scientific journal.

Bharti was born and raised in Bihar Sahrif, India, and earned her undergraduate degree (biology), master's degree

# Empowering translational research and precision oncology (continued)

(biomedical sciences) and PhD (biotechnology) in that nation before becoming a postdoctoral researcher in the Vilgelm lab at Vanderbilt University in 2019.

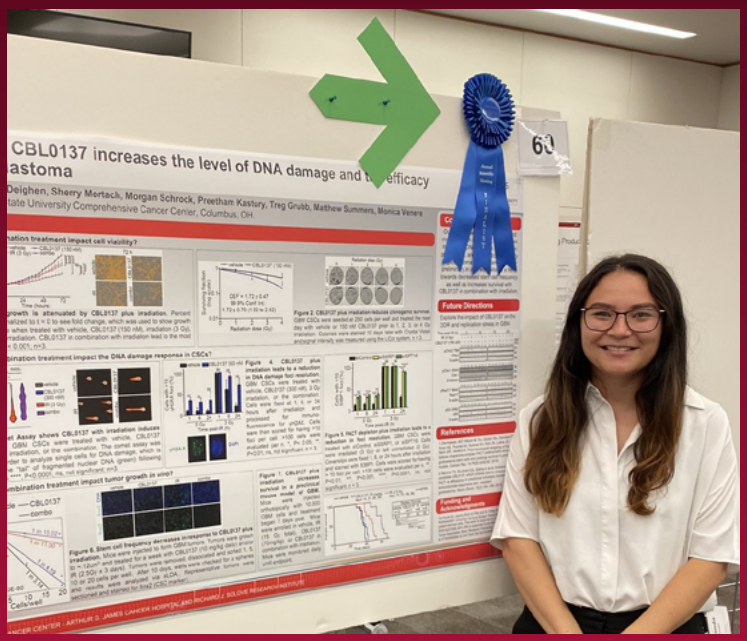
"Working in cancer drug discovery in Dr. Vilgelm's lab honed my skills and heightened my interest in translational cancer therapeutics. I moved with Dr. Vilgelm when she came to Ohio State," says Bharti, whose husband, **Amrendra Kumar, PhD**, is also a research scientist in the Pathology Department.

Bharti says she was inspired to become a cancer researcher seeking new therapies during her PhD studies when she worked with samples/specimens collected from patients at cancer hospitals. "I became concerned to see a large number of relapse cases, including my mother, despite several advances in therapy and surgery. My research has found several drugs that block cancer progression can also induce the secretion of small proteins known as chemokines that attract immune cells to the sight of cancers.

"On the other hand, immunotherapies have shown to have profound success in a subset of cancer patients; however, more work is required. With combination therapy, we expect to target more anticancer immune cells to the tumors and eliminate them."

She also has received a postdoctoral fellowship award funded by Pelotonia, the annual grassroots cycling event that raises money for cancer research at Ohio State. Under the guidance of Vilgelm and Ganju, her fellowship project is using a laboratory model of metastatic breast cancer to test whether combining a drug called abemaciclib – which inhibits a protein that is overactive in this disease – with an infusion of therapeutic natural killer (NK) immune cells will help eliminate tumors.

"The Pelotonia fellowship is vital to my career development," Bharti says. "I see it as a major step toward an independent research career in translational science."




*Miranda Tallman, recipient of the fifth annual Michael L. Hess Prize for Cancer Research Excellence as announced at the Annual Scientific Meeting, displays her winning poster. Tallman is a student in Ohio State's Biomedical Sciences Graduate Program, member of the lab of Monica Venere, PhD, and a Pelotonia Fellow in the OSUCCC – James.*

## OSUCCC – James Annual Scientific Meeting showcases cancer research advances

The hybrid format of the 22nd Annual Scientific Meeting (ASM) enabled OSUCCC – James faculty and staff to share programmatic research efforts, advance new ideas for projects, foster investigator interactions, identify opportunities for new collaborations, feature work by fellows and other trainees, and highlight and celebrate some of the most successful projects of the past year. Taking place in October 2021 and hosted by OSUCCC Director **Raphael E. Pollock, MD, PhD, FACS**, the four-day event included keynote presentations; numerous basic, clinical/translational and population science lectures; scientific poster presentations; highlights of the OSUCCC – James' four statewide research initiatives supported by Pelotonia; and more.

## 50 years at the front:

# Ohio State and 'The War on Cancer'

**The Ohio State University's cancer program took root decades before the signing of the National Cancer Act on Dec. 23, 1971, but it began to flourish soon after that historic event. In signing the act, President Richard Nixon called for a concentrated effort "toward conquering this dread disease" – an effort that became known as "The War on Cancer."**

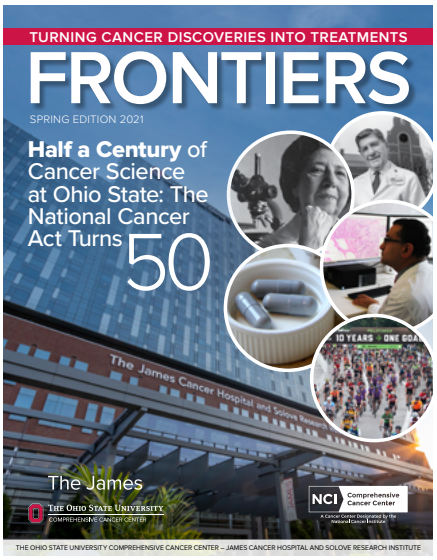
Fifty years later, The Ohio State University Comprehensive Cancer Center – James Cancer Hospital and Solove Research Institute (OSUCCC – James) remains focused on creating a cancer-free world.

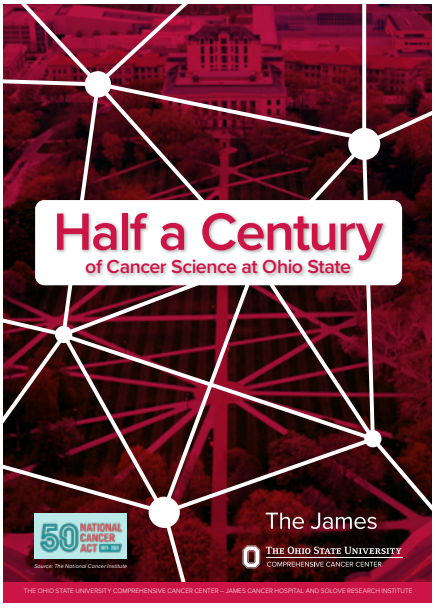
In 2021, to commemorate the 50th anniversary of the National Cancer Act, the OSUCCC – James published major articles on the new Ohio State Health & Discovery website and in other cancer program publications that review in detail some of the major gains that have been made globally and at Ohio State in the war on cancer, which is far from over.

**Among other things, the National Cancer Act provided for the establishment of National Cancer Institute (NCI)-designated cancer centers that meet rigorous standards for transdisciplinary, state-of-the-art research focused on developing better approaches to preventing, diagnosing and treating this disease in its many forms.**

By the time the act was signed, more than 100 professional cancer investigators representing seven colleges at Ohio State had expressed interest in starting a formal cancer center at the university. Their efforts came to fruition in April 1976 when the NCI designated Ohio State as a comprehensive cancer center (CCC), one of only 18 at the time. The university has maintained that designation ever since and is today one of 52 NCI-designated CCCs in the United States.

The articles on the Ohio State Health & Discovery website, in *Frontiers* and in a *"Half a Century of Cancer Science at Ohio State"* special supplement chronicle not only these early efforts, but also the 1990 opening of the original James Cancer Hospital and Solove Research Institute, the 2014 opening of the new and much larger James as a transformational facility that fully integrates research and clinical care, and the groundbreaking work of multiple medical scientists at the OSUCCC – James who have helped change the landscape of research-based cancer treatment over the past five decades. Also included are perspectives from several OSUCCC – James experts on when or whether the war against this complex and multifarious disease will be won.




NCI Comprehensive Cancer Center

A Cancer Center Designated by the National Cancer Institute

# OSUCCC – James updates

**2021 marked the 45th anniversary of The Ohio State University's designation by the National Cancer Institute (NCI) as a Comprehensive Cancer Center (CCC), a designation the university has competitively maintained since 1976. The James Cancer Hospital and Solove Research Institute opened as the adult patient-care component of the OSUCCC in 1990 and was replaced by a much larger hospital in 2014.**

The OSUCCC – James is one of 52 NCI-designated Comprehensive Cancer Centers and has been ranked as "exceptional" – the NCI's highest descriptor – following each of its last three reviews for five-year re-designation as a CCC. It also is one of only a few centers that are funded by the NCI to conduct phase I, II and III clinical trials on novel anticancer drugs provided by the NCI.

In addition, the OSUCCC – James is ranked among America's Best Hospitals for cancer care by *U.S. News & World Report* and has achieved Magnet® designation, the highest honor an organization can receive for quality patient care and professional nursing practice. With 21 floors, more than 1.1 million square feet and 356 beds, the OSUCCC – James is a transformational facility that fosters collaboration and integration of cancer research and clinical care.

The OSUCCC – James strives to create a cancer-free world by integrating scientific research with excellence in education and patient-centered care, a mission that leads to better methods of prevention, detection and treatment.

**28** New research grants totaling $11.1 million from the NCI

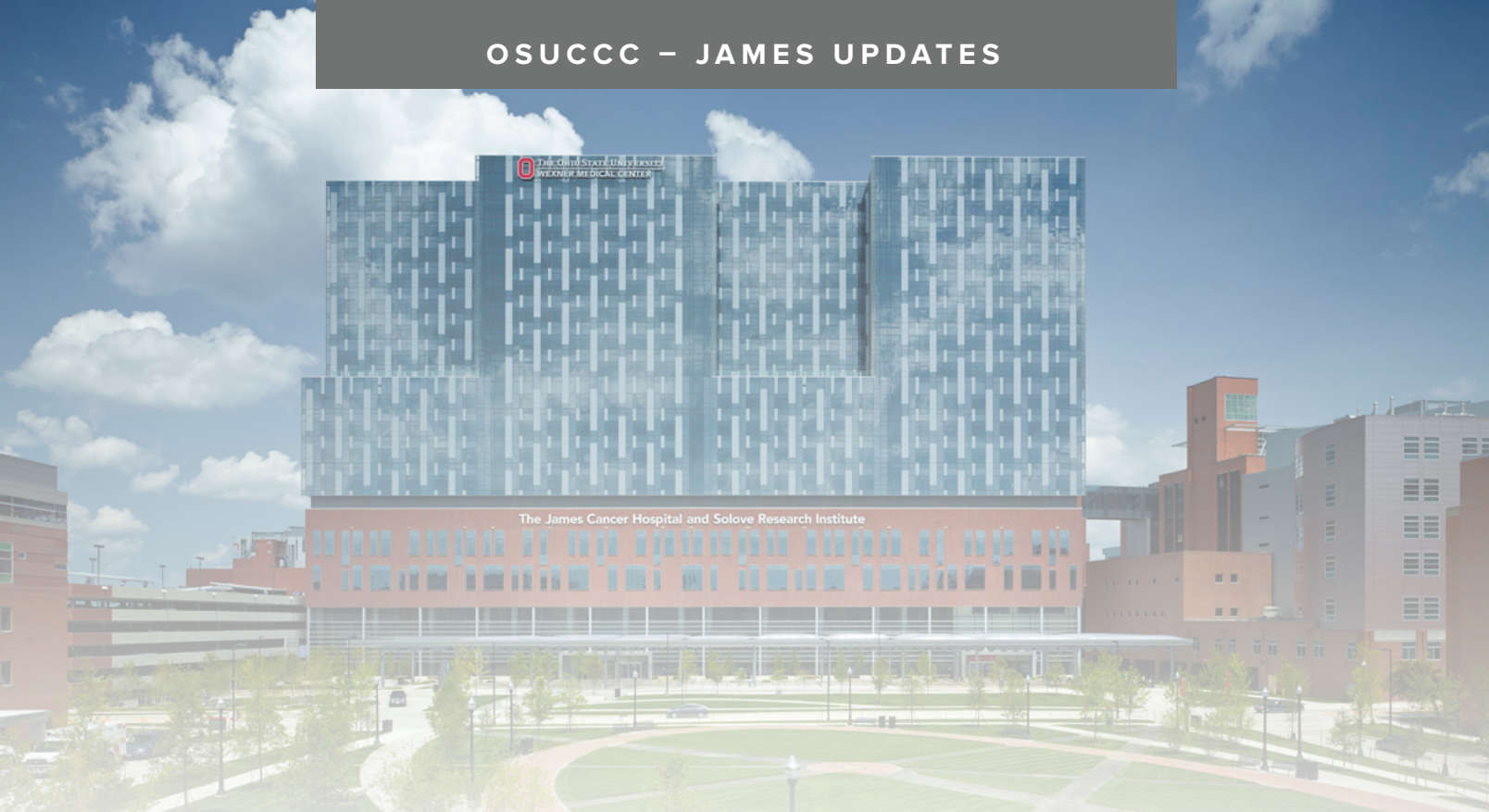
## Research grant funding

The OSUCCC – James has nearly 360 full or introductory cancer researchers who collectively represent 11 of the 15 colleges at Ohio State. Each researcher is in one of five multidisciplinary research programs: Cancer Control (CC); Leukemia Research (LR); Cancer Biology (CB); Molecular Carcinogenesis and Chemoprevention (MCC); or Translational Therapeutics (TT). In 2021, OSUCCC – James researchers received 28 new research grants totaling $11.1 million from the NCI, bringing the cancer program's annual total NCI grant funding to $55.3 million. The OSUCCC – James ranks 19th among cancer institutions in the United States for total NCI funding.

