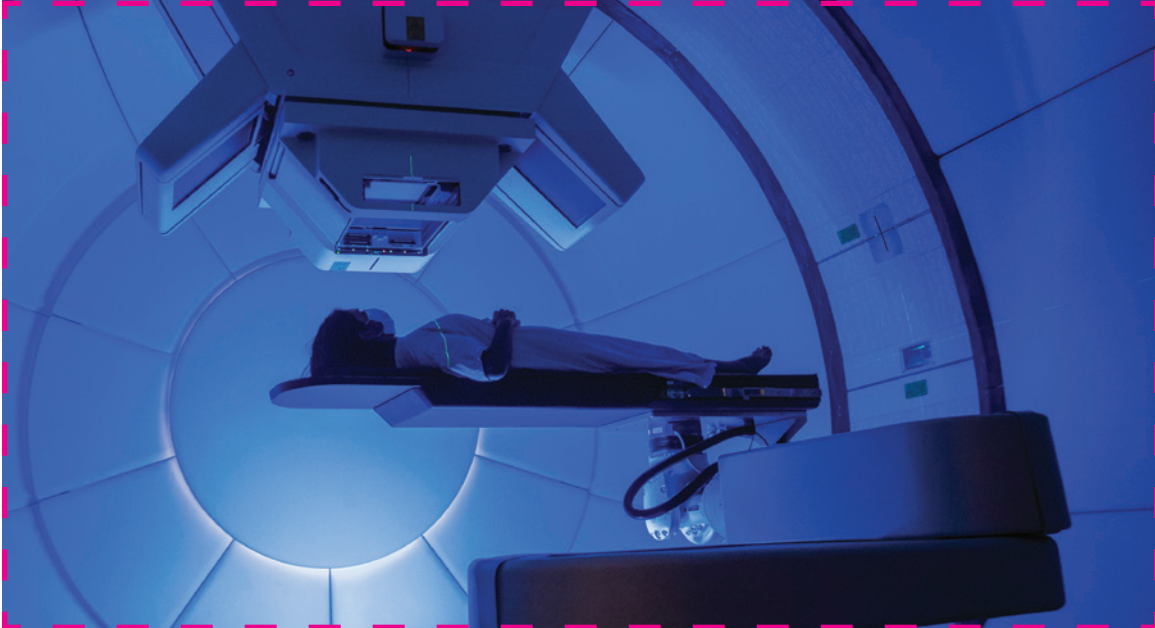


2020

REPORT

ACCOMPLISHMENTS



 **SYLVESTER**
COMPREHENSIVE CANCER CENTER
UNIVERSITY OF MIAMI HEALTH SYSTEM

 **NCI** Cancer Center

A Cancer Center Designated by the
National Cancer Institute



The Dwoskin Proton Therapy Center at Sylvester is the only NCI-designated cancer center in Florida to offer patients this advanced cancer-fighting radiation technology.

RESEARCH LEADERSHIP

Stephen D. Nimer, M.D.

Director, Oscar de la Renta Endowed Chair in Cancer Research; Professor of Medicine, Biochemistry and Molecular Biology

Nipun Merchant, M.D.

Associate Director, Translational Research; Professor and Chief of the Division of Surgical Oncology

J. William Harbour, M.D.

Associate Director, Basic Science; Director of Ocular Oncology, and Vice Chair for Translational Research, Bascom Palmer Eye Institute; Professor of Ophthalmology

Kerry L. Burnstein, Ph.D.

Associate Director, Education and Training; Professor of Molecular and Cellular Pharmacology

Jonathan Trent, M.D., Ph.D.

Associate Director, Clinical Research; Co-Director, Musculoskeletal Center, Sarcoma Medical Research Program; Professor of Medicine

Erin Kobetz, Ph.D., M.P.H.

Co-Leader, Cancer Control Program; Associate Director, Population Science and Cancer Disparity, Sylvester Comprehensive Cancer Center; Chief, Population Health, Oncology Service Line; Vice Provost for Research + Scholarship, University of Miami

Ramin Shiekhattar, Ph.D.

Co-Leader, Cancer Epigenetics; Professor of Human Genetics

Maria E. Figueroa, M.D.

Co-Leader, Cancer Epigenetics; Associate Professor, Department of Human Genetics

Wael El-Rifai, M.D., Ph.D.

Co-Leader, Tumor Biology Program; Associate Director, Program Development; Professor and Associate Vice Chair, Academic Advancement, Department of Surgery

Craig H. Moskowitz, M.D.

Physician-in-Chief, Oncology Service Line

Barbara A. Vance, Ph.D., CRA

Assistant Vice President and Associate Director, Administration

Frank J. Penedo, Ph.D.

Co-Leader, Cancer Control Program; Associate Director, Cancer Survivorship and Translational Behavioral Sciences

George Grills

Associate Director, Shared Resources

C. Ola Langren, M.D., Ph.D.

Co-Leader, Tumor Biology Program; Chief of Myeloma Program; Leader of Experimental Therapeutics Program; Professor of Medicine

HOSPITAL LEADERSHIP

Kymberlee J. Manni, Ph.D., RCIS

Chief Executive Officer, University of Miami Hospital and Clinics

Tanira B. Ferreira, M.D.

Chief Medical Officer, University of Miami Hospital and Clinics

Alvaro J. Alencar, M.D.

Chief Medical Officer, Oncology

Lazara Pagan

Chief Ambulatory Officer and Associate Vice President, Oncology Services

Javier Milian

Assistant Vice President, Oncology Satellite Operations and Recruitment

Lauren Gjolaj, M.B.A., B.S.N., R.N.

Assistant Vice President, Oncology Services

Elizabeth Smith, D.N.P., R.N.

Chief Nursing Officer, University of Miami Hospital and Clinics (Bascom Palmer Eye Institute/Sylvester Comprehensive Cancer Center/UHealth Tower)

ANCILLARY SERVICES

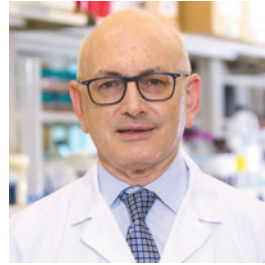
Sarah Christensen

Vice President, Medical Development and Alumni Relations

Mary Lanham

Chief Marketing and Communications Officer

DEAR COLLEAGUES AND SUPPORTERS,



As we complete our first full year with NCI designation, I am moved by the resoluteness and resiliency of our faculty, staff, donors, and patients. Your teamwork, dedication, and extraordinary efforts in pursuit of designation laid the foundation for Sylvester to maintain our unwavering commitment to solve cancer's fundamental problems and respond to the pandemic. I remain grateful for your continued commitment to uphold the NCI's rigorous standards.

The University of Miami and UHealth relied on Sylvester for COVID-19 response as we led efforts to build the SARS-CoV-2 testing infrastructure. We provided expertise, instruments, and reagents to increase testing. Nursing leaders and staff established and staffed the UM testing hotline. We established UM's contact tracing initiative U-TRACE and redirected nationally recognized outreach efforts to COVID. Our physicians wrote clinical guidelines, and clinical faculty and staff transitioned to telehealth to ensure quality care. Sylvester had such

success building this infrastructure we published a "how-to" manual in *Academic Pathology*.

In our community, **Dr. Erin Kobetz** collaborated with Miami-Dade County leadership to establish the county-wide COVID-19 surveillance program SPARK-C, the first of its kind in the country. On a global level, **Dr. Gilberto de Lima Lopes** helped create the COVID-19 Cancer Consortium which worked quickly to collect and publish data in *The Lancet*. Sylvester was one of the founding institutions of this consortium.

Beyond COVID-19, we strengthened capacities to make breakthroughs, develop diagnostics and therapies, lead practice-changing trials, and address disparities.

Sylvester's Phase 1 Clinical Trials Program, the only university-based program in South Florida, continued enrolling. We remain a national leader in CAR-T cell trials and Sylvester is one of only a few centers in the world conducting DNA protein kinase inhibitors research.

In September 2020, Sylvester opened the Dvoskin Proton Therapy Center, offering patients access to leading-edge radiation therapy and conducting trials.

Among many scientific breakthroughs, **Dr. J. William Harbour** published findings from the first-ever single-cell analysis of uveal melanoma in *Nature Communications*.

Sylvester is one of only eight NCI-designated cancer centers participating in CATCH-UP.2020, which enhances access to targeted cancer therapies for underserved populations. **Dr. Jonathan Trent** is one of the project leaders. **Dr. Frank Penedo** received an NCI T32 grant to create a new disparities and equity training program.

We recruited renowned hematologic oncology leaders to forge a blood cancer powerhouse. **Dr. C. Ola Landgren** launched the Experimental Therapeutics research program and leads our myeloma service. **Dr. Mikkael Sekeres** was named chief of the Division of Hematology.

Sylvester hosted the 2nd annual National Firefighter Cancer Symposium in February, drawing over 300 volunteer and professional firefighters and researchers to discuss cancer research, education, and policy.

We were honored by a \$126 million landmark gift, \$1 million of which is earmarked towards career development for underrepresented minorities.

With hard work, dedication, and support we continue investing in people and programs to build a long-lasting legacy. I hope this report reminds us of what we can achieve when we see challenges as chances.

With gratitude,

Stephen D. Nimer, M.D.

Director, Sylvester Comprehensive Cancer Center
Oscar de la Renta Endowed Chair in Cancer Research
Professor of Medicine, Biochemistry and Molecular Biology

FROM THE DESK OF ADAM E. CARLIN



As we reflect upon 2020 it was certainly a year which presented us with many challenges and great uncertainty. While the world came to a standstill during the COVID-19 pandemic, cancer's impact was unfortunately undeterred. Despite the circumstances, Sylvester stood unfazed and resolute in its quest for excellence within both patient treatment as well as critical cancer research.

As chair of **Sylvester Comprehensive Cancer Center's Board of Overseers**, I've witnessed Sylvester's unwavering dedication to its mission and culture of providing compassionate care while also striving to offer the highest degree of efficacy of treatment. This steadfast passion has been recognized by its industry and peers resulting in the unique distinction of being a Cancer Center of Excellence as well as South Florida's only National Cancer Institute-designated cancer center.

In recognition of the Cancer Center's success, we received a landmark, anonymous \$126 million gift in honor of **Dr. Stephen D. Nimer**, the largest donation in the University of Miami's history. This extraordinary gift will help accelerate breakthrough advances toward finding cures and leave a lasting legacy.

Given the Board's understanding of the critical importance of research, it quickly mobilized to establish Dr. Stephen D. Nimer's Research Continuity Fund to help our physician-scientists return to their life-saving work in the laboratories as quickly as possible.

Thanks to the incredible generosity of Steven Dvoskin for funding the Dvoskin Proton Therapy Center, making Sylvester the only NCI-designated cancer center in Florida to offer patients this advanced cancer-fighting radiation technology.

In celebrating its ten-year anniversary partnership with Sylvester, the Miami Dolphins announced a transformational \$75 million commitment to Sylvester and a new name for the DCC, now called the Dolphins Challenge Cancer, reflecting their resolution to support life-saving cancer research year-round.

We also thank The Pap Corps Champions for Cancer Research, Cancer Link, and the Woman's Cancer Association of the University of Miami for their innovative virtual events to raise funds for research. Generous gifts from supporters, such as the Braman Family Foundation, Eric and Elizabeth Feder, and the Paula and Rodger Riney Foundation, enhanced Sylvester's ability to recruit and retain some of the most sought-after and brightest minds in medicine.

On behalf of Sylvester's Board of Overseers, thank you. Your support during these trying times has shown us all the true power of community. It is through your support that Sylvester can continue to improve the lives of those touched by cancer in South Florida and beyond.

With gratitude,

Adam E. Carlin

Chairman, Board of Overseers
Sylvester Comprehensive Cancer Center

SYLVESTER BOARD OF OVERSEERS VICE CHAIRS

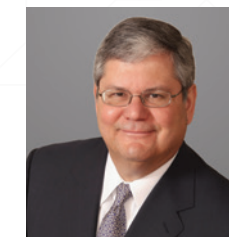


Jayne S. Malfitano

Vice Chair, Sylvester Board of Overseers
President and Director
Harcourt M. and Virginia W. Sylvester Foundation

Jayne S. Malfitano's involvement with Sylvester dates back more than 30 years when her father, Harcourt Sylvester, Jr., pledged the first of several multimillion-

dollar gifts to build a center in honor of his parents and support cancer programs at the University of Miami. Sylvester Comprehensive Cancer Center opened in 1992. Since then, Jayne has remained steadfast in her family's commitment to making exceptional cancer care available throughout South Florida. She is an active member of the University of Miami Board of Trustees, the UHealth Board of Directors, and serves as Vice Chair of Sylvester Comprehensive Cancer Center's Board of Overseers. Additionally, she is President of the Board of Directors for the Harcourt M. and Virginia W. Sylvester Foundation.



Miguel G. Farra, CPA, J.D.

Vice Chair, Sylvester Board of Overseers
Chairman of Tax and Accounting
Morrison, Brown, Argiz & Farra, LLC

Miguel G. Farra joined the Sylvester Board of Governors in 2010 and served on Sylvester's 20th anniversary gala committee in 2012.

In 2017, Miguel was appointed as a member of the newly created Sylvester Board of Overseers and shortly after, in 2018, he became Vice Chair of the Board. Miguel is a tireless champion for Sylvester, dedicating countless hours and his decades of expertise to further the Cancer Center's mission.

8 2020: SYLVESTER BY THE NUMBERS

10 RESPONDING TO COVID-19

- Ensuring High-Quality, Safe Cancer Care During the Pandemic

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- NCI Grant Funds Disparities and Equity Training Project at Sylvester
- Sylvester Receives NCI Supplement Award for CATCH-UP.2020
- NCI Grant Funds Study of Combination Therapy for Pancreatic Cancer
- Sylvester Researchers Receive Grants From the State of Florida
- Breast Cancer Researcher Receives Grant from The V Foundation and Miami Dolphins
- Sylvester Urologic Researcher Receives AUA Funding for Two-Year Research Project

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- First Single-Cell Analysis of Uveal Melanoma
- Deciphering Genetics by Studying GI Cancer Patients with "Extreme Outlier" Outcomes
- Targeted Chemotherapy for Treatment-Resistant Tumor Cells
- New Anti-Cancer Strategy Uses RNA to Ferry Chemo into Tumors
- Sylvester Urologist Leads Collaborative Study on Fertility Counseling Prior to Chemotherapy
- Culturally Relevant Programs Needed to Help End Hep B in Black Communities, Sylvester Researchers Report
- Positive Results for New Treatment Strategy for Localized Prostate Cancer
- Nanoparticle Delivery Can Enhance Chemotherapy for Aggressive Lymphomas
- Sylvester Study Contributed to FDA Approval of Targeted Therapy for Lung Cancer
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27 RECRUITS AND NEW APPOINTMENTS

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- Storyteller Will Help Sylvester Write Next Chapter in Hematology
- Internationally Known Eye Cancer Researcher Joins Sylvester and Bascom Palmer
- New Physicians and Researchers
- Dr. Macarena de la Fuente Named Neuro-Oncology Clinical Service Leader and Chief of Neuro-Oncology Division

33 ACHIEVEMENTS AND HONORS

- Sylvester Opens the Dwoskin Proton Therapy Center
- Sylvester Researcher Wins International Award for Discoveries Leading to Advances in Immunotherapy
- Dr. Erin Kobetz Named Vice Chair of State Advisory Council
- Dr. Krishna Komanduri Welcomed into Prestigious Society for Immunologists
- Sylvester Oncologist Receives Women in Sarcoma Award
- Sylvester's Radiation Oncology Team Earns Prestigious Press Ganey Award
- Dr. Donna Lundy Wins Prestigious Award from American Cancer Society
- Sylvester Surgeon Receives Prestigious Research Fellowship
- 2020 Zubrod Memorial Lecture and Outstanding Faculty Awards

40 PUBLIC HEALTH AND COMMUNITY OUTREACH

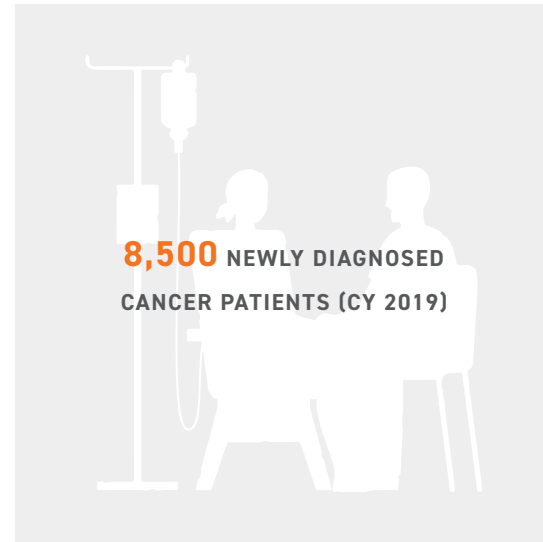
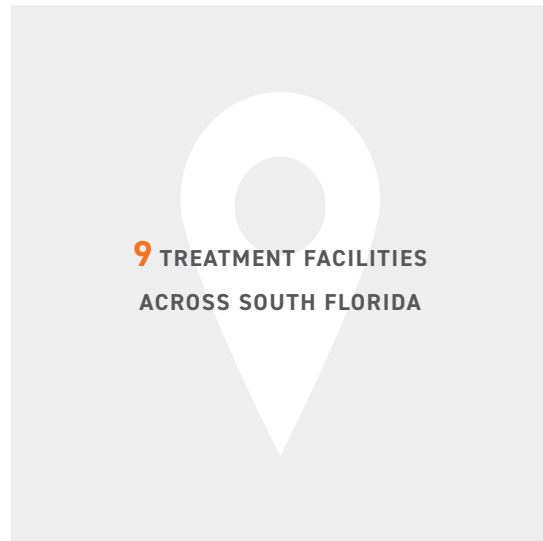
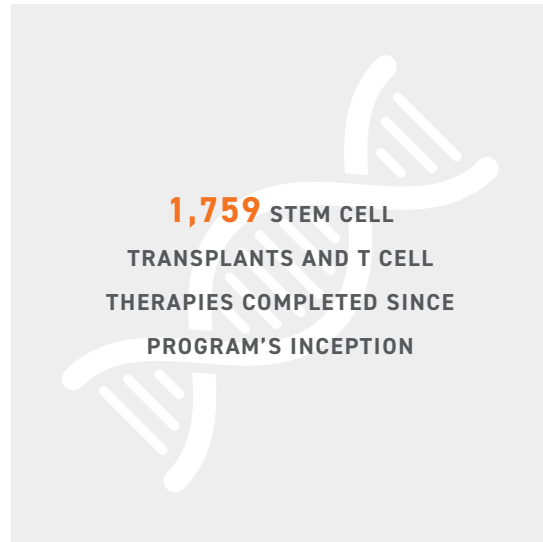
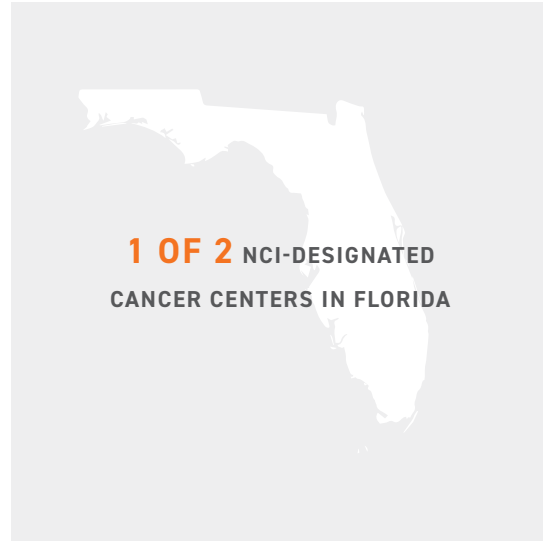
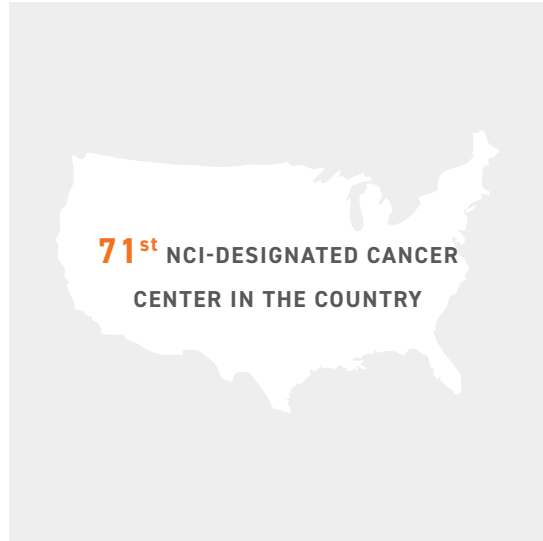
- Sylvester Hosts Second National Firefighter Cancer Symposium
- Sylvester Researchers Study COVID-19 Antibodies in First Responders

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- Programs Benefiting Cancer Survivors Adapt and Thrive throughout 2020

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- The Dolphins Challenge Cancer: A Decade of the DCC Ushers in a New Era of Fundraising
- The Paula and Rodger Riney Foundation Establishes New Multiple Myeloma Research Program at Sylvester
- Woman's Cancer Association Continues Legacy of Support to Sylvester
- Philanthropy During the COVID-19 Pandemic





Collecting data on COVID-19 infection rates.

ENSURING HIGH-QUALITY, SAFE CANCER CARE DURING THE PANDEMIC

In 2020, the rapid emergence of COVID-19 tested major cancer centers across the U.S. in our ability to quickly change course, collect and share data, remain highly responsive to vulnerable patients' needs, and rally to advance cancer research despite a raging pandemic. Sylvester not only passed those tests, but also led the nation with innovative approaches to the unique challenges brought on by a novel and dangerous virus.

Gilberto de Lima Lopes, M.D., M.B.A., associate director of global oncology at Sylvester Comprehensive Cancer Center, was among a small group of oncologist colleagues that harnessed social media's power and started a data registry to understand how COVID-19 was impacting



New laboratory established on the medical campus to process COVID-19 tests.

cancer patients. The COVID-19 and Cancer Consortium was launched in March and Sylvester was one of five founding institutions.

By May 2020, the Consortium presented 30-day all-cause mortality data on 928 cancer patients with confirmed SARS CoV-2 at the annual meeting of the American Society of Clinical Oncology (ASCO). *The Lancet* published the group's findings May 28, 2020. The Consortium's groundbreaking study helped to provide clarity when there was none on COVID-19 and cancer.

Sylvester is located in an area of South Florida that has been a COVID-19 hotspot throughout the pandemic. Miami-Dade County leaders turned to Sylvester researchers when they were looking to quantify the extent of COVID-19 infection in the county.

Sylvester Firefighter Cancer Initiative Director **Erin Kobetz, Ph.D., M.P.H.**, and Deputy Director **Alberto Caban-Martinez, D.O., Ph.D., M.P.H.**, worked in March 2020 to begin assessing infection rates in the general population and among first responders, using rapid antibody testing. The Surveillance Program Assessing Risk and Knowledge of Coronavirus (SPARK-C) was the first initiative of its kind in the nation.

Stephen D. Nimer, M.D., director of Sylvester Comprehensive Cancer Center, was charged with developing COVID testing and algorithms for patients and employees of the Miller School of Medicine and the entire University of Miami Health System.

In three weeks, a new laboratory was set up on the medical school campus with borrowed instruments from school researchers and started offering hundreds of COVID-19 tests daily for patients and health care workers. That expanded to include students and staff at the University of Miami.

"When we began, we were in crisis mode," Dr. Nimer said. "We had an unfamiliar disease with no playbook, no established testing programs, no protocols. Yet we went from zero testing capacity to 500 tests a day in a few weeks. Now we can do 2,000 tests a day and know the answer in 30 minutes, four hours, 24 hours or 48 hours—depending on the circumstances that the test is ordered." By the end of the year, the molecular pathology lab had performed more than 130,000 tests.

As South Florida's only National Cancer Institute (NCI)-designated cancer center with one of the largest and busiest clinical trial programs in the area, Sylvester continued to provide investigational therapies during the pandemic, while ensuring patient safety. When possible, oral drugs or other self-administered therapies were shipped to patient homes, so they did not have to physically pick up their investigational medications.

The clinical research team and Sylvester staff limit patient exposure to COVID-19 by conducting routine follow-up appointments using telehealth. Physicians have learned to use telemedicine effectively, despite not having the option of human touch.

"Since I cannot place a reassuring hand on their shoulder nor give them a hug, I have placed more emphasis on making eye contact and choosing the right words at the right time," said **Jonathan Trent, M.D., Ph.D.**, professor of medicine and associate director of clinical research.