## Research publications

In 2021, cancer researchers at the OSUCCC – James authored or co-authored 824 publications in peer-reviewed journals, including 174 that appeared in journals with impact factors of 10.0 or higher. Also, 98.3% of all articles published were collaborative, and 96.7% of the publications were multi-institutional.

**824** Publications authored or co-authored by cancer researchers at the OSUCCC – James




## Patient care

In calendar year (CY) 2021, the OSUCCC – James had an average daily occupancy rate of 91.9% and an average daily census of 308.5 inpatients. The total number of inpatient admissions for CY 2021 was 15,039. Also in CY 2021, the institution received 731,570 outpatient visits, which included 693,780 in-person and 37,790 virtual visits via telehealth.

**15,039**
Total number of inpatient admissions

**731,570**
Total number of outpatient visits

## Clinical trials

**182**
Clinical trials opened by researchers at the OSUCCC – James

Patients at the OSUCCC – James have access to hundreds of clinical trials offering sophisticated treatments, including some that are available nowhere else. In calendar year (CY) 2021, researchers at the OSUCCC – James opened 182 clinical trials to bring the total number of available trials to 687, of which 540 are interventional. The CY 2021 accrual rate for therapeutic trials at the OSUCCC – James was 14%. The five-year average patient accrual to therapeutic clinical trials here is 15% – well above the national rate of about 3%.

## Total Cancer Care® protocol

Since 2014, the OSUCCC – James has enrolled nearly 63,000 patients for a 94% accrual rate in a Total Cancer Care® (TCC) protocol for voluntarily sharing de-identified clinical data that moves cancer research forward and personalizes cancer care. The TCC protocol helps clinicians understand differences among cancer patients and find ways to individualize prevention, detection and treatment.

**63,000** Patients enrolled in a Total Cancer Care® protocol since 2014

## ORIEN precision medicine collaboration

The TCC protocol referenced earlier has been adopted by all 18 member institutions across the nation that constitute the Oncology Research Information Exchange Network (ORIEN), a research collaboration co-founded and co-anchored by the OSUCCC – James and Moffitt Cancer Center in Tampa, Florida. Through ORIEN, more than 315,700 TCC-consented patients across the nation have agreed to donate their clinical data for research to help scientists understand cancer at the molecular level, making ORIEN one of the world's largest precision medicine collaborations to address this disease.

**315,700** TCC-consented patients committed to donating their clinical data for research

# Drug Development Institute (DDI)

**The DDI is a biotech-like institute embedded within the OSUCCC – James that employs a combination of targeted investments, strategic management and cutting-edge resources to drive projects from discovery to early-stage development of drugs for cancer therapy. Led by DDI Senior Director and Clinical Pharmacist Jeff Patrick, PharmD, the institute is staffed by industry-trained scientists and employs a collaborative management process to ensure efficient advancement for all projects.**

Project activities are divided between the DDI and investigators and are executed in parallel to achieve this process. The desired outcome is to advance projects to the point of partnership with industry to ensure that translational research at the OSUCCC – James can benefit patients.

Thanks to a $10 million gift received in 2020 from the Paula and Rodger Riney Foundation to establish the Riney Family Foundation Myeloma Center for Advanced Research Excellence (Myeloma CARE), the DDI and the OSUCCC – James continued to advance multiple myeloma research in 2021. The Myeloma CARE program is led by **Don Benson, MD, PhD**, along with the DDI's Senior Director of Biochemistry, **Jerry Hilinski, PhD**, who leads DDI efforts to guide new therapies from bench to bedside.

The DDI advances research through its Pipeline and Pilot Funding Programs. Pilot funding provides up to $50,000 of early validation support to determine if a project has drug-development potential and should be considered for inclusion in the DDI Pipeline Portfolio. For select projects that require unique support, the DDI may provide Ohio State investigators with funding for regulatory filing needs or to initiate a Request for Proposals (RFP) Program to explore additional disease indications. A list of projects under development for 2022 includes:

## DDI pipeline portfolio

**Activated B cells as a therapeutic cancer vaccine platform** – A novel B cell-based therapeutic cancer vaccine, with the potential to be personalized to an individual's tumor signature, is being developed for use in treating a variety of cancers.

**DHODH inhibitors for treatment of hematologic malignancies** – Recent proof-of-concept research has rekindled interest in targeting cancers through inhibition of dihydroorotate dehydrogenase (DHODH). The Ohio State University, in collaboration with Hendrix College, is developing a series of DHODH inhibitors for treating hematologic malignancies, including acute myeloid leukemia. Over the past year, preclinical studies have demonstrated that the lead molecule has best-in-class activity in cancer models. DDI scientists are positioning this molecule for Investigational New Drug (IND) submission to the FDA.

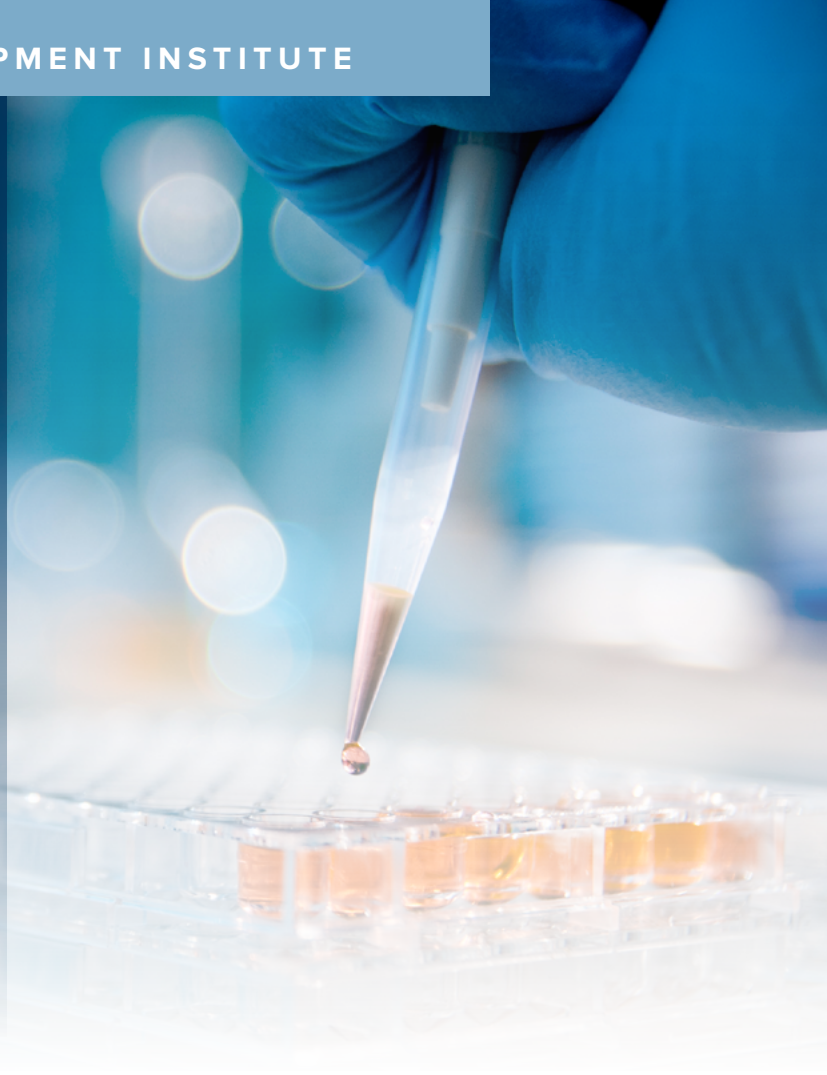
**Selective estrogen receptor modulator (ER-B agonist) as a new approach to targeting cancer** – A novel series of selective non-steroidal estrogen receptor beta agonists is being developed for treating cancer, precancerous conditions and potentially non-cancer indications. This project initiated the DDI's first RFP program to harness the power of the Ohio State network to explore additional applications in 11 cancer and seven non-cancer disease indications. Several of these indications, including prostate cancer, glioblastoma, non-alcoholic steatohepatitis (NASH) and ischemic heart failure, have shown promising potential and are being pursued for drug development.

## Myeloma CARE Program pipeline

**The aryl hydrocarbon receptor as a target for multiple myeloma** – The aryl hydrocarbon receptor (AHR) has been implicated as a sensor of environmental chemicals and has been demonstrated by researchers at Ohio State to functionally contribute to multiple myeloma survival. This team is developing small molecule inhibitors of AHR intended to modify the immunophenotype of multiple myeloma cells and strengthen the body's anti-myeloma immune response to address this significant unmet need in myeloma.

**TTK kinase inhibitor as a treatment for cancer** – TTK is a protein that regulates cell division, and its overexpression is associated with poor outcomes in multiple myeloma as well as other hematologic malignancies and solid tumor types. This team is optimizing a homegrown Ohio State TTK inhibitor and testing therapeutic combination strategies to inform future clinical trials.

***Thanks to a $10 million gift received in 2020 from the Paula and Rodger Riney Foundation to establish the Riney Family Foundation Myeloma Center for Advanced Research Excellence (Myeloma CARE), the DDI and the OSUCCC – James continued to advance multiple myeloma research in 2021.***



**DHODH inhibitors for treatment of hematologic malignancies** – As stated earlier, recent proof-of-concept research has rekindled interest in targeting cancers by inhibiting dihydroorotate dehydrogenase (DHODH). Ohio State's lead DHODH inhibitor has been evaluated in numerous preclinical AML and multiple myeloma studies, and it demonstrates significant antitumor efficacy both as a single agent and in combination with other multiple myeloma therapeutics. Based on this data, this DHODH inhibitor has been selected as a preclinical candidate. Independent New Drug (IND)-enabling studies are scheduled for later this year to facilitate phase I clinical trials.

**Analysis of primary multiple myeloma samples** – Since 2011, the OSUCCC – James' multiple myeloma program has banked over 400 patient samples. This portion of the Myeloma CARE program, led by **Francesca Cottini, MD**, involves analyzing subsets of those samples to make discoveries about the impact of certain genetic changes on myeloma outcomes and disease characteristics. Additionally, samples are being analyzed to help understand factors influencing progression in patients who have undergone autologous stem cell transplant.

## Pilot programs

Testing the Ability of Fasnall to Block Coronavirus Replication (Principal investigator (PI): **Jesse Kwiek, PhD**)

Evaluating the Inhibition of Mitotic Proteins TTK and MKLp2 as a Therapeutic Strategy for Glioblastoma (PIs: **Matthew Summers, PhD,** and **Monica Venere, PhD**)

The Role of SUMOylation on NK Cell Development and Function (PIs: **Bethany Mundy-Bosse, PhD,** and **Aharon Freud, MD, PhD**)

Evaluating Glycoprotein-A Repetitions Predominant Protein (GARP) Blockade to Overcome Immune Checkpoint Inhibitor Resistance (PI: **Zihai Li, MD, PhD**)

Evaluating Papavarine Derivatives as Modulators of Cancer Metabolism (PI: **Nicholas Denko, MD, PhD**)

Biomedical Device Initiative: 3D Printed Cranial Implants for the Treatment of Oral Cancer (PI: **David Dean, PhD, Alan Luo, PhD, Ed Herderick, PhD**)

# Research

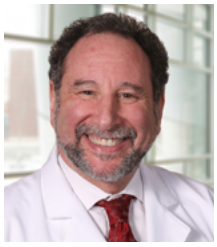
## 2021 at the OSUCCC – James: Another step toward a cancer-free world

**Amid a global health crisis, doctors, nurses and researchers at The Ohio State University Comprehensive Cancer Center – James Cancer Hospital and Solove Research Institute continued pursuing their shared vision of a cancer-free world while joining the international effort to increase understanding of COVID-19.**

**The second year of the pandemic was a challenge for people around the world, especially health care workers. But while COVID-19 changed the way research and care were conducted at the OSUCCC – James, faculty and staff adapted to the changes and broke new ground in research-based cancer care. Here are some of the cancer program's most impactful studies or innovations of 2021:**

### Study seeks to understand effectiveness of COVID-19 vaccination in cancer patients, survivors

*Zihai Li, MD, PhD*



*Peter Shields, MD*

OSUCCC – James researchers' role in the global effort to understand COVID-19 includes a study aimed at evaluating how the coronavirus impacts the immune system of cancer patients. The study is expected to advance the scientific community's overall knowledge of how effective the vaccine is for preventing COVID-19 infection, whether the vaccine is less effective in cancer patients receiving certain therapies, and how long the immunity lasts. Co-principal investigators (PIs) are **Peter Shields, MD** (right), deputy director of the OSUCCC – James, and **Zihai Li, MD, PhD** (left), founding director of the Pelotonia Institute for Immuno-Oncology.