When patients with cancer require in-person care, with a no-visitor policy in place for safety, Sylvester nursing team members make sure those patients are not alone, often sitting with them to provide company and comfort before patients get lab results, therapy, or during treatment.

Sylvester's 40-bed inpatient facility, used primarily for stem cell transplant patients, CAR-T cell patients and leukemia patients, does not house COVID-19 patients. As a result, Sylvester continued to provide stem cell transplants and CAR-T cell therapy.

At the start of the pandemic some surgeries needed to be postponed, but urgent life-saving procedures continued. In mid-April **Ricardo J. Komotar, M.D.**, director of Sylvester's Brain Tumor Initiative, removed a patient's 5.5 cm brain tumor using COVID-19 safety precautions. The patient went home the day after his surgery. Since then, carefully selected brain tumor procedures have been performed on an outpatient basis.

In the midst of a pandemic, people with cancer continued to need timely, quality, and safe treatment. And Sylvester was there to provide it. In fact, chemotherapy and radiation therapy volumes were up roughly 10% in 2020 according to Dr. Nimer. ■



Antibody testing of medical staff at Sylvester.

NCI GRANT FUNDS DISPARITIES AND EQUITY TRAINING PROJECT AT SYLVESTER

A five-year training grant from the National Cancer Institute (NCI) is supporting the development of the next generation of researchers focusing on cancer disparities, through a mentored post-doctoral fellowship.

Two researchers at Sylvester are the co-principal investigators: **Frank Penedo, Ph.D.**, associate director for cancer survivorship and translational behavioral sciences, and **Erin Kobetz, Ph.D., M.P.H.**, associate director for population sciences and cancer disparity.

They received the NCI T32 grant for a project titled "Cancer Training in Disparities and Equity (C-TIDE)." The total award for the five-year research project is \$2.3 million.

"We are very pleased that the NCI recognizes the need to train the next generation of researchers in cancer prevention and control with an emphasis on better understanding and intervening on factors that promote cancer inequities," said Dr. Penedo. "The unique and diverse composition of our South Florida community, and the expertise of our Sylvester faculty, provide an exceptional infrastructure to implement this transdisciplinary training program which spans from understanding how structural barriers such as SES

and access to care impact timely diagnosis and treatment, to developing interventions that can improve quality of life and clinical outcomes primarily in communities disproportionately burdened by cancer."

It is a two-year appointment for each fellow and there will be a total of 15 over the course of the grant. This post-doctoral fellowship integrates members from most disciplines and all research programs at Sylvester. There are 24 primary mentors with expertise in a variety of areas ranging from cancer epigenetics and tumor biology to community-based screening and survivorship interventions.

"C-TIDE provides trainees structured, didactic, and experiential training in disparities research and intervention," said Dr. Kobetz, who is also vice provost for research and scholarship at the University of Miami. "This kind of training is particularly important here—in the multicultural context of South Florida—and now, given the additional constraints that COVID-19 has imposed on vulnerable communities' health and access to the formal health care system. We believe that C-TIDE trainees will be poised to ask important questions about the etiology of these disparities, and more importantly, to generate solutions to advance health equity." ■



Training future cancer researchers.

SYLVESTER RECEIVES NCI SUPPLEMENT AWARD FOR CATCH-UP.2020

The National Cancer Institute (NCI) selected eight of its designated cancer centers to be part of a national initiative to increase minority access to investigational targeted cancer therapy. Sylvester is one of those select cancer centers.

CATCH-UP.2020 stands for **C**reate **A**ccess to **T**argeted **C**ancer **T**herapy for **U**nderserved **P**opulations. According to the NCI, the cancer centers that comprise this initiative "demonstrate robust ability to accrue minority/underserved populations to the National Cancer Institute's Experimental Therapeutics Clinical Trials Network sponsored precision medicine cancer trials."

Sylvester has received a P30 administrative supplement award of \$550,000 for one year.

"We were awarded this competitive grant due to our ability to provide cutting-edge clinical trials to patients in South Florida from diverse backgrounds. Significantly, this award from the NCI will allow us to bring early phase clinical trials, most of which are only available at a few sites, to our region," said **Jonathan Trent, M.D., Ph.D.**

one of the project leaders for this national initiative and Sylvester's associate director of clinical research.

There are 49 studies in the CATCH-UP.2020 clinical trial portfolio for patients with solid tumors and blood malignancies. ■



Jonathan Trent, M.D., Ph.D.

NCI GRANT FUNDS STUDY OF COMBINATION THERAPY FOR PANCREATIC CANCER

Sylvester researcher, **Nagaraj Nagathihalli, Ph.D.**, is testing an innovative strategy against pancreatic cancer using a combination of synthesized natural compounds and immunotherapy.

Dr. Nagathihalli received a two-year R03 grant for \$76,750 from the National Cancer Institute (NCI) for a project titled "Combining Immunotherapy with Urolithin A to Improve Pancreatic Cancer Survival."

"We are investigating how we can combine checkpoint inhibitors – which enhance the ability of T cells to kill the cancer cells – with Urolithin A treatment to improve survival in experimental models," said Dr. Nagathihalli, assistant professor of surgery at Sylvester.

The new NCI-funded study builds on Dr. Nagathihalli's pre-clinical research showing that a microbial metabolite, Urolithin A, derived from a compound found in berries and pomegranates, can reduce and protect against pancreatic cancer in a laboratory model.

"Pancreatic cancers are notorious for their ability to evade detection by the body's immune system. Our

preclinical data demonstrate that Urolithin A can alter the immunologically 'cold' pancreatic cancer microenvironment and result in a high accumulation of reactive T cells that could indicate synergism with immunomodulatory therapies," said Dr. Nagathihalli. ■



Nagaraj Nagathihalli, Ph.D.

SYLVESTER RESEARCHERS RECEIVE GRANTS FROM THE STATE OF FLORIDA

DISPARITIES IN LIVER AND LUNG CANCERS

The Florida Department of Health has awarded **Paulo S. Pinheiro, M.D., Ph.D.**, a research associate professor at Sylvester, a \$264,356 grant to study the risk, etiology, and mortality of lung and liver cancers.

"We propose to study the lung and liver cancer experience for 10 distinct racial and ethnic groups in Florida, beginning with the typically studied major groups, such as Black, Hispanic, and White," Dr. Pinheiro said. "We will also focus on distinct subgroups with sizable populations in Florida, including U.S.-born African Americans, Afro-Caribbean, Cuban, Puerto Rican, Dominican, Central American/Mexican, and South American."

STUDYING LEUKEMIA CELLS

Understanding how leukemia cells survive metabolic stress is the focus of a new study by **Julio C. Barredo, M.D.**, professor of pediatrics, medicine, and biochemistry and molecular biology, the Toppel Family Endowed Chair in Pediatric Hematology-Oncology, director of Children's Cancer Programs at Sylvester, and director of the Division of Pediatric Hematology-Oncology.

"Acute lymphoblastic leukemia (ALL) is the most common pediatric cancer and the main cause of cancer-related death in children and adolescents," said Dr. Barredo. "We need to develop more effective treatment strategies for high-risk, chemotherapy-resistant, and relapsed ALL patients."

Dr. Barredo received a \$219,138 award from the "Live Like Bella" program for the study, "Targeting Compensatory Survival Responses at the Intersection of Energy Metabolism and Epigenetics in Acute Lymphoblastic Leukemia."

FOXC1 - A DRIVER OF METASTATIC DISEASE

In her Sylvester laboratory, **Marzenna Blonska, Ph.D.**, assistant professor of medicine, has found high levels of a protein called FOXC1 in lymphoma patients with disseminated disease. "There is compelling evidence that elevated FOXC1 is associated with metastatic disease in both solid tumors and lymphoma," she said. She hopes that in the future, FOXC1 could serve as a biomarker to identify patients likely to benefit from aggressive treatment strategies at an early stage of the disease.

Dr. Blonska used a novel imaging-based screening method and her own transgenic mice models to identify

compounds that could block FOXC1 activity. "We want to continue this research, along with studying how cancers use FOXC1 for their advantage to migrate to other organs, including the brain.

Dr. Blonska was awarded a \$636,610 Bankhead-Coley grant for a study, "Elucidation and Targeting of Novel Molecular Determinants of Tumor Progression and Dissemination."

IMPROVING CANCER PAIN MANAGEMENT

A new Sylvester study is examining how a patient's gut microbiome may affect pain associated with metastatic breast cancer that has infiltrated the bone. "Opioids are the gold standard for the management of moderate to severe cancer pain, but the effect wears off with time," said **Sabita Roy, Ph.D.**, professor of surgery. "Our hypothesis is that altering the gut microbiome could reduce the level of inflammatory cytokines contributing to chronic pain."

Dr. Roy is co-principal investigator with **Sundaram Ramakrishnan, Ph.D.**, professor of surgery, in a study, "Targeting the Gut Microbiome to Improve Cancer Pain Management by Opioids," funded with a \$636,610 Bankhead-Coley grant. "This is my first cancer grant and I am highly motivated to contribute directly to cancer research," said Dr. Roy.

It may be possible to reduce pain by reconstituting populations of bacteria in the gut," added Dr. Ramakrishnan.

PROTEINS AND BREAST CANCER

A significant percentage of breast cancer patients whose tumors have been removed do not respond to estrogen inhibitors, resulting in metastasis as the malignant cells spread to other organs. "To improve outcomes, we need to develop new agents aimed at reversing resistance to hormonal therapies," said **Lluis Morey, Ph.D.**, assistant professor of human genetics.

In his laboratory, Dr. Morey is studying the role of polycomb proteins in regulating treatment resistance to current therapies. He received a \$636,610 Bankhead-Coley grant for his study, "Mechanisms of Polycomb Complexes in Luminal Breast Cancer."

Modulating these functions could be a potential new therapeutic option for hormone-resistant breast cancer patients," Dr. Morey said. ■

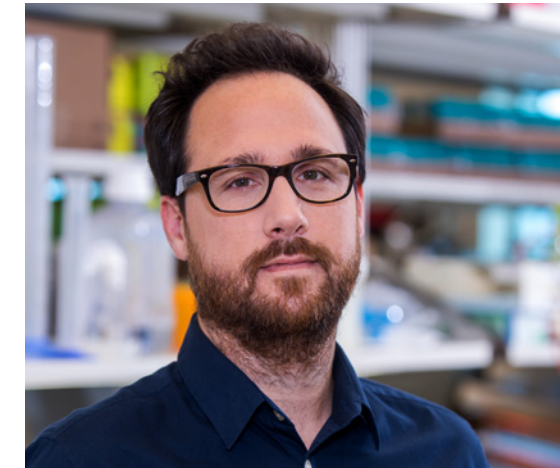
BREAST CANCER RESEARCHER RECEIVES GRANT FROM THE V FOUNDATION AND MIAMI DOLPHINS

The V Foundation, a cancer research charity founded in 1993 by ESPN and the late **Jim Valvano**, legendary North Carolina State University basketball coach and ESPN commentator, awarded \$100,000 to Sylvester Comprehensive Cancer Center researcher **Lluis Morey, Ph.D.** That was matched by another \$100,000 from the Miami Dolphins Foundation.

Dr. Morey, who leads the Morey Lab on Chromatin and Dynamics in Stem Cells and Cancer at Sylvester, received the "2020 Early Career Investigator Award" for his project titled "LSD1/coREST Inhibition Overcomes Resistance to Endocrine Therapies in Breast Cancer." The focus of this research is to understand the epigenetic mechanisms of resistance to therapy and to overcome resistance by using a novel therapeutic approach.

Epigenetic mechanisms are changes in gene function that do not depend on changes in gene sequences but rather on changes in how genes are turned on or off or moderated in their activity. For instance, how open or available DNA strands are to interaction with regulating molecules can affect gene activity and drive the cancer mutations.

"With the support of the V Foundation and the Miami Dolphins Foundation, my laboratory will be able to contribute to a cure for aggressive luminal breast cancers," said Dr. Morey, an assistant professor in the Dr. John T. Macdonald Foundation Department of Human Genetics at the Miller School of Medicine. ■



Lluis Morey, Ph.D.

SYLVESTER UROLOGIC RESEARCHER RECEIVES AUA FUNDING FOR TWO-YEAR RESEARCH PROJECT

Himanshu Arora, Ph.D., a research faculty member at Sylvester Comprehensive Cancer Center, is a recipient of the American Urological Association's Urology Care Foundation 2020 Research Scholar Award. The association's Southeastern Section is sponsoring funding for his two-year project, "Immune Modulatory Functions and Mechanism of Action of Nitric Oxide in Castration Resistant Prostate Cancer Micro-environment."