### Tool for colorectal cancer screening could reduce interval colorectal cancer rates by over 40%

*Peter Stanich, MD*

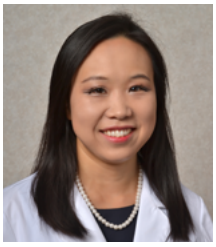
The Ohio State University was the first academic medical center in the United States to utilize a new computer-aided system for screening colonoscopy in patients undergoing testing. Ohio State gastrointestinal cancer experts say the introduction of this U.S. Food and Drug Administration (FDA)-approved technology represents a major leap forward in the early detection of colorectal cancer. Previously published peer-reviewed medical studies suggest that this tool increases precancerous polyp (adenoma) detection rates by 14%, potentially leading to a 42% reduction in colorectal cancers. **Peter Stanich, MD**, assistant professor in the Department of Internal Medicine, Division of Gastroenterology, Hepatology and Nutrition at Ohio State and a gastroenterologist at the OSUCCC – James and the Ohio State Wexner Medical Center, says identifying and addressing polyps before they become cancerous will help reduce the cancer burden through prevention.

### Study: Tailored mobile messaging curbs young adult waterpipe tobacco use by 49%

*Darren Mays, PhD*

Tailored mobile messaging is an effective intervention strategy to reduce tobacco waterpipe smoking in young adults, according to a study published by researchers with the Center for Tobacco Research at the OSUCCC – James. Researchers reported their findings in the ***American Journal of Public Health***. They say it was the first study to demonstrate the effectiveness of a tailored mobile messaging intervention to support smoking cessation in youth tobacco hookah users. **Darren Mays, PhD**, associate professor in the Department of Internal Medicine, Division of Medical Oncology at Ohio State and member of the Cancer Control Program at the OSUCCC – James, was the PI.

## New cosmetic surgery improving outcomes for breast cancer patients at Ohio State



*Ko Un (Clara) Park, MD*

The goal of a new surgical technique available through an Ohio State clinical trial is to preserve the blood supply to skin flaps and the nipple areolar complex to give women better cosmetic outcomes without compromising cancer control. The procedure is performed through a small incision with a robotic camera and small instruments attached to a robotic arm, which is controlled by a surgeon at the console. The clinical trial on this approach is led by **Ko Un (Clara) Park, MD**, assistant professor in the Department of Surgery, Division of Surgical Oncology at Ohio State and member of the Cancer Control Program at the OSUCCC – James. Park specializes in breast cancer surgery and oncoplastic surgery.

## Most U.S. adults fall short of cancer-prevention dietary guidelines

*Colleen Spees, PhD, MEd, RDN*

The majority of American adults have a dietary pattern that falls short of meeting national dietary guidelines for cancer prevention, a new study showed. When researchers analyzed the dietary intake of more than 30,000 American adults according to body mass index (BMI), the results also showed that people with BMIs in the obese range were the least likely to adhere to dietary recommendations designed to reduce cancer risk. The study was published in the ***Journal of the Academy of Nutrition and Dietetics***. Senior author was **Colleen Spees, PhD, MEd, RDN**, associate professor in the College of Medicine, School of Health and Rehabilitation Sciences at Ohio State, and member of the Molecular Carcinogenesis and Chemoprevention Program at the OSUCCC – James.

## Finding a way to stop chemotherapy from damaging the heart

*Shuiying Hu, PhD*

*Alex Sparreboom, PhD*

Research suggests an intervention could be on the horizon to help prevent heart damage caused by the common chemotherapy drug doxorubicin. OSUCCC – James scientists found that this drug, used to treat many types of solid tumors and blood cancers, can enter heart cells by latching onto a protein that functions as a transporter to move a drug from the blood into heart cells. But by introducing another anticancer drug in advance of chemotherapy, the researchers blocked the transporter protein, stopping the delivery of doxorubicin to those cardiac cells. The study was published in ***Proceedings of the National Academy of Sciences***. First author was Kevin Huang, PhD, who worked in the lab of senior study authors **Shuiying Hu, PhD** (left), and **Alex Sparreboom, PhD** (right), both of the College of Pharmacy at Ohio State and the Translational Therapeutics Program at the OSUCCC – James.

# Research (continued)

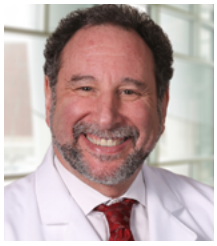
## Targeted RNA nanoparticle shows early promise as treatment for liver cancer

*Peixuan Guo, PhD*

A new targeted RNA nanoparticle designed to carry a chemotherapy drug along with a therapeutic oligonucleotide against chemical efflux gene might provide an effective treatment for liver cancer, according to a study led by researchers at the OSUCCC – James. Published in the ***Journal of Controlled Release***, the study showed that the RNA nanoparticles, which carry a chemotherapeutic drug called paclitaxel, efficiently target hepatocellular carcinoma (HCC, a type of liver cancer) cells and are stable, safe and effective both in laboratory and animal studies. Study leader and corresponding author was **Peixuan Guo, PhD**, a professor in Ohio State's College of Pharmacy and member of the Translational Therapeutics Program at the OSUCCC – James.

## COVID booster shots likely provide increased, broad protection against Omicron variant in patients with cancer

*Zihai Li, MD, PhD*



*Peter Shields, MD*

*Shan-Lu Liu, MD, PhD*

Data showed that booster vaccine doses provide stronger and broader protection for patients with cancer against SARS-CoV-2 (the virus that causes COVID-19) and its highly transmissible variant, Omicron. This protection is consistent for patients with solid tumors, regardless of treatment status. Researchers at the Ohio State College of Veterinary Medicine and the OSUCCC – James reported that the two-shot mRNA vaccination regimen against COVID-19 is "woefully inadequate" to provide durable protection in immune-compromised patients, and they urged cancer patients to get booster shots as soon as they are eligible. The study was published in the journal ***Cancer Cell***. Senior co-authors were **Zihai Li, MD, PhD** (left), founding director of the Pelotonia Institute for Immuno-Oncology, **Peter Shields, MD** (center), deputy director of the OSUCCC – James, and **Shan-Lu Liu, MD, PhD** (right), professor in the College of Veterinary Medicine, Department of Veterinary Biosciences and associate director of Ohio State's Center for Retrovirus Research.

## Immunotherapy drug effective for treating advanced endometrial cancer

*David O'Malley, MD*

A cancer immunotherapy drug currently approved by the U.S. Food and Drug Administration (FDA) to treat several forms of cancer is also effective for treating aggressive forms of endometrial (uterine) cancer, according to results from an international phase II clinical trial led by researchers at the OSUCCC – James. Researchers enrolled 90 women with recurrent or advanced endometrial cancer to determine whether the drug pembrolizumab (marketed as Keytruda) could effectively treat this subset of patients with mismatch repair deficient (dMMR) or microsatellite instability high (MSI-H) tumors. **David O'Malley, MD**, director of the Division of Gynecologic Oncology in the Department of Obstetrics and Gynecology at Ohio State and member of the Translational Therapeutics Program at the OSUCCC – James, was lead author of the study, which involved patients treated at 38 hospitals in 15 countries. Study results were published in the ***Journal of Clinical Oncology***.

## NASA will apply OSUCCC – James biodosimetry technology to space exploration

*Naduparambil Jacob, PhD*

A miRNA-based biodosimetry test devised by OSUCCC – James researchers to quickly diagnose radiation sickness will help scientists and technology developers at NASA pursue new capabilities for deep space human exploration. The original study on the biodosimetry testing method, published in 2020 in the journal ***Science Translational Medicine***, reported that it has the potential to rapidly identify radiation sickness based on biomarkers measured through a drop of blood – a test that could save lives through early identification of the condition and subsequent clinical interventions. In September 2021, NASA selected 10 proposals led by employees at the agency for two-year projects that will support development of space exploration capabilities under Project Polaris, an initiative to support the NASA workforce in efforts to meet the challenges of sending humans to the moon and Mars. One of the projects will use the biodosimetry technology developed at Ohio State. The original study was led by **Naduparambil Jacob, PhD**, associate professor in the Department of Radiation Oncology at Ohio State and member of the Translational Therapeutics Program at the OSUCCC – James. In November 2021 Jacob and colleagues published a follow-up article on their work in the ***International Journal of Radiation Oncology, Biology, Physics***.

## Studies provide evidence for updated USPSTF lung cancer screening guidelines

*Daniel Jonas, MD, MPH*

Two studies published by investigators at The Ohio State University and the University of North Carolina (UNC) Lineberger Comprehensive Cancer Center provided important evidence review and predictive modeling data to inform updated lung cancer screening guidelines implemented by the U.S. Preventive Services Task Force (USPSTF). The studies and screening guidelines were published in the ***Journal of the American Medical Association (JAMA)***. In these studies, **Daniel Jonas, MD, MPH**, director of the Division of General Internal Medicine in the Department of Internal Medicine at Ohio State, and former colleagues at UNC did a comprehensive review of clinical trial registry data and peer-reviewed publications from the past 20 years to look at overall lung cancer incidence, lung cancer mortality, all-cause mortality, test accuracy and harms.

## Genomic study points to new treatment approaches for advanced small-cell lung cancer

*Sameek Roychowdhury, MD, PhD*

A study of advanced small-cell lung cancer (SCLC) led by researchers at the OSUCCC – James identified molecular patterns linked to patients developing resistance to certain therapies. Published in the journal ***JTO Clinical and Research Reports***, the study examined more than 60 tumors from five patients. OSUCCC – James researchers identified distinct mutational and molecular changes in four SCLC subtypes. The findings give insights into the patterns' treatment resistance and could offer new targets for developing more effective immunotherapy and other therapies for advanced SCLC, which advances quickly and is usually fatal. Principal investigator was **Sameek Roychowdhury, MD, PhD**, associate professor in the Department of Internal Medicine, Division of Medical Oncology at Ohio State and member of the Translational Therapeutics Program at the OSUCCC – James.

# Research (continued)

## CDK inhibitors might improve immune therapy effectiveness for recurrent breast cancer

*Anna Vilgelm, MD, PhD*

A class of drugs that inhibits breast cancer progression when used with hormonal therapy might also boost the effectiveness of immune therapy in cases of recurrent, metastatic breast cancer, according to a study led by researchers at the OSUCCC – James. Published in the journal ***Cell Reports***, the findings of this animal study suggest that drugs called CDK4 and CDK6 (CDK4/6) inhibitors might improve the effectiveness of immune therapies for metastatic, estrogen-receptor-positive (ER+) breast cancer. Principal investigator was **Anna Vilgelm, MD, PhD**, assistant professor in the Department of Pathology at Ohio State and member of the Translational Therapeutics Program at the OSUCCC – James.

## Study shows ibrutinib effective for difficult-to-treat forms of hairy cell leukemia

*Kerry Rogers, MD*

A study by researchers at the OSUCCC – James indicates that the oral targeted therapy drug ibrutinib is an effective treatment option for patients with high-risk hairy cell leukemia (HCL). HCL is a rare B-cell blood cancer diagnosed in 600 to 800 people annually in the United States. While HCL generally has a good prognosis, a small group of patients who have variants of the disease don't respond well to FDA-approved therapies or can't tolerate the side effects. **Kerry Rogers, MD**, assistant professor in the Department of Internal Medicine, Division of Hematology at Ohio State and member of the Leukemia Research Program at the OSUCCC – James, was principal investigator of the clinical trial. The study was published in the journal ***Blood***.

## Study: Checkpoint inhibitors show promise in treating recurrent/metastatic cervical cancer

*David O'Malley, MD*

An international phase II clinical trial led by researchers at the OSUCCC – James has demonstrated that an anti-PD-1 antibody called balstilimab produces significant and durable clinical activity with management safety in patients with previously treated recurrent and/or metastatic cervical cancer. **David O'Malley, MD**, director of the Division of Gynecologic Oncology in the Department of Obstetrics and Gynecology at Ohio State and member of the Translational Therapeutics Program at the OSUCCC – James, was principal investigator for the study and first author of an article about the findings published in the journal ***Gynecologic Oncology***.

## Research autopsy helps scientists study why certain cancer therapies stop working

*Sameek Roychowdhury, MD, PhD*

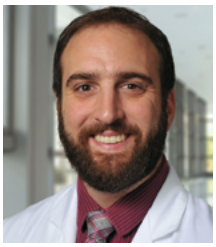
A research study at the OSUCCC – James turns cancer scientists into molecular detectives who examine tissue collected within hours of a patient's death in search of clues about why certain cancers can spread and evolve despite therapy. Led by **Sameek Roychowdhury, MD, PhD**, associate professor in the Department of Internal Medicine, Division of Medical Oncology at Ohio State and member of the Translational Therapeutics Program at the OSUCCC – James, this clinical study – known as the Rapid Cancer Research Autopsy Trial – enables scientists to gather biological samples after a patient's death to conduct research otherwise not possible. Their goal is to better understand how the cancer cells overcame different treatments. Since the trial began in 2016, the rapid research autopsy team has performed dozens of autopsies.

## Chronic stress may impact treatment completion and survival outcomes in patients with breast cancer

*Samilia Obeng-Gyasi, MD, MPH*

A study at Ohio State showed that chronic physiologic "wear and tear" from stress, known as allostatic load, may be associated with a decreased likelihood of cancer treatment completion and lower overall survival. Research results also suggest allostatic load appeared better than genetic ancestry at predicting chemotherapy completion and overall survival. **Samilia Obeng-Gyasi, MD, MPH**, assistant professor in the Department of Surgery, Division of Surgical Oncology at Ohio State and member of the Cancer Control Program at the OSUCCC – James, presented the findings at the 14th American Association for Cancer Research Conference on the Science of Cancer Health Disparities in Racial/Ethnic Minorities and the Medically Underserved. Allostatic load is defined as "wear and tear" on the body caused by lifelong exposure to such stressors as social isolation, poverty and racism, which are common among racial and ethnic minorities.

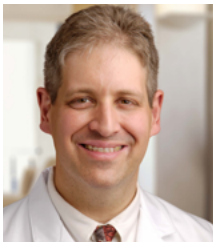
## New three-way drug combo stimulates 'master cancer killer' cells, boosts immune system of patients undergoing stem cell transplantation



*Jonathan Brammer, MD*

A new three-drug combination could help patients with aggressive forms of blood cancer achieve longer remission after undergoing allogeneic (from a donor) stem cell transplantation, according to preliminary clinical trial results presented by researchers at the OSUCCC – James. For this phase I/II clinical trial, researchers evaluated a new stem cell transplant conditioning regimen designed to overcome the challenges of treating T-cell acute lymphocytic leukemia (ALL) and T-cell lymphomas. Initial study results showed that 88% of patients remained in remission one year after completing treatment, a dramatic increase in relapse-free survival compared to the expected 45%. **Jonathan Brammer, MD**, clinical associate professor in the Department of Internal Medicine, Division of Hematology at Ohio State, is principal investigator. He presented these initial study results at the 2021 annual meeting of the American Society of Hematology.

## Radical new surgery gives people with amputations more mobility, less pain

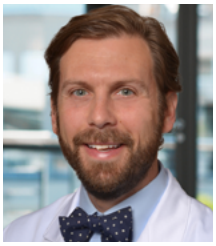


*Joel Mayerson, MD*

An innovative surgical procedure has the potential to give people with lower-limb amputations dramatically restored mobility, reducing debilitating pain and persistent tissue breakdown often associated with traditional prosthetic devices. Known as osseointegration, the procedure involves surgically implanting a metal bar – typically in the thigh femoral bone – that extends outside of the body and connects to a snap-on prosthesis. Oncologic orthopedic surgeons at the OSUCCC – James work with plastic surgeons at the Ohio State Wexner Medical Center to perform this complicated surgery through a new comprehensive limb program at Ohio State. Oncologic orthopedic surgeon **Joel Mayerson, MD**, professor in the Department of Orthopaedics at Ohio State, says the osseointegration system offers patients who experience debilitating skin wounds and pain from their traditional prosthetic a long-term option for reducing pain and increasing mobility.

# Research (continued)

## Rising body mass index in adulthood could limit immune system's ability to stop cancer cells



*Daniel Stover, MD*

New research suggests modifiable patient characteristics such as body mass index (BMI) in adulthood may negatively impact the immune environment, inhibiting the ability of the body's natural defense system to identify and eradicate cancer cells. Researchers say that, although this is a first step, it shows the importance of understanding how lifestyle choices may be important to optimally harness the body's immune system to fight cancer. Principal investigator for the study is **Daniel Stover, MD**, assistant professor in the Department Internal Medicine, Division of Medical Oncology at Ohio State and member of the Translational Therapeutics Program at the OSUCCC – James. He presented this research at the 2021 San Antonio Breast Cancer Symposium in December.

## Exercising before surgery can have protective effect on liver

*Meihong Deng, MD*

*Allan Tsung, MD*

*Hai Huang, MD*

Many health care facilities worldwide prescribe preoperative exercise therapy to improve patients' surgical outcomes. A mouse study led by researchers at the OSUCCC – James, The Ohio State University Wexner Medical Center and the Ohio State College of Medicine shed light on mechanisms underlying the protective effect of preoperative exercise on surgically induced liver injury. The study found that a four-week aerobic pre-operative exercise regimen significantly reduces liver injury and inflammation from ischemia and reperfusion in mice, and that these effects lasted for seven more days after completing pre-operative exercise. Study findings were published in the journal ***Nature Metabolism***. Co-corresponding authors were **Meihong Deng, MD**, associate professor in the Department of Surgery, Division of Trauma, Critical Care and Burn, **Allan Tsung, MD**, professor and director of the Division of Surgical Oncology in the Department of Surgery, and **Hai Huang, MD**, assistant professor in the Division of Surgical Oncology. Tsung and Huang also are in the Translational Therapeutics Program at the OSUCCC – James.

## Multi-gene testing could detect more hereditary cancer syndromes

*Rachel Pearlman, MS, LGC*

Up to 38.6% of people with colorectal cancer (CRC) who have a hereditary cancer syndrome — including 6.3% of those with Lynch syndrome (LS) — could have their conditions remain undetected with current universal tumor-screening methods, and at least 7.1% of people with CRC have an identifiable inherited genetic mutation, according to data published by scientists at the OSUCCC – James. The scientists say their data, gathered from more than 3,300 CRC patients treated at 51 hospitals across Ohio, make a strong argument for implementing multi-gene panel testing as part of the standard of care for all patients with CRC. **Rachel Pearlman, MS, LGC**, a genetic counselor/researcher at the OSUCCC – James, was first author of the study, which was published in the journal ***JCO Precision Oncology***.

## Study suggests common drug could be used to prevent certain skin cancers

*Sujit Basu, MD, PhD*

Data published by researchers at the OSUCCC – James suggest an oral drug used in the clinical setting to treat neuromuscular diseases could also help prevent a common form of skin cancer caused by damage from ultraviolet-B (UVB) radiation from the sun. While these data were gathered from preclinical studies, senior author **Sujit Basu, MD, PhD**, professor in the Department of Pathology at Ohio State and member of the Translational Therapeutics Program at the OSUCCC – James, says preliminary results in animal models are promising and worthy of further investigation through phase I human studies. Basu and colleagues reported their initial findings in the journal ***Cancer Prevention Research***. Their data showed that the neurotransmitter/neurohormone dopamine, by activating its D2 receptors, can stop the development and progression of certain UVB-induced precancerous squamous skin cancers.

## Older minority cancer patients experience worse surgical outcomes compared to white patients with similar socioeconomic factors

*Timothy Pawlik, MD, PhD, MPH*

Older minority cancer patients with poor social determinants of health are significantly more likely to experience negative surgical outcomes compared to white patients with similar risk factors, according to a study by researchers at the OSUCCC – James. A retrospective analysis of more than 200,000 patients conducted by the researchers suggests that minority patients living in high socially vulnerable neighborhoods had a 40% increased risk of a complication and a 23% increased risk of 90-day mortality compared to white patients for neighborhoods with low social vulnerability. The U.S. Centers for Disease Control and Prevention defines social vulnerability as "potential negative effects on communities caused by external stresses on human health." Study results were published in the ***Journal of the American College of Surgeons***. Senior author was **Timothy Pawlik, MD, PhD, MPH**, professor and chair of the Department of Surgery at Ohio State and member of the Cancer Control Program at the OSUCCC – James. Read more about Pawlik's career at **health.osu.edu.**

## Addison was senior author on study cited as one of most relevant by *European Heart Journal*

*Daniel Addison, MD*

**Daniel Addison, MD**, assistant professor in the Department of Internal Medicine, Division of Cardiovascular Medicine, director of Cardio-Oncology at Ohio State, and a member of the Cancer Control Program at the OSUCCC – James, was senior author on an article published in the ***European Heart Journal*** that was cited by the journal as one of the most relevant studies in the field of cardio-oncology for 2020-21. With an impact factor of 29.983, *European Heart Journal* is a leading journal in the field of cardiology. The article, "Incidence, Risk Factors and Mortality of Atrial Fibrillation (AF) in Breast Cancer: a SEER-Medicare Analysis," found that AF incidence is higher in patients with new breast cancer, and that it is associated with later mortality after cancer diagnosis.

## Spotlight:

# Pelotonia-funded initiatives

**In 2021, funds from Pelotonia, the annual cycling event that raises millions of dollars for cancer research at Ohio State, furthered the OSUCCC – James' efforts to change the landscape of cancer care by supporting the Pelotonia Institute for Immuno-Oncology (PIIO) and a number of statewide initiatives focused on cancer prevention.**

## Pelotonia Institute for Immuno-Oncology (PIIO)

*Zihai LI, MD, PhD*

Established in 2019 following a five-year, $102,265,000 pledge from Pelotonia, the PIIO – a bench-to-bedside research initiative focused on harnessing the body's immune system to fight cancer at all levels – has established a robust foundation on which to pursue its overarching ambition of being a global leader in immuno-oncology (IO) breakthroughs.

Through studies utilizing systems IO, PIIO scientists seek a better understanding of cellular systems in order to create more effective immunological tools to fight cancer. This research improves knowledge about the relationship between cancer genomics and immune evasion. Through translational IO research, PIIO scientists turn discoveries into new or improved cancer treatments and broaden patient populations that can be treated with cell therapy.

During the PIIO's first two full years of operation, it has recruited 18 new faculty who have boosted PIIO membership to over 100 individuals whose annual funding from grants stands at more than $32 million, including $19 million from the National Cancer Institute (NCI). In addition, more than 90 IO clinical trials are under way at Ohio State, the majority of which are experimental early-phase trials. PIIO members have published more than 500 articles in peer-reviewed scientific journals over the past two years and have disclosed over 50 inventions.

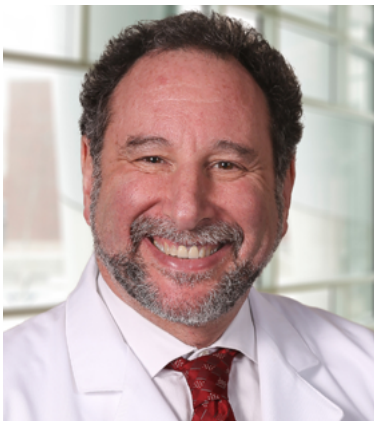
The PIIO's Immune Monitoring and Discovery Platform (IMDP), which gives researchers a 360-degree-view of the immune system to see what happens in a patient's body when treated with cancer immunotherapy, has amassed $3.8 million in resources and technologies in such areas as immunophenotyping, imaging, single-cell genomics, single-cell proteomics, automation and robotics. The IMPD is helping clinicians improve correlative science in the trials they lead by assaying IO clinical trial samples for correlative studies, and by providing expertise from PIIO investigators toward advancing the science of study agents.

> **"We have a strong framework and enhanced research capabilities that position our team to make big strides in the coming years," says PIIO Founding Director Zihai Li, MD, PhD.**

Li says plans call for the opening of many more IO clinical trials in the next few years to facilitate the creation of a pipeline of novel cancer immunotherapeutics that will be tested in the clinic.