The funding will allow Dr. Arora and his research partner, **Ranjith Ramasamy, M.D.**, assistant professor of urology, to explore how nitric oxide could modulate the infiltration of pro- and anti-inflammatory macrophages to the site of cancer. Additionally, this study will allow them to explore the preclinical efficacy of growth-hormone-releasing hormone receptor (GHRHR) antagonists in combination with nitric oxide to study the functional aspects of nitric oxide action as a therapy against castration resistant prostate cancer.

The \$40,000-a-year award for two years was based on potential for a successful career in urologic research, quality of mentorship, and high scientific merit of the proposed research project. ■



Himanshu Arora, Ph.D.

ARTIFICIAL INTELLIGENCE PROVIDES GAME-CHANGING INTRAOPERATIVE BRAIN TUMOR DIAGNOSTICS

New cutting-edge technology that uses artificial intelligence along with optical imaging is providing neurosurgeons a near real-time method of diagnosing brain tumors during surgery, according to a collaborative study co-authored by neurosurgeons with Sylvester Comprehensive Cancer Center, published in the journal *Nature Medicine*.

"It's really a step forward in providing rapid intraoperative diagnoses of malignant and benign tumors, which is essential information needed to make critical decisions during safe and effective brain tumor surgery," said Sylvester neurosurgeon and study co-author **Michael Ivan, M.D., M.B.S.**, who played a major role in developing the Stimulated Raman Histology (SRH) technology with leading collaborators at New York University and the University of Michigan. "This digitized process provides surgical teams a diagnosis in less than three minutes as opposed to a 20-30 minute wait time during a traditional process."

Accurate histopathologic diagnosis is crucial for planning during the actual surgical removal of brain tumors. Conventional methods for intraoperative histology are time consuming and require sectioning and freezing and necessitate tissue transport to a pathology laboratory, specimen processing, slide preparation by highly trained technicians, and interpretation by pathologists, with each step representing a potential barrier to delivering safe, timely, and effective surgical care.

Titled "Near Real-Time Intraoperative Brain Tumor Diagnosis Using Stimulated Raman Histology and Deep Neural Networks," the study examined the diagnostic accuracy of brain tumor image classification through machine learning, compared with the accuracy of conventional histologic images interpreted by pathologists. The results for both methods were comparable: the AI-based diagnosis was 94.6% accurate, compared with 93.9% for the pathologist-based interpretation on a frozen specimen.

One of the most significant advantages of Stimulated Raman Histology is ensuring more precision in completely removing cancerous brain tumors, said Dr. Ivan, who is leader of the Neuro-oncology Site Disease Group at Sylvester and assistant professor of neurological surgery at the Miller School of Medicine.

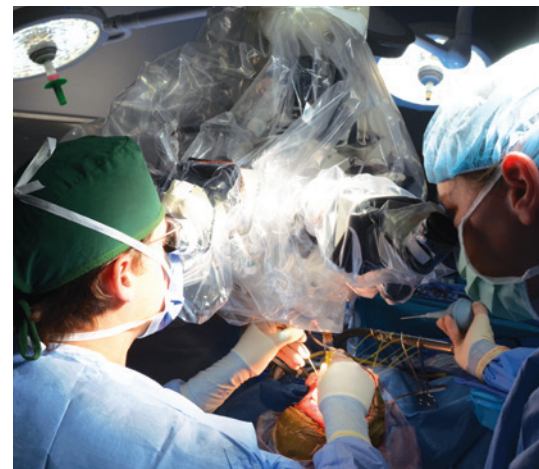
"In many of our surgeries on malignant tumors, the ability to remove all of the tumor makes a difference in a patient's overall survival," said Dr. Ivan. "Artificial intelligence provides more rapid and frequent information to the surgeon while operating to ensure the boundaries of the surgical resection are clear of cancer."

This game-changing technology is an exciting step forward in the management of brain tumors, said Sylvester neurosurgeon **Ricardo J. Komotar, M.D.**, who also served as a study co-author and is the director of surgical neuro-oncology and the Brain Tumor Initiative at Sylvester.

The pioneering imaging technique reveals tumor infiltration in human tissue by collecting scattered laser light that illuminates essential features not typically seen in standard histologic images.

The microscopic images are then processed and analyzed with artificial intelligence, and in under two and a half minutes, surgeons are able to see a predicted brain tumor diagnosis. Using the same technology, after the resection, they were able to accurately detect and remove otherwise undetectable tumors.

"This is a very complex AI system, which looks at patterns, intensity, and coloration of the specimen's digital image to provide an instantaneous diagnosis," said Dr. Ivan. ■



Michael Ivan, M.D., M.B.S., in surgery.

FIRST SINGLE-CELL ANALYSIS OF UVEAL MELANOMA

A study analyzing new evolutionary complexity in uveal melanoma by **J. William Harbour, M.D.**, associate director for basic science at Sylvester, professor of ophthalmology, and vice chair and director of ocular oncology at Bascom Palmer Eye Institute, was published January 24 in *Nature Communications*.

"This is the first-ever single-cell analysis of uveal melanoma," said Dr. Harbour, holder of the Mark J. Daily Endowed Chair in Ophthalmology. "We discovered previously unrecognized genetic and cellular complexity in this deadly eye cancer."

A key finding was an enrichment of T cells expressing the checkpoint molecule LAG3, rather than the more familiar PD1 and CTLA4 molecules, which have been the focus of most checkpoint inhibitor therapy to date. This may explain why uveal melanoma has responded poorly to such drugs and nominates LAG3 as a new target for immunotherapy in uveal melanoma.

Uveal melanoma is the most common primary cancer of the eye, with 2,000 to 3,000 cases diagnosed each year in the United States. Uveal melanoma is highly metastatic and unresponsive to checkpoint immunotherapy.

Dr. Harbour's ocular oncology laboratory focuses on the use of genetic and genomic methods, computational and bioinformatic technologies, and genetically engineered cellular and animal models to better understand and treat major forms of eye cancer, including uveal melanoma, retinoblastoma and lymphoma.

This work was supported by National Cancer Institute grant R01 CA125970, Research to Prevent Blindness, Inc. Senior Scientific Investigator Award, the University of Miami Miller School of Medicine Medical Scientist Training Program, the University of Miami Sheila and David Fuente Graduate Program in Cancer Biology, the Center for Computational Science Fellowship, the Melanoma Research Foundation Senior Investigator award, and a generous gift from **Dr. Mark J. Daily**. Bascom Palmer Eye Institute received funding from NIH Core Grant P30EY014801 and a Research to Prevent Blindness Unrestricted Grant. Sylvester also received funding from the National Cancer Institute Core Support Grant P30CA240139. ■



J. William Harbour, M.D.

DECIPHERING GENETICS BY STUDYING GI CANCER PATIENTS WITH “EXTREME OUTLIER” OUTCOMES

Two common and high-risk mutations in gastrointestinal cancer patients, Ras and p53, are the focus of ongoing research at Sylvester. **Jashodeep Datta, M.D.**, an assistant professor of surgery in the Division of Surgical Oncology and a member of the Merchant Lab, is collaborating with division chief **Nipun Merchant, M.D.**, in the investigation of molecular and immunologic vulnerabilities in the tumor microenvironment that underlie the synergy of Ras and p53 in gastrointestinal cancers. Targeting such vulnerabilities might unlock the door to new treatment approaches.

Details about the activities of these two genes, which have key roles in several cancers, came to light in two published studies conducted by Dr. Datta and colleagues at Memorial Sloan Kettering Cancer Center while he was a surgical oncology fellow there.

The deadly teamwork of mutant forms of Ras and p53 in colorectal cancer patients who are diagnosed and treated early but nonetheless have poor survival is discussed in one manuscript in *Clinical Cancer Research*. The greater risk of rapid decline and death for patients with early gastric cancer who have two concurrent forms of p53 alterations is the subject of the second study in the *British Journal of Surgery*.

While many scientists have studied the influence of Ras and p53 in tumor cell lines and in preclinical models, said Dr. Datta, studying the confluence of these two important genes in human cancer represents a significant research advance.

To better understand how Ras and p53 mutations manifest, sometimes colluding, to influence survival in human cancer, Dr. Datta and his colleagues took what they call an “extreme outlier” methodology to address this question. That is, they studied one group of patients, with either colon or gastric cancer, whose tumors had been detected early and who did well after treatment and lived many years. They compared these patients with a clinically similar group who did poorly and lived only briefly after treatment. All subjects, with both kinds of cancer, had their relatively small tumors removed surgically, with clean margins. “We suspected that the survival differences might be reflected, in part, in the molecular makeup of the patients’ tumors,” said Dr. Datta. Those suspicions proved correct.

In colorectal cancer patients, the researchers compared the genetic profiles of two groups of extreme outliers with regard to survival. One group of 17 patients lived for two years or less post-treatment, while the other group of 18 patients lived longer than 10 years post-treatment. They found the simultaneous presence of mutated Ras and p53 genes was predictive of poor survivorship.

The study concerning early gastric cancer patients had similar results. A significantly higher occurrence of two concurrent p53 alterations was detected in patients with poor survival.

“We’ve known for a long time that these genes seem to synergize to engender more aggressive cancer biology in animal models,” Dr. Datta said. “But this has never before been explored this exhaustively in the clinical realm.” ■



Jashodeep Datta, M.D.

TARGETED CHEMOTHERAPY FOR TREATMENT-RESISTANT TUMOR CELLS

The key challenge in treatment of cancer is prevention of tumor recurrence. Most cancer-related deaths are due to this resurgence of metastatic tumors. Invariably, this secondary pool of invasive cells develops resistance against most therapeutic interventions. How cancers evade primary treatments and the mechanisms that contribute to drug resistance has been a subject of intense investigation. In some cases, tumor cells avoid chemotherapy by evading the immune system and exiting the cell cycle in a process termed “cancer dormancy.”

To combat this, a collaborative study between laboratories of **Ramin Shiekhhattar, Ph.D.**, and Sylvester Director **Stephen D. Nimer, M.D.**, and the Jean-Christophe Marine Laboratory of Molecular Cancer Biology at KU Leuven in Belgium has developed a new anti-cancer approach called “targeted chemotherapy,” which encourages tumor cells to commit suicide but does not trigger dormancy. The study was published in the journal *Genes & Development*.

“One of the major strategies cancer cells use to avoid chemotherapy is to basically stop growing,” said Dr. Shiekhhattar, co-leader of the Cancer Epigenetics Research Program and senior author on the study. “That’s cancer’s strategy. Our response is to fool tumor cells into thinking they have DNA damage, while simultaneously preventing them from going into dormancy. This proved quite promising against melanoma with mutations in BRAF or NRAS, a type of melanoma for which there are no available effective treatments currently.”

Targeted chemotherapy is, in some ways, a contrarian approach to treating cancer. Most targeted therapies inhibit kinases, enzymes that turn proteins on. However, Dr. Shiekhhattar’s team is doing the opposite, inhibiting a phosphatase, an enzyme that turns proteins off. This particular phosphatase, called PP2A, performs at least two important tasks. First, it helps modulate the DNA damage response. Chemotherapy destroys cancer by breaking DNA during cell division, triggering the damage response and ultimately (hopefully) cell death. PP2A turns off the enzymes responsible for sending that cell death message, allowing diseased cells to survive. However, inhibiting PP2A keeps those proteins on – indefinitely – telling cancer cells they’ve sustained severe

DNA damage, when in fact none has actually occurred. PP2A also contributes to cell dormancy. Dormant cells divide much less often, giving cancer an escape hatch to avoid treatment. By preventing dormancy, PP2A inhibition makes cancer more vulnerable.

Once the team had identified PP2A as a potential therapeutic target, they found a small molecule compound, called phendione, to turn the enzyme off. They found the compound was quite effective at eliminating otherwise treatment-resistant human tumors in animal models. “Inhibiting PP2A with phendione produced the double advantage of transmitting the DNA damage response, without actually damaging the DNA, and telling the cell cycle to keep going and prevent dormancy,” said Dr. Shiekhhattar. “These are the two tenets of an effective anti-cancer drug.”

While it’s unlikely phendione will progress into human clinical trials, it is likely that a phendione-like molecule will usher in a new era of phosphatase-based therapy. This study is proof-of-concept that PP2A inhibition could be used to treat resistant melanoma, encouraging the research community to identify other inhibitors and phosphatases as targets for cancer therapy.