The PIIO's IMPD also joined in the global fight against the COVID-19 pandemic in 2021, collaborating with **Carlos Malvestutto, MD, MPH**, of the Department of Internal Medicine, Division of Infectious Diseases at Ohio State, in an OncoImmune phase III clinical trial of CD24Fc to treat patients hospitalized with COVID-19. CD24Fc is a first-in-class biologic that fortifies an innate immune checkpoint against excessive inflammation. In this study, the researchers assessed safety and efficacy and found that CD24Fc robustly blunts systemic inflammation and is a potential breakthrough for treating patients who are severely and critically ill with COVID-19. Other PIIO-assisted studies relating to COVID-19 can be found elsewhere in this Accomplishments Report.

Read more about Li's lifelong mission to unlock the promise of immunotherapy for cancer patients at **health.osu.edu**.



*Peter Shields, MD*

*David Carbone, MD, PhD*

*Barbara Andersen, PhD*

## Beating Lung Cancer in Ohio (BLC-IO)

Researchers are relying on a network of 50 Ohio community hospitals that was established by the OSUCCC – James for recruiting patients in a statewide clinical research initiative that takes aim at lung cancer, the No. 1 cancer killer among men and women in the United States.

Supported by $3 million from Pelotonia, the Beating Lung Cancer – In Ohio (BLC-IO) initiative is led by (above from left) **Peter Shields, MD**, deputy director of the OSUCCC; **David Carbone, MD, PhD**, director of the Thoracic Oncology Center at the OSUCCC – James; and **Barbara Andersen, PhD**, also in the Cancer Control Program.

BLC-IO has two aims. One is to assess the impact of advanced gene testing and to provide expert advice to help each patient's treating physician determine the best therapy for stage IV lung cancer patients in hopes of prolonging survival. The other is to improve smoking-cessation rates among smokers with lung cancer and their family members (determine the impact of centralized telephone counseling and provider support on cessation).

Project leaders anticipate more than 2,000 newly diagnosed patients with stage IV non-small cell lung cancer will enroll in BLC-IO via the community hospital network. Enrollees receive free testing for more than 300 genes in their cancer specimens, and physicians who treat them receive expert support for interpreting test results and determining treatments. BLC-IO also provides smoking-cessation support for up to three years to participants and family members.

Papers relating to the BLC-IO that have been published or are awaiting publication in scientific journals cover such topics as: "Cancer Treatment During COVID-19: Resilience of Individuals With Advanced Non-Small Cell Lung Cancer Versus Community Controls"; "Psychological Symptom Trajectories and Non-Small Cell Lung Cancer Survival: A Joint Model Analysis"; "Illness Perceptions and Psychological and Physical Symptoms in Newly Diagnosed Lung Cancer"; and "Newly Diagnosed Patients With Advanced Non-Small Cell Lung Cancer: A Clinical Description of Those With Moderate to Severe Depressive Symptoms." A significant focus of these studies is on depression and stress.

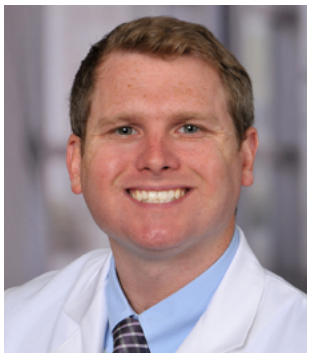
**Spotlight:**

# Pelotonia-funded initiatives (continued)

## Ohio Prevention and Treatment of Endometrial Cancer (OPTEC)

*David E. Cohn, MD, MBA, FACHE*

*Paul Goodfellow, PhD*



*Casey Cosgrove, MD*

*Elaine Mardis, PhD*

Supported by $1.5 million in Pelotonia funds, OPTEC aims to recruit up to 1,000 women with endometrial (uterine) cancer from partner hospitals across the state and screen them for Lynch syndrome (LS) and other inherited genetic conditions linked to greater risk of endometrial, colorectal, stomach and ovarian cancers.

Their tumor samples undergo molecular profiling to identify targeted treatments personalized to each patient's tumor characteristics. Patients with LS and their at-risk family members will be educated about the importance of genetic testing and cancer prevention strategies based on their increased risk for LS-associated cancers. Women whose tumors have defective DNA mismatch repair will be considered for immunotherapy clinical trials for endometrial cancer.

OPTEC is led by (above, from left) **David E. Cohn, MD, MBA, FACHE**, chief medical officer at the OSUCCC –James, and **Paul Goodfellow, PhD**, of the Molecular Carcinogenesis and Chemoprevention Program, and is assisted by multiple collaborators from Ohio State (including **Casey Cosgrove, MD**, lead oncologist and member of the Translational Therapeutics Program) and from Nationwide Children's Hospital Research Institute. OPTEC will conduct its LS screening with a one-step genetic sequencing technique developed by **Elaine Mardis, PhD**, a geneticist at Nationwide Children's Hospital Research Institute and also a member of the Translational Therapeutics Program.

Genetic profiling will help identify patients most likely to benefit from new therapies, including immunotherapy drugs that target certain proteins. OPTEC also is supported by a five-year grant awarded by the National Cancer Institute in 2018 to principal investigators Goodfellow, Mardis and Heather Hampel, MS, LGC, to study "Combined NGS Tumor-Based Detection of Germline Lynch Syndrome Mutations and Prognostic Classification of Endometrial Cancers." This grant extends research supported by Pelotonia and supports the study of additional tumors from women with endometrial cancer.

# Turning the PAGE on Breast Cancer in Ohio

The newest statewide initiative supported by Pelotonia is Turning the PAGE on Breast Cancer in Ohio (Population-Level Precision Prevention Strategies for Preventing Aggressive Breast Cancer), co-led by **Electra Paskett, PhD, MSPH**, associate director for population sciences and community outreach at the OSUCCC – James, and Heather Hampel, MS, LGC, formerly of the OSUCCC – James.

This project uses a multi-level approach in 12 Ohio counties to provide breast cancer education and facilitate access to risk assessment, genetic counseling and testing, appropriate screening/surveillance, follow-up for abnormal tests, and prompt and proper treatment for African American women who are at greater risk of breast cancer mortality.

Collaborators with the OSUCCC – James include the Ohio Association of Community Health Centers, Susan G. Komen and the North Central Region American Cancer Society. Participating counties include Franklin, Fairfield, Clark, Butler, Hamilton, Lake, Cuyahoga, Lorain, Trumbull, Summit, Stark and Mahoning.

Several strategies (e.g., Facebook ads and referrals from providers or community organizations) are being used to direct women to a website that includes educational information about breast cancer screening, prevention and treatment, and a risk-assessment tool that provides a personal prescription for breast health, including whether they need to schedule an appointment with cancer genetics professionals or get a mammogram.

Paskett says this study will use geographic predictors (county) of aggressive disease to identify and focus on women who live in high-risk counties, train providers at Federally Qualified Health Centers (FQHCs) to facilitate breast health strategies and deliver personalized breast cancer prevention strategies to women based on their risk stratification, and help women adhere to these strategies via telephone patient navigation.

"We will determine whether there were significant increases in the percentage of women who are up-to-date with risk-

*Electra Paskett, PhD, MSPH*

appropriate breast cancer screening in the 12 counties," she adds. "We also will determine the number of referrals to genetic counseling/genetic testing within the FQHCs, any change in breast-health knowledge among FQHC providers, and the number of community organizations involved in breast health, community events and policy efforts."

Turning The Page On Breast Cancer

# Large research grants

## Prestigious 'MERIT Award' will boost study of DNA break repair mechanisms

*Eugene Oltz, PhD*

The National Institute of Allergy and Infectious Disease (NIAID) issued a 10-year, $4.7 million MERIT Award to help Ohio State researchers continue their study of repair mechanisms for DNA double-strand breaks in lymphocytes (immune cells in the blood and lymph tissue). Faulty repair of these breaks can lead to genomic aberrations that cause cancer, especially leukemia and lymphoma. Principal investigator (PI) is **Eugene Oltz, PhD**, professor and chair of the Department of Microbial Infection and Immunity at Ohio State and a member of the Cancer Biology Program at the OSUCCC – James. The MERIT (Method to Extend Research in Time) Award goes to investigators with a stellar research record in immunology and infectious disease. The award allows for significant freedoms and advances in research.

## NCI grant will support study of physical & neurocognitive late effects in young survivors of pediatric cancer

*Cynthia Gerhardt, PhD*

The National Cancer Institute (NCI) awarded a five-year, $3.5 million grant to help researchers at the OSUCCC – James and Nationwide Children's Hospital lead a multi-site study of psychosocial risk in young survivors of early-onset pediatric cancer. PI is **Cynthia Gerhardt, PhD**, professor in the Department of Pediatrics at Ohio State and member of the Cancer Control Program at the OSUCCC – James. Gerhardt, director of the Center for Biobehavioral Health at Nationwide Children's Hospital, and colleagues state that, despite increased survival, over two-thirds of children with cancer experience late effects such as sensorimotor deficits, neurocognitive impairment and psychosocial difficulties. The researchers cite a need to characterize psychosocial risk in children treated for early-onset cancer and to evaluate a model they have devised for more effective targeted interventions.

## Grant-funded study will test strategy to improve therapy for hypoxic tumors

*Nicholas Denko, MD, PhD*

*Zihai Li, MD, PhD*

The NCI awarded a five-year, $2.9 million grant to help a team of OSUCCC – James researchers test a strategy for overcoming low levels of oxygen in tumors – a condition called hypoxia that reduces the effectiveness of anticancer treatment with radiotherapy, some chemotherapy and immune checkpoint blockade therapy. The study is led by PIs **Nicholas Denko, MD, PhD** (left), professor in the Department of Radiation Oncology at Ohio State and member of the Cancer Biology Program at the OSUCCC – James, and **Zihai Li, MD, PhD** (right), founding director of the Pelotonia Institute for Immuno-Oncology (PIIO) at the OSUCCC – James.

## NCI grant will help researchers target molecular pathway for cancer immunotherapy

*Zihai Li, MD, PhD*

A five-year, $2.82 million grant from the NCI will enable OSUCCC – James investigators to study how a chaperone molecule called GRP94 controls cancer and to determine the best strategy to target this molecule for cancer immunotherapy. The PI is **Zihai Li, MD, PhD**, founding director of the Pelotonia Institute for Immuno-Oncology (PIIO) at the OSUCCC – James. In the project abstract, Li states that his lab team has demonstrated that GRP94 "is a strategically important target for cancer, because it controls multiple key molecular pathways in cell growth, migration, immune tolerance and differentiation."

## NCI grant will support study of novel genetic counseling approach for high-risk breast cancer patients

*Kevin Sweet, MS, LGC*

*Mira Katz, MPH, PhD*

An interdisciplinary team of OSUCCC – James researchers will use a five-year, $2.8 million grant from the NCI to conduct a randomized clinical trial on a novel genetic counseling patient preference (GCPP) intervention that may better suit the needs of women with an elevated risk of breast cancer. The researchers – led by PIs **Kevin Sweet, MS, LGC** (left), professor in the Department of Internal Medicine, Division of Human Genetics, and **Mira Katz, MPH, PhD** (right), a member of the Cancer Control Program at the OSUCCC – James and professor in the College of Public Health – state that their study will compare conventional genetic counseling with a GCPP intervention integrated within an electronic health record patient portal for women with elevated breast cancer risk.

## Researchers gain grant to study innate immune dysfunction in patients with AML

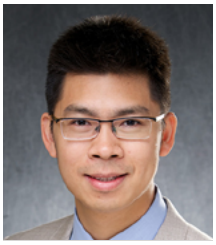
*Bethany Mundy-Bosse, PhD*

*Christopher Oakes, PhD*

OSUCCC – James researchers will use a five-year, $2.54 million grant from the NCI to study a mechanism of innate immune dysfunction in acute myeloid leukemia (AML) and to explore a therapeutic combination that may repair this defect and improve immune cell responses in patients with cancer. The NCI awarded the grant, titled "Dysregulation of Lymphoid Immunity in Acute Myeloid Leukemia," to PIs **Bethany Mundy-Bosse, PhD** (left), and **Christopher Oakes, PhD** (right), both of whom are assistant professors in the Department of Internal Medicine, Division of Hematology at Ohio State and members of the Leukemia Research Program at the OSUCCC – James.