“Because it modulates both the DNA damage response and cancer cell dormancy, PP2A represents a very promising target,” said Dr. Shiekhhattar. “We are continuing to study this pathway and its role in cancer.” ■



Ramin Shiekhhattar, Ph.D.

NEW ANTI-CANCER STRATEGY USES RNA TO FERRY CHEMO INTO TUMORS

In a study published in *Science Translational Medicine*, researchers at Sylvester, along with colleagues at the University of Modena and Reggio Emilia, and Verona University Hospital in Italy, have demonstrated that a relatively new class of RNA molecules, called aptamers, can successfully guide chemotherapy into tumors. This research, conducted in animal models, could lead to advanced therapeutics that specifically target cancers while leaving healthy tissues alone.

The research article, "Aptamers Against Mouse and Human Tumor-Infiltrating Myeloid Cells as Reagents for Targeted Chemotherapy," was released online on June 17.

"Chemotherapies are the first line of treatment for most cancers," said **Paolo Serafini, Ph.D.**, research assistant professor in the Department of Microbiology and senior author on the paper. "While they are effective treatments, they can also cause both short- and long-term damage to the body. Our goal was to make chemotherapy more intelligent, more effective, and less toxic."

Cancer researchers have been investigating targeted treatments for decades, often conjugating antibodies with therapeutic molecules to attack tumors. Unfortunately, these targeting antibodies are challenging to make, and cancer cells can evolve mechanisms to elude them.

To overcome these faults, the Serafini lab adapted RNA aptamers, instead of antibodies, to target rogue immune cells, called myeloid-derived suppressor cells (MDSCs). Tumors recruit these cells to suppress the immune response, making them cancer's best friend. Because MDSCs have unique molecular features, do not evolve resistance and are ubiquitous inside tumors, they could also be handy therapeutic targets.

"Unlike tumor cells, which are quite heterogeneous, MDSCs are similar to each other within a patient, across patients and across cancer types," Dr. Serafini said. "At the tumor sites, these cells acquire a unique phenotype that makes them different from all other cells in the body. As a result, they can mark where the tumor and metastases are located."

Taking advantage of these traits, the Serafini lab investigated whether RNA aptamers, which can fold into

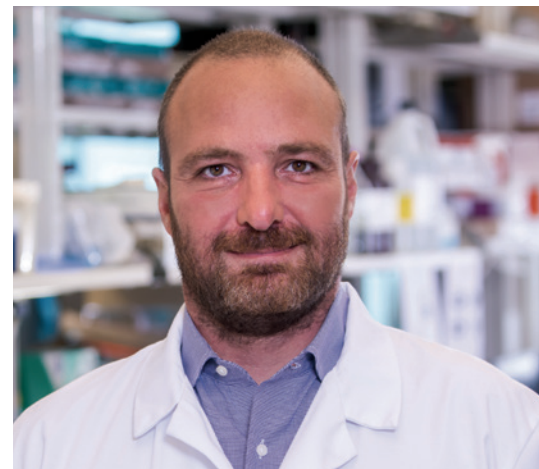
different shapes and bind to diverse cell surface molecules, can effectively target MDSCs. Using a relatively simple chemical process, the lab synthesized 1015 aptamers. From these they isolated several that could be used to target MDSCs.

"We identified four RNA aptamers that specifically recognized MDSCs in the primary tumor and metastases but not the ones in healthy organs," Dr. Serafini said.

They then conjugated chemotherapy (doxorubicin) molecules to the aptamers and tested them in animal models for breast cancer. This new formulation outperformed standard doxorubicin and showed little toxicity.

Developing RNA aptamers to direct therapeutic molecules to tumors could be a major breakthrough, as they are easier to manufacture than antibodies and may be more effective.

"They work like antibodies, but you don't need cells to produce them," Dr. Serafini said. "You don't need big incubators; you can just do it chemically with an oligo synthesizer (an instrument that manufactures genetic material). They are tiny, so they can go deep into tissues, and we don't need to humanize them, because they are not recognized by the immune system and are not immunogenic." ■



Paolo Serafini, Ph.D.

SYLVESTER UROLOGIST LEADS COLLABORATIVE STUDY ON FERTILITY COUNSELING PRIOR TO CHEMOTHERAPY

For younger cancer patients, fertility counseling at the time of diagnosis is important for making family planning decisions, according to **Ranjith Ramasamy, M.D.**, a clinician and researcher at Sylvester.

"Chemotherapy and radiation treatment can affect reproductive health temporarily or permanently," said Dr. Ramasamy, associate professor of urology and director of the Male Reproductive Medicine and Surgery Program. "Along with discussing a cancer diagnosis and treatment options, oncologists should also talk about long-term issues, including fertility counseling."

Dr. Ramasamy was the lead author of a collaborative study, "Evaluation of Reported Fertility Preservation Counseling Before Chemotherapy Using the Quality Oncology Practice Initiative Survey," published July 17 in the journal *JAMA Network Open*. The first author was **Premal Patel, M.D.**, a former Miller School fellow now on the faculty at the University of Manitoba in Canada; other co-authors were from Johns Hopkins University School of Medicine in Baltimore.

The study, which was funded by the Miller School's Department of Urology, used data from the American Society of Clinical Oncology (ASCO) Quality Oncology Practice Initiative, an oncologist-led quality assessment program that surveyed 400 oncology practices biannually from 2015 to 2019.

Altogether, 6,976 patients of reproductive age were included in the study, and 43.5% were counseled about reproductive risks before initiation of chemotherapy. Discussions about fertility preservation were more likely to occur at academic medical centers in states with mandated laws for counseling.

"Clinicians are more likely to counsel younger patients and female patients about reproductive risks before initiation of chemotherapy," said Dr. Ramasamy. "There was an increase in the percentage of oncologists who had these patient discussions during the study period, however, more awareness is needed about the importance of this issue."

Sylvester patients like Kevin Dwyer, and his wife Nancy, understand the importance of fertility counseling.

"Nancy and I were married in September 2017, and a month later I started experiencing pain in the right testicle," said Dwyer, a 30-year-old serving at the U.S. Coast Guard Air Station in Opa-locka. "I was referred to Dr. Ramasamy, who diagnosed the cancer and spoke with us about our family planning goals. I went ahead and made a sperm preservation contribution on that initial visit." ■



Ranjith Ramasamy, M.D., with the Dwyer family.

CULTURALLY RELEVANT PROGRAMS NEEDED TO HELP END HEP B IN BLACK COMMUNITIES, SYLVESTER RESEARCHERS REPORT

Hepatitis B disproportionately impacts U.S. Blacks, including African American and Haitian Blacks. Both communities suffer from widespread misinformation and access to care issues that might avert disease detection and prevention, according to a study published in *Cancer Causes & Control* by researchers at Sylvester.

The study's findings point to a great need for culturally relevant, community-based interventions that involve and educate Black communities so that they better understand their risks for hepatitis B, get screened, and seek health care.

Hepatitis B, or HBV, is a leading cause of liver cancer, which is predicted to surpass breast, colorectal, and prostate cancer as the third leading cause of cancer-related death by 2030, according to the study's lead author **Patricia Jones, M.D., MSCR**, assistant professor of medicine at the Miller School, who specializes in hepatology.

Having HBV increases the odds that a person will develop liver cancer by nearly 22-fold, according to Dr. Jones.

"Essentially, if you don't know that you have HBV, you cannot seek treatment for it, and if you develop cancer, you will likely present when the cancer is advanced, and there are fewer options for treatment," Dr. Jones said. "We want to interrupt that cycle by better understanding the perspectives of the populations most affected and creating programs that address those specific needs."

Dr. Jones and colleagues reached out to Black communities in Miami and listened to what community members had to say about HBV. The researchers held focus groups in Haitian Creole or English to better understand what African American and Haitian Blacks knew, did not know, and believed about HBV.

"Often times, populations like these are overlooked. Some researchers say these populations are hard to engage in research. And that's true. But there are really

good reasons for this. We need to find out what those reasons are so that we can break down barriers to participation," she said.

Of the 55 participants they studied, 27 were Haitian-born, and 27 were African American Blacks. Forty-two percent of the Haitian Blacks stated they knew about HBV before the study, compared with 78% of African American Blacks.

"Both groups expressed that fear, mistrust of the medical establishment, denial, and stigma might compel persons to avoid seeking care. Both groups attributed higher rates of late-stage (liver cancer) diagnosis in Blacks to inadequate financial resources and education," the authors wrote.

"Those with HBV reported confusion regarding their infection and suboptimal communication with health care providers," Dr. Jones said. "It's critical that we, as physicians, ask how much patients understand, and that we assess their understanding."

This study is a continuation of Sylvester's longstanding commitment to community engagement and reducing health care disparities, according to Dr. Jones. ■



Patricia Jones, M.D., MSCR

POSITIVE RESULTS FOR NEW TREATMENT STRATEGY FOR LOCALIZED PROSTATE CANCER

A Sylvester research team has found that focal high intensity focused ultrasound (HIFU) is an effective strategy for treating localized prostate cancer while minimizing side effects.

"We conducted the first U.S. study to show the safety and efficacy of focal HIFU in prostate cancer patients," said **Bruno Nahar, M.D.**, assistant professor of urologic oncology at the Miller School of Medicine. "It offers an alternative treatment for carefully selected patients with localized prostate cancer who are interested in preserving their quality of life."

Surgery and radiation therapy are the standard treatments for prostate cancer, said Dr. Nahar. However, they can have significant side effects, including incontinence and erectile dysfunction. With focal HIFU therapy, high-energy ultrasound waves deliver heat targets to the cancerous areas, rather than the entire prostate gland. The minimally invasive procedure is done on an outpatient basis, and patients typically go home the same day.

Dr. Nahar said the location, size, and aggressiveness of the tumor are important considerations for focal HIFU treatment. "The tumor needs to be localized to one lobe of the prostate gland, and not be a large-volume cancer," he said.

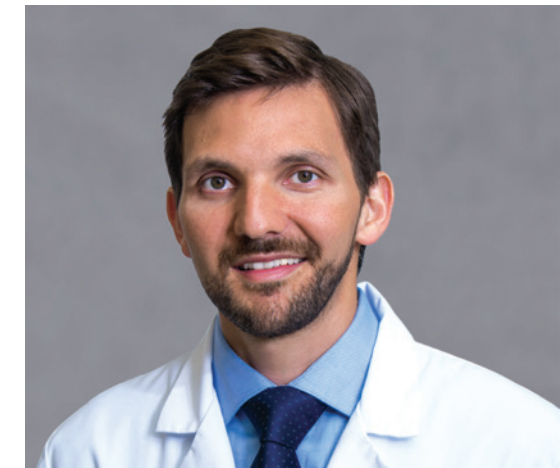
Although HIFU received U.S. Food and Drug Administration approval for prostate ablation in November 2015, the University of Miami is one of the first U.S. institutions to offer this procedure, Dr. Nahar said. HIFU can bridge the gap between monitoring the cancer and more invasive procedures, such as radiation or surgery."

Dr. Nahar is the first author of the study, "Prospective Evaluation of Focal High Intensity Focused Ultrasound

for Localized Prostate Cancer," published in the *Journal of Urology*. The senior author is **Dipen J. Parekh, M.D.**, chief operating officer of the University of Miami Health System, chair of urology, and the Dr. Victor Politano Endowed Chair in Clinical Urology.

"This procedure is making a very positive and meaningful difference in the lives of patients because the side effects are significantly less in terms of urinary incontinence and erectile dysfunction compared to a total prostate removal or radiation therapy," said Dr. Parekh.

The study included 52 Sylvester patients with localized disease who were treated with HIFU from January 2016 to July 2018. About 85% had a negative biopsy in the treated area, and urinary control and sexual functioning outcomes were very positive, Dr. Nahar said. "While the short-term oncologic outcomes are promising, longer follow-up research is required to establish long-term benefits." ■



Bruno Nahar, M.D.

NANOPARTICLE DELIVERY CAN ENHANCE CHEMOTHERAPY FOR AGGRESSIVE LYMPHOMAS

Researchers at Sylvester have identified an innovative approach for targeting diffuse large B-cell lymphoma (DLBCL) with a front-line chemotherapy drug. Using nanoparticles developed by the University of Miami Department of Chemistry, the cancer researchers were able to deliver doxorubicin (Dox) directly to tumor cells in a laboratory setting while minimizing side effects to other tissues.

"We are seeking to optimize this powerful drug by blocking the pathways within lymphoma cells that drive their growth and can cause them to become resistant to treatment," said **Jonathan H. Schatz, M.D.**, associate professor of medicine. "Our recent work focuses on the carrier protein for transferrin, which is needed to bring iron into the cell but can be over-expressed in lymphomas."

Dr. Schatz is the senior author of a new study, "Optimized Doxorubicin Chemotherapy for Diffuse Large B-Cell Lymphoma Exploits Nanocarrier Delivery to Transferrin Receptors," published in the journal *Cancer Research*. The study draws on the work of **Roger M. Leblanc, Ph.D.**, professor and chair of the Department of Chemistry, whose laboratory developed novel nanocarriers called carbon-nitride dots (CND) that can deliver varied molecular compounds to target cells.

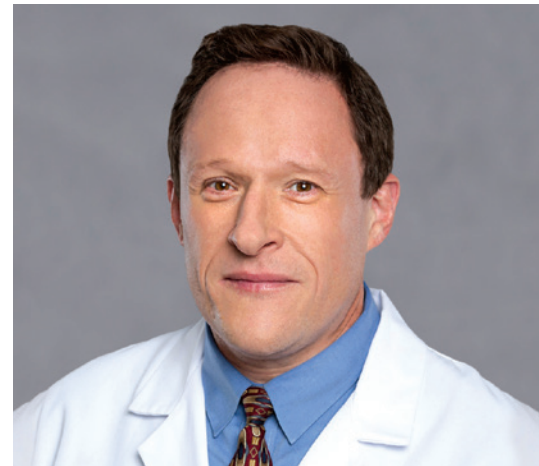
Currently, Dox forms the backbone of a five-drug combination treatment called R-CHOP (rituximab, cyclophosphamide, doxorubicin, vincristine, prednisone) that cures DLBCL – the most common lymphoid malignancy in the United States – more than 60% of the time. But because of its toxicity, R-CHOP can only be used for one course of treatment, most commonly six treatment cycles, in any patient, and oncologists must rely on other medications for patients who may not be able to tolerate R-CHOP, do not respond to this treatment, or have a relapse of disease.

In the new study, the CND nanoparticles carrying Dox were effective in honing in on the transferrin receptors

on human lymphomas implanted in mouse models, said Dr. Schatz. "We had very encouraging results in a head-to-head comparison with standard therapy," he added.

In fact, the researchers were able to deliver an additional two cycles of Dox therapy to the mice using the CND delivery approach (R-nanoCHOP), said **Artavazd Arumov**, a doctoral candidate in cancer biology who led pre-clinical studies and managed the experimental models. "This study provides a proof of principle of our approach for transforming Dox into a more targeted therapy that could be safer with lower toxicity for patients in the future."

Dr. Schatz said the Sylvester team is looking at making modifications to the CND particles to improve their effectiveness and identify an optimized dose of the chemotherapy drug. "Nanocarrier-mediated Dox delivery could be a potential new therapeutic option in DLBCL," he said. "We want to make sure this therapeutic is truly safe to administer to humans one day." ■



Jonathan H. Schatz, M.D.

SYLVESTER STUDY CONTRIBUTED TO FDA APPROVAL OF TARGETED THERAPY FOR LUNG CANCER

A patient was diagnosed with non-small cell lung cancer (NSCLC) five years ago and was told her tumor had a rare genetic rearrangement known as a RET fusion, which affects 2% of people with NSCLC and is also found in other types of malignancies. The patient responded well to chemotherapy for three years but then had a recurrence.

That's when she discovered a clinical trial at Sylvester Comprehensive Cancer Center offering targeted therapy for the first time to people with RET fusion cancers. The patient enrolled in the trial of pralsetinib at Sylvester. Leading the Sylvester site for the previous ARROW study that contributed to the FDA approval of pralsetinib in September was **Gilberto de Lima Lopes, M.D., M.B.A.**, professor of clinical medicine and co-leader of the Lung Cancer Site Disease Group at Sylvester.

"Until recently, patients with lung cancer and RET fusions, a type of molecular alteration, had no specific targeted options for treatment," Dr. Lopes said. "Patients would usually receive chemotherapy. This trial showed that patients with RET fusions respond to pralsetinib."

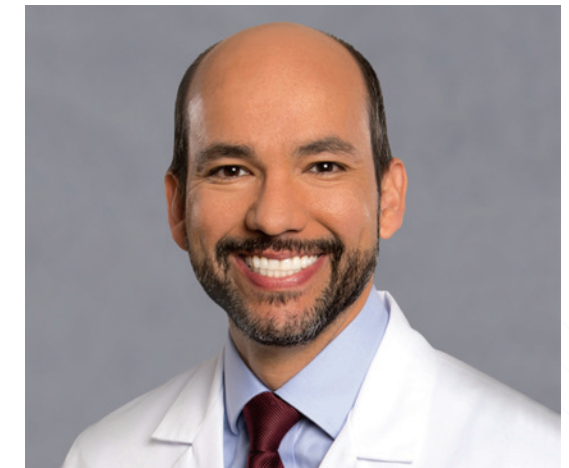
Pralsetinib (brand name Gavreto) is FDA approved for adults with metastatic RET fusion-positive NSCLC. The agency also approved the companion OncoPrint Dx Target test to detect RET fusions. In a practical sense, Dr. Lopes said the approved RET fusion test is easy to use, and many platforms already test for RET fusions in common practice.

Dr. Lopes and colleagues conducted the ARROW clinical trial in 87 people with NSCLC and RET fusion gene alterations who were previously treated with standard chemotherapy. The results showed 57% of patients achieved the main outcome of overall response rate. Furthermore, among the patients who responded, 80% experienced effects lasting six months or longer.

The researchers in this multicenter trial also evaluated pralsetinib in 27 patients who had not received previous treatment. They found 70% achieved an overall response rate and 58% of people who responded had an effect lasting at least six months.

"This drug has really given hope for patients with this rare fusion mutation seen in lung cancer and thyroid cancers," said **Estelamari Rodriguez, M.D., M.P.H.**, associate director for community outreach-thoracic oncology at Sylvester.

"As an NCI-designated cancer center, we have access to early-stage clinical trials and as such have more options for patients," Dr. Lopes said. "We now have the first line trial open for patients with newly diagnosed non-small cell lung cancer and RET fusions." That trial will evaluate if chemotherapy plus immunotherapy or pralsetinib is a better option for the initial treatment of patients with advanced lung cancer and RET fusions. ■



Gilberto de Lima Lopes, M.D., M.B.A.

WAKING CANCER CELLS TO ELIMINATE THEM

Cancer cells have a bagful of tricks to escape treatment, including going to sleep. Because radiation and chemotherapy target fast-growing tissue, senescent cells can pass through unscathed, sometimes waking up years later to fuel new tumors.

But now, in a paper, "A Translational Program that Suppresses Metabolism to Shield the Genome," published November 13 in *Nature Communications*, a research team led by **Stephen Lee, Ph.D.**, a member of the Tumor Biology Program at Sylvester and professor of biochemistry and molecular biology at the Miller School of Medicine, has delineated a key mechanism driving cellular senescence. These findings could lead to more effective treatments for cancer and other diseases.

"Tumor cell dormancy has been quite enigmatic," Dr. Lee said. "Surgeons remove the primary tumor, and five years later the patient develops metastases. Oncologists throw radiation and chemotherapy at them, but they're highly resistant because they're metabolically inactive. But if we can prevent these cancer cells from entering dormancy, it's likely they will act like normal cancer cells and respond to treatment."

Dr. Lee's team studied cancer cells in hypoxic (low oxygen) and acidic conditions — much like tumor microenvironments. They found that a molecular pathway, centering on the protein eIF5A, responds to these conditions and triggers senescence.

Unlike transcription factors, which tell genes to produce RNA, eIF5A is a translation factor that reconfigures how RNA machinery produces proteins. Once this program is turned on, the cell goes to sleep, only to be awakened by some future, currently unknown, molecular signal.

"It's a protein synthesis response that results in a very powerful process that triggers cellular dormancy," Dr. Lee said. "Under these conditions, cells not only stop proliferating, they also shut down all metabolic processes."

While this particular study focuses exclusively on cancer, Dr. Lee notes the process works both ways — cellular senescence could be triggered as a therapeutic measure, for example, to reduce the damage from a stroke.

"My job is to study cancer, but this mechanism does not apply only to cancer," he said. "It could be applicable to ischemia, stroke, heart attack and even early embryonic development."

The Lee lab will continue to study novel mechanisms associated with senescence and other cellular functions. However, the findings from this study could ultimately lead to new therapies that discourage cells from going to sleep or even keep them dormant much longer, preventing them from spawning new tumors.

"This opens up many different avenues of investigation because the central protein in this mechanism happens to be druggable," Dr. Lee said. "And it's not just one protein; it's a pathway, so there are a lot of potential targets in there. In fact, there are already clinically available drugs that target this pathway." ■



Stephen Lee, Ph.D.

WORLD-RENOWNED MULTIPLE MYELOMA EXPERT JOINS SYLVESTER LEADERSHIP

Hematologic oncologist **C. Ola Landgren, M.D., Ph.D.**, has been recruited to be the inaugural leader of a new research program – Experimental Therapeutics at Sylvester Comprehensive Cancer Center, at the University of Miami Health System.

Dr. Landgren, who was chief of myeloma service for the past six years at Memorial Sloan Kettering Cancer Center, one of the top two cancer centers in the U.S., will also lead the myeloma clinical and research team at Sylvester.

"We are delighted to have Dr. Landgren as a colleague. He is a world leader with great vision and expertise," said **Stephen D. Nimer, M.D.**, director of Sylvester. "He will help us develop effective new treatments and new lines of research."

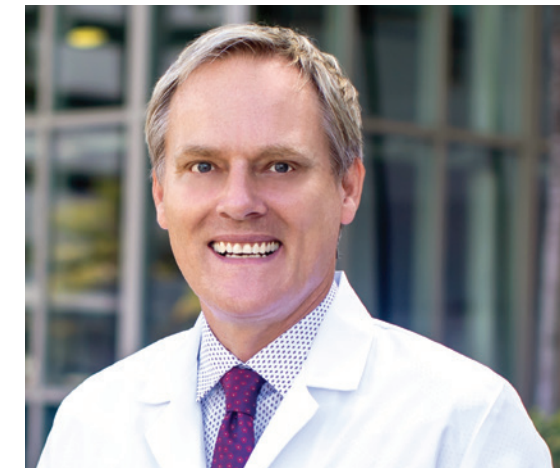
The Experimental Therapeutics Program will bring together multidisciplinary teams of clinicians and scientists throughout Sylvester to advance research into novel therapies and to accelerate discoveries from the laboratory to the bedside. The Experimental Therapeutics Program will support early laboratory discoveries, refinement of preclinical models, and early-stage and first-in-human clinical trials – all with the overall goal to move therapeutic advances forward and to facilitate FDA approvals so patients will have access to newer and better therapies.

"The Experimental Therapeutics Program will also play a key role for continued and expanded scientific medical education, mentoring, and culture of intellectual synergism and collaboration. It will create a unique research environment that will enhance our abilities to pursue drug development. We will support all promising discoveries made in our laboratories and clinics, with the goal to reach its full potential for benefiting people with cancer," said Dr. Landgren.

His area of focus is the multiple myeloma treatment field, which has undergone several changes over the past 10-20 years. The average overall survival has increased from 1-3 years to 10-20 years.

"Yet, we do not have an established curative therapy for multiple myeloma. I think advanced monitoring with minimal residual disease (MRD) testing, targeted imaging, and cutting-edge molecular profiling of residual disease post-therapy will drive the field forward in the coming few years. With better identification of residual disease as well as detection of early recurrences, we will improve remission-free follow-up for our patients," Dr. Landgren explained.

Telemedicine consultations are open to patients across the U.S. as well as internationally. Patients are able to receive therapy at Sylvester and there is collaboration with other hematologists and oncologists who treat patients in other cities and countries. ■



C. Ola Landgren, M.D., Ph.D.

STORYTELLER WILL HELP SYLVESTER WRITE NEXT CHAPTER IN HEMATOLOGY

Mikkael Sekeres, M.D., M.S., cannot recall a time when he didn't want to be a physician. As a child who liked to solve problems and fix things, he understood his calling was to help people through medicine. But it was an unusual choice in a family of English majors.

"I come from a family of storytellers, so I'm the first doctor," Dr. Sekeres said. "But I tell people that there are many similarities between the two fields. Medicine is actually a form of storytelling."