# Large research grants (continued)

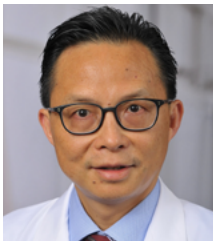
## NIH grants to aid bioinformatics studies with applications to developmental and stem cell biology



*Kin Fai Au, PhD*

The National Human Genome Research Institute of the NIH has awarded a four-year, $2.4 million grant to help Ohio State researchers produce the first bioinformatics platform for comprehensively studying repetitive genes and gene isoforms in a complex biomedical context. Also, the National Institute of General Medical Sciences at the NIH has awarded an associated four-year grant of $1.79 million for a project that will use another set of bioinformatics and an innovative epigenome assay called MeSMLR-seq that the researchers developed by using nanopore sequencing. The PI for both grants is **Kin Fai Au, PhD**, associate professor in the Department of Biomedical Informatics and member of the Translational Therapeutics Program at the OSUCCC – James. Au says the grants will be applied to developmental and stem cell biology; the methods and results could extend to cancer research.

## Researchers awarded NCI grant to study regulation of tumor-infiltrating T cells by macrophages

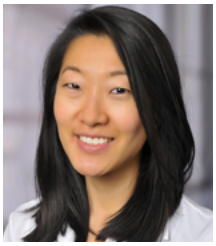


*Yiping Yang, MD, PhD*

*Xiaopei Huang, PhD*

A five-year, $2.2 million grant from the NCI will help investigators at the OSUCCC – James study how tumor-associated macrophages, or TAMs, disrupt immune cells (particularly CD8 T cells) and contribute to cancer development and progression. PIs **Yiping Yang, MD, PhD** (left), and **Xiaopei Huang, PhD** (right), both of the OSUCCC – James Leukemia Research Program, hope their study will lead to therapeutic strategies that target TAMs for treating cancer. Yang is a professor and director of the Division of Hematology in the Department of Internal Medicine, at Ohio State; Huang is an associate professor in the division. Both are in the Leukemia Research Program at the OSUCCC – James.

## Scientists will examine approaches to treating acute GVHD with aid of NCI grant



*Hannah Choe, MD*

*Parvathi Ranganathan, PhD*

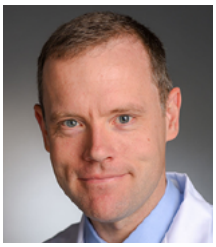
OSUCCC – James researchers will use a five-year, $2.07 million NCI grant to evaluate an innovative approach to abrogating acute graft-versus-host disease (aGVHD) in patients who have received allogeneic (from a donor) stem cell transplants (alloSCT) as treatment for hematologic malignancies. The PIs are **Hannah Choe, MD** (study leader, left), and **Parvathi Ranganathan, PhD** (right), assistant professors in the Department of Internal Medicine, Division of Hematology at Ohio State and members of the Leukemia Research Program at the OSUCCC – James. Stating that aGVHD, which occurs when donor T cells react against host tissues, is the major cause of non-relapse mortality after alloSCT, the researchers note that 50% of patients don't respond to front-line corticosteroid therapy and have limited treatment options.

## NIH grant-funded study may shed light on defective cellular processes that lead to cancer and other diseases

*Krishna Chinthalapudi, PhD, MSc*

Researchers at Ohio State received a $1.89 million, five-year grant from the NIH to study the structure and function of nonmuscle myosin motors and how defects in the natural processes of these motor proteins can lead to a variety of human diseases, including cancer. PI for the grant, awarded by the NIH's National Institute of General Medicine Sciences, is **Krishna Chinthalapudi, PhD, MSc**, assistant professor in the Department of Physiology and Cell Biology at Ohio State and a member of the Translational Therapeutics Program at the OSUCCC – James.

## Federal grant will support study of hematologic regeneration after chemotherapy or stem cell transplantation



*Bradley Blaser, MD, PhD*

The National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) awarded OSUCCC – James researchers a five-year, $1.26 million grant for a study of hematopoiesis (blood cell production) that could lead to therapies to improve this process in leukemia patients following chemotherapy or stem cell transplantation. Led by PI **Bradley Blaser, MD, PhD**, assistant professor in the Department of Internal Medicine, Division of Hematology at Ohio State and member of the Leukemia Research Program at the OSUCCC – James, the basic-research study will explore the biological mechanisms involved with epigenetic control of vascular niche capacity to support hematopoiesis.

## Ohio State scientists land NIH high-risk, high-reward research grants

*Kenneth Pitter, MD, PhD*

*Maria Mihaylova, PhD*

Two scientists in Ohio State's cancer program landed large grants from the NIH Common Fund's High-Risk, High-Reward Research Program, which supports scientists pursuing innovative research with the potential for broad impact in biomedical, behavioral or social sciences within the NIH mission. **Kenneth Pitter, MD, PhD** (left), assistant professor in the Department of Radiation Oncology, received a five-year, $1.25 million Early Independence Award, and **Maria Mihaylova, PhD** (right), assistant professor in the Department of Biological Chemistry and Pharmacology, received a five-year, $1.5 million New Innovator Award. Mihaylova also is in the Molecular Carcinogenesis and Chemoprevention Program at the OSUCCC – James.

# Large research grants (continued)

## Grant-funded study will help scientists build informatics bridge over 'valley of death'

*Lang Li, PhD*

The NCI awarded a three-year, $1.16 million grant to help Ohio State investigators create a translational drug interaction knowledge base (TDCKB) that will provide an informatics bridge over the "valley of death" for multi-drug cancer therapies. **Lang Li, PhD**, chair of the Department of Biomedical Informatics at Ohio State and member of the Cancer Biology Program at the OSUCCC – James, is PI for the project. Li says the new TDCKB will integrate multi-drug exposure and toxicity data from various data sources.

## Grant will aid study of using exosomes to predict chemoresistance in ovarian cancer

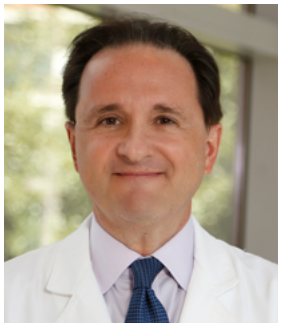
*Selvendiran Karuppaiyah, PhD*

A two-year, $1 million federal grant will support an OSUCCC – James study that could lead to improved detection of chemotherapy resistance and allow for more targeted treatments in patients with high-grade serous ovarian carcinoma (HGSOC). The U.S. Department of Defense awarded the grant to a team led by PI **Selvendiran Karuppaiyah, PhD**, associate professor in the Department of Obstetrics and Gynecology, Division of Gynecologic Oncology at Ohio State and member of the Translational Therapeutics Program at the OSUCCC – James. The researchers stress the need for evaluating cancer biomarkers that can predict which patients will develop chemotherapy resistance so doctors can devise targeted treatments.

**To sign up to receive periodic news about OSUCCC – James research, clinical trials, grants and more, visit cancer.osu.edu/pubs.**

# Recent recruits

**Some of the brightest minds in cancer research are attracted to the OSUCCC – James. In the past year, the cancer program recruited several senior- and junior-level medical scientists. Among them are these prominent senior-level researchers:**



**Marcos de Lima, MD**, was recruited from Case Western Reserve University to serve as a professor in the Department of Internal Medicine, Division of Hematology at Ohio State and as director of both the Blood and Marrow Transplant (BMT) and Cellular Therapy programs at the OSUCCC – James. Before joining the OSUCCC – James, de Lima was co-leader of the Hematopoietic and Immune Cancer Biology Program at Case Comprehensive Cancer Center, director of the Bone Marrow Transplant Program at University Hospitals Cleveland Medical Center, and director of the Hematologic Malignancies and Stem Cell Transplant Program at University Hospitals Seidman Cancer Center. He has years of experience in developing and conducting clinical trials involving stem cell transplantation for cancers originating in blood-borne tissue, bone marrow or immune system cells.

**Mark Rubinstein, PhD**, was recruited from the Medical University of South Carolina (MUSC) and the Hollings Cancer Center to serve as an associate professor in the Department of Internal Medicine, Division of Medical Oncology at Ohio State and as a researcher in the Pelotonia Institute for Immuno-Oncology (PIIO) at the OSUCCC – James, where he also is in the Translational Therapeutics Program. Rubinstein's NIH-funded research program is focused on understanding how the immune system functions and on applying this knowledge to the development of immune-based therapies to treat cancer. As part of this effort, his laboratory is working to develop improved adoptive cell therapy and immune checkpoint therapy strategies.

**Joyce Wu, PhD**, joined Ohio State as a professor in the Department of Internal Medicine, Division of Rheumatology and Immunology. She was recruited from the University of Arizona Arthritis Center, where she served as an associate professor in the Department of Immunobiology. Trained at Harvard Medical School, and awarded multiple grants from the NIH, Wu focuses her research on microbiome, immune regulation, autoimmunity and cancer.

**Ryan Goerlitz, MBA**, was chosen as the new chief financial officer (CFO) for the OSUCCC – James in place of **Julian Bell**, who retired at the end of June after 23 years as CFO. Goerlitz has served as associate vice president of finance for the Ohio State College of Medicine, Office of Health Sciences and Ohio State University Physicians (OSUP) within the Ohio State Wexner Medical Center since he came to the university in 2018 from the Medical College of Wisconsin, where he had worked for 11 years. In his previous role at Ohio State, Goerlitz provided strategic oversight of financial planning, budgeting and financial management for the areas he served.

# Institutional achievements

## 'A source of hope': President Biden touts support for cancer doctors, researchers during Ohio State visit

On March 23, 2021, **President Joseph R. Biden** brought his passion for cancer research to Ohio State, where he met with doctors to discuss innovation underway at The Ohio State University Comprehensive Cancer Center – Arthur G. James Cancer Hospital and Richard J. Solove Research Institute (OSUCCC – James). Biden called the OSUCCC – James a "source of hope" that is breaking new ground in the nationwide effort to create a cancer-free world.

The president came to commemorate the 11th anniversary of the signing of the Affordable Care Act, the landmark legislation that transformed health coverage in the United States while also providing funds for advancements in medical technology, some of which are now in use at the OSUCCC – James. He was joined during his visit by James doctors, including **Arnab Chakravarti, MD, FASTRO, FACRO**, professor and chair of the Department of Radiation Oncology, who shared details about the impact of the ACA support on patients in central Ohio.

Read more about **President Biden's visit** and **Chakravarti's life mission** to develop next-generation precision radiation therapies for cancer patients.

## New Center for Cancer Metabolism to aid development of therapies targeting metabolic pathways

*Deliang Guo, PhD*

A new Center for Cancer Metabolism (CCM) at Ohio State aims to become a world-renowned research entity focused on basic and translational studies regarding cancer metabolism and the development of therapies targeting tumor metabolic pathways. Researchers in the CCM, which is housed within the OSUCCC – James, apply multidisciplinary technologies and techniques to answer challenging questions.

The CCM is led by Director **Deliang Guo, PhD**, professor and vice chair for clinical and basic research in the Department of Radiation Oncology, and basic science director of the Center for Neurological Malignancies and Cancer Neurology. Guo also is a member of the Translational Therapeutics Program at the OSUCCC – James.

## OSUCCC – James receives three national Press Ganey awards for excellence

The OSUCCC – James earned three national awards for excellence in patient care delivery from Press Ganey, a health care performance-improvement organization that works with more than 41,000 health care facilities. For the **sixth consecutive year**, the OSUCCC – James received a Press Ganey Guardian of Excellence Award® for Patient Experience for sustaining excellence in patient experience over a single year. The institution also received its **third straight** Press Ganey Pinnacle of Excellence Award® for Patient Experience in *Inpatient Care* (with regard to the non-HCAHPS sections of the hospital's inpatient survey) for maintaining excellence over consecutive years. In addition, it received its **second straight** Press Ganey Pinnacle of Excellence Award® for Patient Experience *in HCAHPS* for maintaining excellence over consecutive years.


## Pelotonia 2021 raises nearly $20 million for cancer research at Ohio State

Riders, Challengers, Volunteers and Donors in Pelotonia 2021 raised $19,313,532 for cancer research at the OSUCCC – James and boosted the 13-year total for this annual cycling event to more than $236 million, **all of which goes to research** thanks to the event's major funding partners. Pelotonia Ride Weekend, which returned as an in-person event in 2021, drew more than 10,400 participants – including nearly 6,000 Riders along with approximately 2,600 Challengers and 2,300 Volunteers – when it unfolded Aug. 6-8. Register for Pelotonia 2022, which will take place Aug. 5-7, at **pelotonia.org**.


# Institutional achievements (continued)

## Prestigious new or renewed institutional designations, certifications and accreditations

- The Sickle Cell Program received a disease-specific care recertification from The Joint Commission following a review that yielded no findings or recommendations. In 2018, the OSUCCC – James became the only institution in the nation to have the Joint Commission's sickle cell disease-specific certification, which involves evaluation of clinical programs for compliance with requirements and expectations for quality care and safety.