He has used the power of storytelling for years, both as a world-renowned leukemia specialist and as a book author and essayist for *The New York Times*. In both arenas he demonstrates a compassion for the sick as well as a deep admiration for his patients' courage and resolve.

In July it was announced that Dr. Sekeres would join the Sylvester Comprehensive Cancer Center team as the new physician liaison in hematology and chief of the Division of Hematology in the Department of Medicine at the University of Miami Miller School of Medicine. After an extensive national search, he emerged as the top candidate because of "his deep knowledge of academic hematology, his experience with the tripartite mission of research, clinical care and medical education, and his record of driving growth and innovation," according to the search committee's announcement issued by **Stephen D. Nimer, M.D.**, director of Sylvester, and **Roy E. Weiss, M.D., Ph.D.**, chair of the Department of Medicine.

He comes to UHealth from the Cleveland Clinic Taussig Cancer Institute, where he worked as director of the Leukemia Program and vice chair for clinical research, as well as associate director for clinical research of the Case Comprehensive Cancer Center.

"He brings such dynamic energy plus a renowned expertise in hematologic malignancies to his leadership role. I know he will be a motivating force for excellence and innovation, as well as an inspirational mentor for our faculty," Dr. Nimer said.

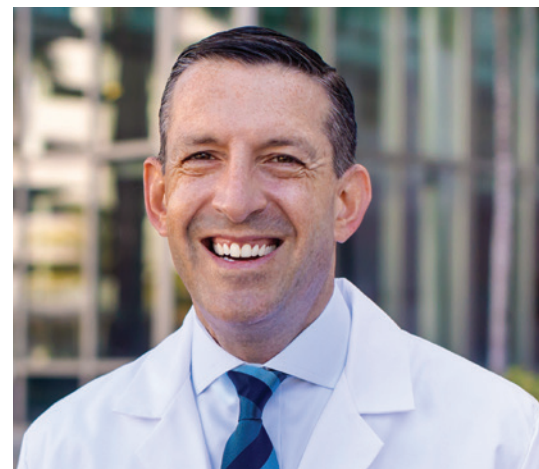
Dr. Sekeres' medical accomplishments are formidable. As an expert in myeloid malignancies in adults, he has spent the past 20 years studying the characteristics and

treatments of MDS, taking part in 60 clinical trials and serving as primary investigator for several Phase 1 and Phase 2 trials. In 2012, he played a pivotal role in landing the largest single award given to MDS clinical research — a \$16 million grant over five years donated by the Aplastic Anemia & MDS Foundation and the Edward P. Evans Foundation.

He has published more than 350 articles and 600 abstracts in leading medical journals and serves on several editorial boards and committees. He is also author of seven books, including *When Blood Breaks Down: Life Lessons from Leukemia*, released in 2020 by the MIT Press.

"As physicians caring for patients with life-threatening diseases, it's important that we are able to communicate with our patients and even more so here at UHealth and the Miller School of Medicine, where we are training the next generation of leaders in health care," said Dr. Weiss.

Dr. Sekeres earned a medical degree and a master's degree in clinical epidemiology from the University of Pennsylvania School of Medicine. He decided to specialize in hematology while at Harvard University, during his internal medicine residency at Massachusetts General Hospital. He went on to complete a fellowship in hematology-oncology at the Dana-Farber Cancer Institute in Boston. ■



Mikkael Sekeres, M.D., M.S.

INTERNATIONALLY KNOWN EYE CANCER RESEARCHER JOINS SYLVESTER AND BASCOM PALMER

Zelia M. Correa, M.D., Ph.D., one of the country's leading experts in the field of ocular oncology, has joined Sylvester Comprehensive Cancer Center and Bascom Palmer Eye Institute as co-director of the ocular oncology service.

Recognized throughout the world for her expertise in ocular oncology, Dr. Correa specializes in the diagnosis and treatment of eye tumors such as ocular melanoma, retinoblastoma, ocular metastasis, and choroidal hemangioma.

Ocular oncologists are highly specialized ophthalmic surgeons who diagnose and treat tumors and pseudotumors of the eye. Ocular tumors can be benign or malignant and affect patients ranging from young children to older adults. Treatment of these tumors involves various forms of laser and radiation therapy, intraocular injections, delicate biopsy procedures, and advanced microsurgical techniques.

Dr. Correa most recently served as the Tom Clancy Endowed Professor of Ophthalmology at the Wilmer Eye Institute of Johns Hopkins University School of Medicine in Baltimore. In this position, she built an excellent ocular oncology program that has drawn patients from across the U.S. and throughout the world. She previously served as professor of ophthalmology and Mary Knight Asbury Chair of Ophthalmic Pathology & Ocular Oncology at the University of Cincinnati College of Medicine.

Dr. Correa's research focuses on the use of artificial intelligence to distinguish benign from malignant ocular tumors based on imaging characteristics. She will

conduct her research at Bascom Palmer's ocular oncology laboratory.

"Dr. Correa is one of the leading authorities on ocular oncology, and her recruitment to Bascom Palmer will allow us to achieve our ambitious goal of creating the foremost international destination for patients with eye tumors," said **J. William Harbour, M.D.**, professor of ophthalmology, vice chair for translational research, director of the Bascom Palmer ocular oncology service, holder of the Mark J. Daily Endowed Chair in Ophthalmology, and associate director for basic science at Sylvester Comprehensive Cancer Center.

Her academic career includes more than 150 peer-reviewed original scientific publications, book chapters and abstracts. She currently serves as a member of the editorial boards of *JAMA Ophthalmology* and *Translational Vision Science Technology Journal*, and is the ocular oncology section editor for *EyeNet* magazine. ■



Zelia M. Correa, M.D., Ph.D.

NEW PHYSICIANS AND RESEARCHERS



Greg Azzam, M.D., Ph.D.
Assistant Professor
Department of Radiation Oncology



Zinzi Bailey, Sc.D., M.P.H.
Assistant Professor
Department of Medicine



Ruben Carmona, M.D., M.A.S., M.B.A.
Assistant Professor
Department of Radiation Oncology



Amy Otto, Ph.D.
Assistant Professor
Department of Public Health Sciences



Mohammed Raja, M.D.
Assistant Professor
Department of Medicine



Kristin Rojas, M.D.
Assistant Professor
Department of Surgery



Jessica Crystal, M.D.
Assistant Professor
Department of Surgery



Michael Donovan, M.D., Ph.D.
Professor
Department of Pathology



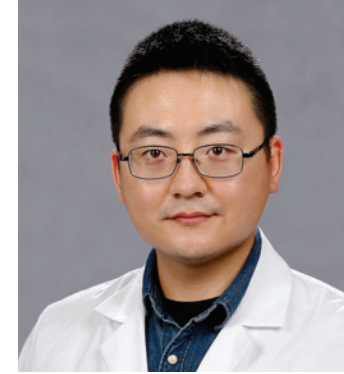
Emily Jonczak, M.D.
Assistant Professor
Department of Medicine



Tariq Sabir, M.D.
Staff Physician
Department of Medicine



Viraj Sanghvi, Ph.D.
Assistant Professor
Department of Molecular and Cellular
Pharmacology



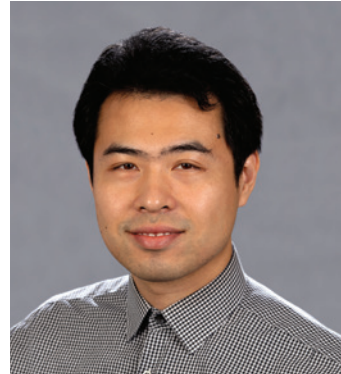
Junwei Shi, Ph.D.
Assistant Professor
Department of Radiation Oncology



Brandon Mahal, M.D.
Assistant Professor
Department of Radiation Oncology



Francesco Maura, M.D.
Assistant Professor
Department of Medicine



Zhipeng Meng, Ph.D.
Assistant Professor
Department of Molecular and Cellular
Pharmacology



Devinder Singh, M.D.
Professor
Department of Surgery



Justin Taylor, M.D.
Assistant Professor
Department of Medicine



Yanyun Wu, M.D., Ph.D.
Professor
Department of Pathology

DR. MACARENA DE LA FUENTE NAMED NEURO-ONCOLOGY CLINICAL SERVICE LEADER AND CHIEF OF NEURO-ONCOLOGY DIVISION

Macarena de la Fuente, M.D., has been appointed neuro-oncology clinical service leader for the Oncology Service Line at Sylvester Comprehensive Cancer Center and chief of the Neuro-Oncology Division in the Department of Neurology at the University of Miami Miller School of Medicine.

Dr. de la Fuente joined the Miller School in August of 2014 as an assistant professor of clinical neurology. She has also been an active member of the Cancer Epigenetics Research Program at Sylvester and a principal investigator on numerous cutting-edge clinical trials. Since December 2018, she has been serving as interim chief of the Neuro-Oncology Division and was most recently named director of the Neuro-Oncology Fellowship Program.

As chief, Dr. de la Fuente leads the Neuro-Oncology Division and is responsible for supervising all patient care activities regarding the diagnosis and treatment of patients with neurological cancers and neurological effects from cancer. She will supervise clinical activities across all UHealth sites. She will be responsible for student, resident, and fellow training in neuro-oncology, and will supervise all research activities in this area.

As the neuro-oncology clinical service leader, Dr. de la Fuente plays an integral role in developing and implementing the neuro-oncology strategy at Sylvester. Working closely with leadership, she assists in faculty recruitment and development and creates an efficient multidisciplinary care model for clinical care and clinical and translational research at all sites. She is responsible for facilitating access to quality and timely care, standardization of services, and a patient-centric approach to care.

Dr. de la Fuente is a graduate of the Neuro-Oncology Fellowship program at Memorial Sloan Kettering Cancer Center in New York City, where she served as consultant in the Department of Neurology after completing her fellowship. She is also a graduate of the University of La Plata in Argentina, her native country, where she also completed her residency in neurology. She has been certified in neuro-oncology by the United Council for Neurologic Subspecialties.

Dr. de la Fuente is an active member of the Society for Neuro-Oncology. She recently completed her term as a committee chair and is currently a project leader in the Women and Diversity Committee for SNO. She has been appointed by the president of the Florida Senate as a member of the Scientific Advisory Council of the Florida Center for Brain Tumor Research. ■



Macarena de la Fuente, M.D.

SYLVESTER OPENS THE DWOSKIN PROTON THERAPY CENTER

In September 2020, the only proton treatment center in Florida located at an NCI-designated cancer center opened at Sylvester.

The Dvoskin Proton Therapy Center, located behind UHealth Tower in Miami’s health district, is named after **Steven Dvoskin** for his generous gift to support cancer research at Sylvester and the new cutting-edge facility.

“Our team of experts and the clinical trials we are able to offer, because of our National Cancer Institute designation, give us unmatched opportunities to make a difference – the Sylvester difference,” said **Stephen D. Nimer, M.D.**, director of Sylvester. “Proton therapy is an important component of the innovative treatments available to our adult and pediatric cancer patients.”

At two-thirds the speed of light, the proton beam enters the body with a low radiation dose that can be programmed to stop within the tumor. This can result in decreased intensity and frequency of adverse effects compared with radiation that uses X-rays, which are less precise and can penetrate normal structures as they exit the body.

“Protons have unique attributes which in some cases will allow for less radiation dose to healthy tissues and organs surrounding the cancer being targeted,” said **Alan Pollack, M.D., Ph.D.**, chair of radiation oncology and interim deputy director of Sylvester. “When the radiation dose to normal structures can be reduced, there can be meaningful reduction of side effects later.”

Sylvester has a renowned team of radiation oncologists, medical physicists, and radiation biologists led by Dr. Pollack. These experts have the knowledge and experience to determine which patients may benefit from treatment with protons. The Sylvester team approach is an essential part of the evaluation process and the generation of a treatment plan.

Tejan Diwanji, M.D., and **Michael Butkus, Ph.D.**, are the co-directors of Sylvester’s proton program. “Proton therapy is an incredibly intricate and complex treatment that requires expertise at every level to design an individualized treatment plan for each patient,” said Dr. Butkus, a medical physicist, who works with the radiation oncologist to plan a patient’s treatment. “We calculate and adjust how the proton beam delivers the appropriate dose to the tumor.”

“The team at the Dvoskin Proton Therapy Center will guide you through every step of your journey from a planning CT scan to designing custom devices that enhance the accuracy and precision of treatment, to the planning and delivery of each treatment, which can span several weeks,” explained Dr. Diwanji, a radiation oncologist.