- The Multinational Association of Supportive Care in Cancer (MASCC) certified the OSUCCC – James as an MASCC-Designated Center of Excellence in Supportive Care in Cancer for 2021 to 2024. The OSUCCC – James became only the second institution in the United States to receive this certification, which recognizes oncology centers that demonstrate best practices in supportive cancer care.

- The North American Skull Base Society (NASBS) designated The Ohio State University Skull Base Surgery team as an NASBS 2021 Multidisciplinary Team of Distinction (MTD). This designation is based on having at least four NASBS members with specific multidisciplinary expertise. The NASBS members who made Ohio State eligible are **Dukagjin Blakaj, MD, PhD**, **Daniel Prevedello, MD**, **Brad Otto, MD**, **Matthew Old, MD**, and **Ricardo Carrau, MD**. The Skull Base Surgery team is co-led by Prevedello and Carrau.

- The Division of Palliative Medicine in Ohio State's College of Medicine achieved re-designation as a European Society of Medical Oncology (ESMO) Designated Centres of Integrated Oncology and Palliative Care Programme. The division, directed by **Jillian Gustin, MD**, first achieved this designation in 2016 and regained it in 2021.

- The nurse residency programs for the OSUCCC – James and for Health System Nursing both earned their second American Nurse Credentialing Center (ANCC) Practice Transition Accreditation Program® (PTAP). Both programs earned accreditation with distinction.

- The James Oncologic Physical Therapy (PT) Residency became the first oncology PT residency in Ohio – and only the sixth in the United States – to gain accreditation by the American Board of Physical Therapy Residency and Fellowship Education (ABPTRFE). The residency is a collaboration between The James and the Clinical Doctorate in Physical Therapy Program in the Ohio State College of Medicine's School of Health and Rehabilitation Sciences.

## OSUCCC – James to extend global reach via participation in Magnet4Europe

Caregivers at the OSUCCC – James are working with staff at a large hospital in Germany as part of Magnet4Europe, a trial funded by the European Commission to determine the feasibility of redesigning hospital work environments in six European nations under principles of the American Nurses Credentialing Center (ANCC) Magnet Recognition Program®. Through this initiative, over 70 hospitals in Belgium, England, Germany, Ireland, Sweden and Norway are supported by one-to-one "twinning" with an experienced U.S. Magnet-recognized hospital to promote capacity building via transfer of knowledge, skills, tools, technology and best practices. The OSUCCC – James is paired with Klinikum Bremerhaven-Reinkenheide GmbH, a 723-bed hospital in Bremerhaven, Germany.



**Today's health, wellness and science news has a new home – Ohio State Health & Discovery.**

The Ohio State cancer experts you trust are here to tell you the real story – including the deeper news behind the headlines.

**Start your discovery at health.osu.edu/health/cancer.**

THE OHIO STATE UNIVERSITY

# Individual/team achievements

## National awards and honors

*Zihai Li, MD, PhD*

### Li elected as AAAS fellow

**Zihai Li, MD, PhD**, a professor in the Department of Internal Medicine, Division of Medical Oncology at Ohio State and founding director of the Pelotonia Institute for Immuno-Oncology (PIIO) at the OSUCCC – James, is among seven scientists at Ohio State who were elected to the 2021 class of Fellows of the American Association for the Advancement of Science (AAAS). The AAAS Fellowship, which recognizes individuals for scientifically or socially distinguished efforts to advance science or its applications, is one of the most prestigious honors a U.S. scientist can receive. Fellows are elected by their academic peers. Li was elected for contributions to the field of molecular immunology, particularly the roles of the heat shock protein 96 in chaperone biology, cancer progression, immune response and tolerance. Read more about Li's work at **health.osu.edu** and Li's lab at **cancer.osu.edu**.

*Yiping Yang, MD, PhD*

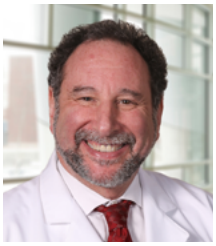
### Yang inducted into AAP

**Yiping Yang, MD, PhD**, professor and director of the Division of Hematology in the Department of Internal Medicine at Ohio State, was inducted to the Association of American Physicians (AAP). Yang, who also is in the Leukemia Research Program at the OSUCCC – James and holds the Jeg Coughlin Chair in Cancer Research, was nominated for his pioneering studies on the critical role of the CD40 co-stimulating protein in initiating T-cell-dependent immune responses, and for his work on Toll-like receptors in overcoming immune tolerance, which has served as a guiding principle in cancer immunotherapy. Read more about Yang's work at **health.osu.edu**.

*Robert Merritt, MD*

### Merritt receives 2021 Humanism in Medicine Award

**Robert Merritt, MD**, associate professor and director of the Division of Thoracic Surgery in the Department of Surgery at Ohio State, was a recipient of the 2021 Leonard Tow Humanism in Medicine Award from The Arnold P. Gold Foundation. These awards recognize graduating students and faculty members who demonstrate both clinical excellence and outstanding compassion in the delivery of care, and who show respect for patients, families and health care colleagues.



*Peter Shields, MD*

### Shields receives national award relating smoking and disease

**Peter Shields, MD**, deputy director of the OSUCCC and a thoracic oncologist at The James, was one of two scientists nationally who received the 36th annual Alton Ochsner Award Relating Smoking and Disease, which celebrates individuals who have made major contributions regarding the relationship between smoking and disease along with the development of innovative treatment modalities. Ochsner Health is a not-for-profit system that delivers health care to people in Louisiana, Mississippi and the Gulf South. Shields' research identifies phenotypes and gene-environment interactions related to cancer risk, specifically breast and lung cancer. His work explores smoking-related biomarkers of exposure and harm.

*Ann-Kathrin Eisfeld, MD*

## Eisfeld to help author AML classification for WHO Blue Books 5th Series

**Ann-Kathrin Eisfeld, MD**, assistant professor in the Department of Internal Medicine, Division of Hematology at Ohio State and member of the Leukemia Research Program at the OSUCCC – James, was invited to be an author for the classification of acute myeloid leukemia (AML) for the World Health Organization (WHO) Blue Books 5th Series. The International Agency for Research on Cancer (IARC) is responsible for publishing the *WHO Classification of Tumours series*, now in its fifth edition. The WHO Blue Books provide the definitive evidence-based classification of all cancer types, enhancing diagnosis and research that will lead to improved patient care worldwide. Eisfeld is also director of the Clara D. Bloomfield Center for Leukemia Outcomes Research at the OSUCCC – James.

*Micah Berman, JD*

## Berman receives national award for tobacco control advocacy

Tobacco control expert **Micah Berman, JD**, associate professor in the College of Public Health and the Moritz College of Law at Ohio State, was honored with the American Public Health Association's annual David P. Rall Award for Advocacy in Public Health for his commitment to science-based prevention of tobacco-related illness and death. Berman, a member of the Cancer Control Program at the OSUCCC – James, has worked on everything from local initiatives to international tobacco control policy. He has served as a senior adviser to the U.S. Food and Drug Administration's Center for Tobacco Products and as a visiting scholar at the World Health Organization's Center for International Cooperation on Tobacco Control.

*Kami Maddocks, MD*

## Maddocks selected to serve on ASH Subcommittee on Clinical Trials

**Kami Maddocks, MD**, professor in the Department of Internal Medicine, Division of Hematology at Ohio State and member of the Leukemia Research Program at the OSUCCC – James, was selected to serve on the American Society of Hematology's (ASH) new Subcommittee on Clinical Trials for three years. Also, Maddocks was selected for membership in the Lymphoma Research Foundation's Mantle Cell Lymphoma Consortium. The consortium comprises nearly 150 international laboratory and clinical scientists who study MCL, a rare and aggressive form of non-Hodgkin lymphoma (NHL). Maddocks treats patients with B-cell malignancies, including NHL, Hodgkin lymphoma and chronic lymphocytic leukemia.

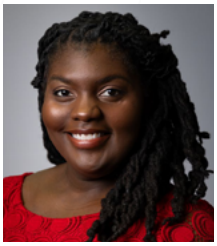
*Veena Kallambettu, MA, CCC-SLP, BCS-S*

## Speech & swallowing pathologist gains prestigious national award

**Veena Kallambettu, MA, CCC-SLP, BCS-S**, a speech and swallowing pathologist on the Speech and Language Pathology (SLP) Head and Neck Cancer Team at the OSUCCC – James, was the 2021 recipient of the Louis M. DiCarlo Award for Recent Clinical Achievement from the American Speech-Language-Pathology Foundation (ASHFoundation). Kallambettu was recognized for designing and implementing a Speech Intelligibility Testing Program in Head and Neck Cancer and a Velopharyngeal Functional Assessment Program – two novel and comprehensive outcome assessments for patients with oral cavity cancers.

# Individual/team achievements (continued)

*Lynne Brophy, MSN, PMGT-BC, APRN-CNS, AOCN*



*Timiya Nolan, PhD, APRN-CNP, ANP-BC*

## Brophy and Nolan receive national nursing awards

**Lynne Brophy, MSN, PMGT-BC, APRN-CNS, AOCN**, a breast oncology clinical nurse specialist at the OSUCCC – James, received the annual Clinical Nurse Specialist Evidence-Based Practice/Quality Improvement Award from the National Association of Clinical Nurse Specialists (NACNS). **Timiya Nolan, PhD, APRN-CNP, ANP-BC**, assistant professor in the College of Nursing at Ohio State and member of the Cancer Control Program at the OSUCCC – James, received the 2022 Victoria Mock New Investigator Award from the Oncology Nursing Society. Nolan's research focuses on self-management of chronic diseases like cancer and cardiovascular disease, with an interest in developing and testing age- and culturally sensitive interventions that promote health and quality of life.

## Distinguished career awards and honors

*Larry Copeland, MD*

### Copeland honored with Distinguished Service Award from Society of Gynecologic Oncology

**Larry Copeland, MD**, professor in the Department of Obstetrics and Gynecology, Division of Gynecologic Oncology at Ohio State and member of the Translational Therapeutics Program at the OSUCCC – James, received a 2020-21 Distinguished Service Award from the Society of Gynecologic Oncology (SGO). The award recognizes individuals who display continuous outstanding meritorious service in the field of gynecologic oncology. The award was presented at the SGO's 2021 Virtual Annual Meeting on Women's Cancer.

*A. Douglas Kinghorn, PhD, DSc*

### Kinghorn's career accomplishments highlighted in special issue of scientific journal

***The Journal of Natural Products*** honored **A. Douglas Kinghorn, PhD, DSc**, a member of the Molecular Carcinogenesis and Chemoprevention Program at the OSUCCC – James, in a special issue highlighting his impact on the field of natural products and his career accomplishments in the academic, private and public sectors, including 14 patents, 430 research articles and 80 book chapters. Kinghorn is a professor and the Jack L. Beal Chair in Medicinal Chemistry and Pharmacognosy for Ohio State's College of Pharmacy. The special issue is a tribute to his career.

*Matthew Ringel, MD*

### Ringel receives Distinguished Leadership Award from American Thyroid Association

**Matthew Ringel, MD**, co-leader of the Cancer Biology Program at the OSUCCC – James, was the 2021 recipient of the American Thyroid Association's (ATA) Sidney H. Ingbar Distinguished Lectureship Award for outstanding academic achievements in thyroidology. The award goes to "an established investigator who has made major contributions to thyroid-related research over many years." The ATA says Ringel, director of the Division of Endocrinology, Diabetes and Metabolism in the Department of Internal Medicine at Ohio State, was honored "for his innovative and visionary leadership and research in thyroid cancer. His research focuses on basic mechanisms of thyroid cancer tumorigenesis and metastasis, and his work in cell signaling in thyroid cancer has had an impact on the development of novel therapeutic approaches."

*Electra Paskett, PhD, MSPH*

## Paskett honored by the NCI as a "champion and changemaker"

**Electra Paskett, PhD, MSPH**, associate director for population sciences and community outreach at the OSUCCC – James and director of the Division of Cancer Prevention and Control in the Department of Internal Medicine at Ohio State, was listed by the NCI Division of Cancer Prevention among 50 "champions and changemakers of cancer prevention, early detection and symptom science" in commemoration of the 50th anniversary of the National Cancer Act. The division credited Paskett for her more than 30-year career as a cancer epidemiologist investigating "several sides of cancer's long trajectory: asymptomatic screening; symptom management; and survivorship … Her central focus continues to be health disparities in cancer prevention (particularly HPV vaccination) and early detection; in access to diagnostic and treatment services; and in survivorship."

*David Carbone, MD, PhD*

## Carbone collects LUNGevity Face of Hope Award & IASLC award for lifetime achievement

**David Carbone, MD, PhD**, director of the Thoracic Oncology Center at the OSUCCC – James, received the LUNGevity Face of Hope Award from the LUNGevity Foundation, a lung cancer-focused nonprofit organization. These national awards go to individuals who are making a difference in the lives of people with lung cancer. ALSO, Carbone received the 2021 Paul A. Bunn Scientific Award from the International Association for the Study of Lung Cancer (IASLC) Board of Directors Executive Committee. This award honors an IASLC scientist for a lifetime achievement of scientific contributions to thoracic cancer research. Carbone is a former IASLC president. He's also a professor in the Department of Internal Medicine, Division of Medical Oncology at Ohio State and co-leader of the Translational Therapeutics Program at the OSUCCC – James. Read more about Carbone's work at **health.osu.edu**.

*Bhuvaneswari Ramaswamy, MD*

## Ramaswamy receives national Metastatic Breast Cancer (MBC) Heroes award

**Bhuvaneswari Ramaswamy, MD**, professor in the Department of Internal Medicine, Division of Medical Oncology at Ohio State and member of the Translational Therapeutics Program at the OSUCCC – James, was one of four national recipients of the inaugural Metastatic Breast Cancer (MBC) Heroes™ awards from CURE Media Group, a multimedia platform devoted to cancer updates and research. The CURE Media Group noted that Ramaswamy has worked tirelessly to improve care and quality of life for patients with breast cancer. Her work as a founder of the Living Well with Advanced Breast Cancer Clinic at the OSUCCC – James – designed for patients with newly diagnosed metastatic breast cancer – was highlighted as well.

# Individual/team achievements (continued)

## National leadership positions

*David E. Cohn, MD, MBA, FACHE*

### Cohn named editor-in-chief for *Gynecologic Oncology*

**David E. Cohn, MD, MBA, FACHE**, chief medical officer at the OSUCCC – James, became editor-in-chief of the journal *Gynecologic Oncology* in January 2022 after serving as a deputy editor since 2011. The official publication of the Society of Gynecologic Oncology (SGO), *Gynecologic Oncology* is an international journal devoted to publishing clinical and investigative articles that concern tumors of the female reproductive tract. Cohn is a professor in the Department of Obstetrics and Gynecology, Division of Gynecologic Oncology at Ohio State and a member of the Translational Therapeutics Program at the OSUCCC – James.

*Joel Mayerson, MD*

### Mayerson elected secretary of AAOS Board of Councilors

**Joel Mayerson, MD**, professor in the Department of Orthopaedics at Ohio State and an orthopedic oncologist at the OSUCCC – James, was elected secretary of the American Academy of Orthopaedic Surgeons (AAOS) Board of Councilors (BOC). The BOC manages AAOS relations with state and regional orthopaedic societies across the United States, conducting programs to strengthen and support them. Mayerson's role as secretary will progress to chair over three years. ALSO, he was elected to the AAOS Board of Directors for a three-year term that began in March 2022. At the OSUCCC – James, Mayerson is director of the sarcoma program and of musculoskeletal oncology, and medical director of perioperative services. Read more about Mayerson's pioneering work at **health.osu.edu**.

*Sharla Wells-Di Gregorio, PhD*

### Wells-Di Gregorio becomes president-elect of American Psychological Oncology Society

**Sharla Wells-Di Gregorio, PhD**, associate professor in the Department of Internal Medicine, Division of Palliative Medicine at Ohio State, and member of the Cancer Control Program at the OSUCCC – James, was elected as president-elect of the American Psychosocial Oncology Society (APOS). Her term began at the close of the APOS Annual Conference in March 2022 and will continue through the close of the APOS Annual Conference in 2023. That will be followed by a term as president from 2023 to 2024, and as past president from 2024-2025. Wells-Di Gregorio specializes in psychosocial oncology and palliative medicine.

*Fred Tabung, PhD, MSPH*

### Tabung appointed to editorial board of *Journal of Nutrition*

**Fred Tabung, PhD, MSPH**, assistant professor in the Department of Internal Medicine, Division of Medical Oncology at Ohio State and member of the Molecular Carcinogenesis and Chemoprevention Program at the OSUCCC – James, was appointed to a two-year term on the editorial board of the *Journal of Nutrition*. Tabung's research focuses on the role of dietary patterns in cancer risk and survival, especially among patients with gastrointestinal tract cancers.

*Floor Backes, MD*

## Backes elected as board member for Society of Gynecologic Oncology

**Floor Backes, MD**, professor in the Department of Obstetrics and Gynecology, Division of Gynecologic Oncology at Ohio State and member of the Cancer Control Program at the OSUCCC – James, was elected as a board member for the Society of Gynecologic Oncology (SGO). She began her term after the SGO Annual Meeting on Women's Cancer in March 2022. With more than 2,000 members, the SGO is a global organization for gynecologic oncologists, medical oncologists, physician assistants, nurse practitioners, patient advocates and others who work to prevent and treat gynecologic cancers with equity. Backes treats patients with ovarian, endometrial, cervical, vaginal, vulva and other gynecologic cancers.

*Michael V. Knopp, MD, PhD*

## Knopp re-elected to ACNM Board of Directors

**Michael V. Knopp, MD, PhD**, professor in the Department of Radiology at Ohio State and member of the Translational Therapeutics Program at the OSUCCC – James, was re-elected to the American College of Nuclear Medicine (ACNM) Board of Directors for a second term through 2025. The ACNM is a professional organization of physicians and other nuclear medicine professionals dedicated to enhancing the practice of nuclear medicine. Knopp also directs the Wright Center of Innovation in Biomedical Imaging at Ohio State and is the Imaging Leader of the NCI's National Clinical Trials Network (NCTN) Imaging and Radiation Oncology Core (IROC).

*Manisha Shah, MD*

## Shah named co-chair of ATA task force for medullary thyroid cancer treatment guidelines

**Manisha Shah, MD**, professor in the Department of Internal Medicine, Division of Medical Oncology at Ohio State and member of the Translational Therapeutics Program at the OSUCCC – James, was appointed co-chair of the American Thyroid Association's Task Force for Systemic Therapies for Medullary Thyroid Cancer Guidelines. She also led a successful Annual International Thyroid Oncology Group (ITOG) Meeting in May 2021 as president of ITOG. Shah is chief of the Endocrine Medical Oncology team at the OSUCCC – James, where she treats patients with neuroendocrine, thyroid and adrenal cancers, as well as paraganglioma, pheochromocytoma and pituitary tumors.

*Robert Wesolowski, MD*

## Wesolowski elected co-chair of clinical trial committee in Big Ten Cancer Research Consortium

**Robert Wesolowski, MD**, associate professor in the Department of Internal Medicine, Division of Medical Oncology at Ohio State and member of the Translational Therapeutics Program at the OSUCCC – James, was elected as a co-chair of the Correlatives Clinical Trial Working Group Committee at the Big Ten Cancer Research Consortium. Wesolowski treats patients with all types of breast cancer, including female and male breast cancers, ductal breast carcinomas, lobular carcinomas, medullary carcinomas and inflammatory breast cancers. His research is focused on breast cancer immunology.

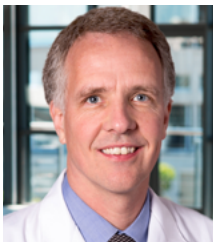
# Individual/team achievements (continued)

## Honors at Ohio State

*Peixuan Guo, PhD*

### Cancer researcher named 2021 Innovator of the Year at Ohio State

**Peixuan Guo, PhD**, a member of the Translational Therapeutics Program at the OSUCCC – James and a professor in the College of Pharmacy, was named 2021 Innovator of the Year by The Ohio State University Office of Research and the Corporate Engagement Office for his studies focusing on the application of RNA nanotechnology to cancer therapy. The annual award recognizes Ohio State researchers who are promoting commercialization of university intellectual property through invention disclosures filed, patents applied for and/or received, technologies licensed, or spin-off companies formed. Guo's research has led to several discoveries.



*Roman Skoracki, MD*

### Skoracki becomes director of Stefanie Spielman Comprehensive Breast Center

**Roman Skoracki, MD**, a professor in the Department of Plastic and Reconstructive Surgery at Ohio State, was appointed as medical director of the Stefanie Spielman Comprehensive Breast Center (SSCBC) at the OSUCCC – James. Skoracki, who joined Ohio State's medical faculty in 2014 after serving 11 years at MD Anderson Cancer Center in Houston, also leads the division of oncologic plastic surgery at Ohio State and is a member of the Cancer Control Program at the OSUCCC – James. James CEO **William Farrar, MD**, who had served as medical director of the SSCBC since its inception in 2011, transitioned out of that role to focus exclusively on his position as CEO.

*Bridget Oppong, MD*

### Oppong tapped as deputy director of Ohio State's Center for Cancer Health Equity

**Bridget Oppong, MD**, was appointed deputy director of the Center for Cancer Health Equity (CCHE) at the OSUCCC – James. A surgical oncologist specializing in breast cancer and an active public health researcher, Oppong also serves as an associate professor in the Department of Surgery, Division of Surgical Oncology at Ohio State and is a member of the OSUCCC – James Cancer Control Program. Her research focuses on health disparities that lead to poorer outcomes and higher mortality rates among patients with breast cancer. She investigates racial and ethnic differences in breast cancer management and outcomes that will inform future interventions. **Electra Paskett, PhD, MSPH**, is founding director of the CCHE.

*Jennifer Woyach, MD*

### Woyach becomes co-leader of Leukemia Research Program

**Jennifer Woyach, MD**, a professor in the Department of Internal Medicine, Division of Hematology at Ohio State, accepted the role as co-leader of the Leukemia Research (LR) Program at the OSUCCC – James along with co-leader **Ramiro Garzon, MD**, who is also a professor in the Division of Hematology. Woyach, a longstanding member of the LR Program, is a hematologist-oncologist who specializes in treating patients with blood cancers, particularly chronic lymphocytic leukemia (CLL) and B-cell lymphomas. Her research focuses on targeted therapies for CLL and on strategies to help patients overcome resistance to those therapies. Read more about Woyach's work at **health.osu.edu**.

## Career development awards

*Priya Dedhia, MD, PhD*

### Dedhia earns SUS Junior Faculty Research Scholar Award

**Priya Dedhia, MD, PhD**, assistant professor in the Department of Surgery, Division of Surgical Oncology at Ohio State and member of the Translational Therapeutics Program at the OSUCCC – James, received the 2021-22 Society of University Surgeons (SUS) Foundation Junior Faculty Research Scholar Award. This one-year award goes to junior surgical faculty members in the United States or Canada to support their research in the basic, clinical/outcomes or translational surgical sciences. Dedhia's project focuses on determining the contribution of Wnt and IGF2, oncogenic pathways known to be dysregulated in adrenocortical carcinoma, in metastatic progression.

*Carolyn Presley, MD, MHS*

### Presley receives Emerging Leaders Career Development Award

**Carolyn Presley, MD, MHS**, assistant professor in the Department of Internal Medicine, Division of Medical Oncology at Ohio State and member of the Cancer Control Program at the OSUCCC – James, received the Paul B. Beeson Emerging Leaders Career Development Award. The award is presented through an initiative by the National Institute on Aging, the American Federation for Aging Research and the John A. Hartford Foundation to develop a cadre of talented scientists willing to take leadership roles in transformative change leading to better health outcomes. Presley's award is for $1.2 million over five years. Her funding supports a project focusing on resiliency among adults with lung cancer using a novel supportive care intervention.

*Dwight Owen, MD, MS*

### Owen accepts LUNGevity Career Development Award for lung cancer research

**Dwight Owen, MD, MS**, assistant professor in the Department of Internal Medicine, Division of Medical Oncology at Ohio State and member of the Translational Therapeutics Program at the OSUCCC – James, was one of three recipients nationwide of a 2021 Career Development Award for lung cancer research from the LUNGevity Foundation, a lung cancer-focused nonprofit organization. These three-year awards, funded at $100,000 per year, support lung cancer research projects and provide recipients with mentorship by LUNGevity's Scientific Advisory Board. Owen's project is "Targeting Myeloid-Derived Suppressor Cells (MDSCs) in Lung Cancer."

# The James

THE OHIO STATE UNIVERSITY
COMPREHENSIVE CANCER CENTER

The Ohio State University
Comprehensive Cancer Center –
Arthur G. James Cancer Hospital
and Richard J. Solove Research Institute
460 W. 10th Ave.
Columbus, Ohio 43210

cancer.osu.edu

Non-Profit
U.S. Postage
**PAID**
Columbus, OH
Permit No. 711