It took a little over two years to get Sylvester’s proton program off the ground and into the patient treatment phase.

In April 2018, ground was broken for the new building, and by February 2019, the Linbeck Construction Group had completed the shell. With 6,000 cubic yards of concrete, this is no ordinary structure. The separation wall between the radiation source and the gantry which houses the treatment equipment is 16 feet thick.

The cyclotron, which is the particle accelerator, was delivered and installed by Varian in July 2019. Crews transported it from Europe and a crane lifted the cyclotron off a truck and placed it in the building through an opening in the roof. This is the part of the machine that makes the protons move at a speed of 100,000 miles per second in order to destroy a tumor.

“Proton therapy is a new and exciting addition to Sylvester’s commitment to using cutting-edge technology and research to improve patient outcomes and reduce complications,” said Dr. Pollack. “We’re thrilled to offer this at our brand new state-of-the-science facility, the Dvoskin Proton Therapy Center.” ■



From left, Michael Butkus, Ph.D., and Tejan Diwanji, M.D.

SYLVESTER RESEARCHER WINS INTERNATIONAL AWARD FOR DISCOVERIES LEADING TO ADVANCES IN IMMUNOTHERAPY

It was 2008 when a British researcher working out of the Papanicolaou Building at Sylvester Comprehensive Cancer Center made a monumental scientific discovery. **Glen N. Barber, Ph.D.**, and his team discovered STING, a pivotal pathway controlling immune responses that plays a critically important role in stimulating anti-tumor T-cell activity.

Dr. Barber, chair and professor of the Miller School's Department of Cell Biology and a Sylvester member, has been recognized by the Cancer Research Institute (CRI) for that discovery. He and four other internationally renowned scientists are the recipients of the 2020 William B. Coley Award for Distinguished Research in Basic and Tumor Immunology. This award is named in honor of Dr. William B. Coley, known as the "Father of Cancer Immunotherapy."

Dr. Barber's research showed that laboratory mice generated without STING did not mount a proper immune response toward cancer cells. His work has developed into finding new ways to stimulate this important innate immune pathway to boost anti-cancer activity.

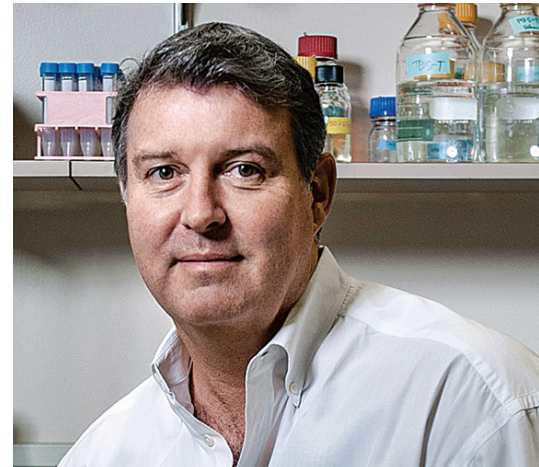
"We are now writing Phase I clinical trials with our own STING agonists that we have developed with the hope of enhancing immune responses to cancers such as leukemia," Dr. Barber said. He anticipates starting those trials, funded by the National Institutes of Health, at Sylvester in 2021.

The Coley Award is given to one or more scientists for seminal discoveries in the fields of basic immunology

and tumor immunology, and whose work has deepened our understanding of the immune system's response to cancer and advanced the development of effective cancer immunotherapies.

Nobel Laureate **James P. Allison, Ph.D.**, who presented the Zubrod lecture at Sylvester in 2018, will present the awards during the CRI's annual gala, Innovators in Science and Philanthropy, held virtually for the first time on Tuesday, September 29.

"This is a very prestigious award, given by such an eminent figure and Nobel Prize winner," Dr. Barber said. "It's an honor to be recognized internationally by your peers for the significance of your work." ■



Glen N. Barber, Ph.D.

DR. ERIN KOBETZ NAMED VICE CHAIR OF STATE ADVISORY COUNCIL

Erin Kobetz, Ph.D., M.P.H., associate director, Population Sciences and Cancer Disparity, Sylvester Comprehensive Cancer Center has been named Vice Chair of the Florida Cancer Control & Research Advisory Council (C-Crab), a two-year term.

The council, which consists of 15 appointed members, was founded by state statute in 1979 to advise the legislature, governor, and surgeon general on ways to reduce Florida's cancer burden. Among the council's responsibilities is creating a statewide cancer research plan and drafting the state's annual cancer report which is presented to the Florida Legislature.

"C-CRAB develops the cancer control plan for Florida, which serves as a roadmap by which to improve cancer outcomes for our State. I'm honored to play a leadership role in ensuring the plan is successfully implemented and can move us closer towards the promise of cancer equity for all Floridians," said Dr. Kobetz, who is also Vice Provost for Research and Scholarship at the

University of Miami. "Together, we can do great things, informed by science and its translation to evidence-based, public health practice." ■



Erin Kobetz, Ph.D., M.P.H.

DR. KRISHNA KOMANDURI WELCOMED INTO PRESTIGIOUS SOCIETY FOR IMMUNOLOGISTS

Krishna Komanduri, M.D., chief of the Division of Transplantation and Cellular Therapy, has been elected to the Henry Kunkel Society. Dr. Kunkel was a leading physician-scientist in immunology and many of his direct trainees also became leaders in applying basic science to clinical approaches in immune diseases and cancer immunology.

Dr. Komanduri is highly regarded for his laboratory research in human T cell immunology and for his clinical expertise and leadership in the area of CAR-T cell therapy, an important approach to redirect human immune responses to treat cancer. Membership in the Henry Kunkel Society is intended to bring together and promote the success of top investigators in the field of human immunology, such as Dr. Komanduri.

"This is a lovely honor, especially since I began my career as a physician-scientist as a trainee in the laboratory of Dr. Joseph (Mike) McCune, who was directly mentored by Henry Kunkel. It is a distinct privilege to be a

physician-scientist in this field now, when we are making enormous progress in applying our knowledge of the human immune system to treat cancers resistant to chemotherapy," said Dr. Komanduri. ■



Krishna Komanduri, M.D.

SYLVESTER ONCOLOGIST RECEIVES WOMEN IN SARCOMA AWARD

Gina D'Amato, M.D., a sarcoma medical oncologist and assistant director of clinical research at Sylvester received the Innovative Sarcoma Leadership Award from The Life Raft Group. This non-profit organization provides patient support and research resources for GIST, which is diagnosed in 3,000 to 5,000 patients a year in the U.S. The award was presented during the first Women in Sarcoma Virtual Gala, which recognized medical professionals in this field.

which there are more than 150 subtypes. That was the beginning of a network of women oncologists collaborating and sharing ideas with one another.

In addition, Dr. D'Amato has organized a "Sarcoma Interest Group" at Sylvester for medical students, residents, fellows, and junior faculty to discuss patient care and progress of each participant's sarcoma research project. ■

"This award recognizes her ability to think outside the box and bring an idea to light that has not been pursued before. She brought women in sarcoma together to help inspire others and foster collaboration among her peers," said **Sara Rothschild**, vice president of LRG.

"The main goal for all of us here today is to help these cancer patients live as long as possible and live every day to the fullest," said Dr. D'Amato during the ceremony. She was one of six women honored for their various roles in furthering knowledge about this type of sarcoma.

At the 2019 annual meeting of the American Society of Clinical Oncology (ASCO), Dr. D'Amato organized the inaugural lunch for women in sarcoma, a meeting of great minds working to treat this rare cancer of



Gina D'Amato, M.D.

SYLVESTER'S RADIATION ONCOLOGY TEAM EARNS PRESTIGIOUS PRESS GANEY AWARD

Sylvester Comprehensive Cancer Center has been recognized again for achieving and maintaining consistently high levels of excellence in patient experience.

Press Ganey, a national leader in health care performance improvement, honored Sylvester's Radiation Oncology Clinic with a 2020 Pinnacle of Excellence Award — the second year in a row for this recognition.

"Our entire Department of Radiation Oncology team is exceptionally patient-focused, which fosters an outstanding patient experience," said **Alan Pollack, M.D., Ph.D.**, professor and chair of the Department of Radiation Oncology and interim deputy director of Sylvester. "We are thrilled that the team has been again recognized with this award."

The Pinnacle of Excellence award is given annually to the nation's top-performing organizations on the basis of extraordinary achievement. This award recognizes organizations that have maintained consistently high levels of excellence in patient experience, engagement, or clinical quality performance.

Winners were identified based on performance over three full years, from May 2017 to April 2020. The award is earned by maintaining a quarterly ranking above the 95th percentile in patient experience as measured by scores for "likelihood to recommend the provider's office," "teamwork," and "rate your provider on a scale of 1 to 10." ■

DR. DONNA LUNDY WINS PRESTIGIOUS AWARD FROM AMERICAN CANCER SOCIETY

The American Cancer Society Cancer Action Network awarded its prestigious Volunteer Award for Excellence in Advocacy to **Donna S. Lundy, Ph.D., F-ASHA, BCS-S**, who specializes in swallowing disorders and voice rehabilitation for head and neck cancer patients at Sylvester.

"Her enthusiasm for the work of the ACS has galvanized many at UM to join in the efforts of that organization in supporting research, education, and outreach to those afflicted," said **Fred F. Telischi, M.D.**, chair of the Department of Otolaryngology. ■

The Cancer Action Network (CAN) recognized Dr. Lundy for more than 24 years of outstanding leadership and continuous cancer advocacy and public policy work during a virtual meeting in September. The award is the Network's highest honor for volunteers.

"Over the years, we've worked on campaigns to promote indoor clean air such as non-smoking environments, increased tobacco tax, and increased research funding, which we know is the only way to find a cure. Having the opportunity to participate in these campaigns, from meeting with legislators to participating in petition signing and more, and then celebrating successes is tremendously rewarding," said Dr. Lundy, professor and chief of the Division of Speech Pathology in the Department of Otolaryngology at the Miller School of Medicine.



Donna S. Lundy, Ph.D., F-ASHA, BCS-S.

SYLVESTER SURGEON RECEIVES PRESTIGIOUS RESEARCH FELLOWSHIP

The American College of Surgeons (ACS) Scholarship Committee selected **Jashodeep Datta, M.D.**, as the sole recipient of the 2020 Franklin H. Martin Faculty Research Fellowship award. Dr. Datta is a surgical oncologist at Sylvester Comprehensive Cancer Center and specializes in pancreas, liver and gastrointestinal (GI) cancers, as well as conducting laboratory research in GI cancer immunology.

"I am a beneficiary of tremendous mentorship, a laboratory environment that is conducive to discovery, exceptional colleagues and co-workers, and thoughtful leadership." ■

The title of the project that earned him the fellowship is "Overcoming Tumor-Intrinsic Mechanisms of Immune Exclusion Defined by Ras-p53 Cooperative Signaling in Pancreatic Adenocarcinoma." A \$40,000 annual grant for two years will help fund this research.

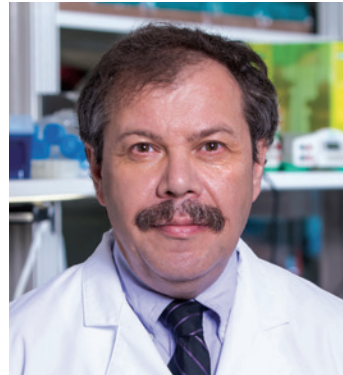
"It is especially humbling to receive this in my first year as surgical faculty. This award is a testament to the rigorous academic environment fostered at Sylvester and in the Department of Surgery at the University of Miami, which I am proud to be a part of," said Dr. Datta.



Jashodeep Datta, M.D.

2020 ZUBROD MEMORIAL LECTURE AND OUTSTANDING FACULTY AWARDS

For the past 21 years, Sylvester has hosted the Zubrod Memorial Lecture on the medical campus, in honor of **Charles Gordon Zubrod, M.D.**, the founding director of the University of Miami Cancer Center. The annual Outstanding Faculty Awards are also presented at this event.



BASIC SCIENTIST
Izidore S. Lossos, M.D.

The focus of Dr. Lossos' research is pathogenesis of lymphoma, identification of molecular prognostic markers and elucidation of their role in lymphoma pathogenesis and in determination of response to therapy, and development of new lymphoma therapies.



POPULATION SCIENCE RESEARCHER
Frank J. Penedo, Ph.D.

Dr. Penedo is an internationally recognized expert in cancer survivorship and psychosocial oncology. His work involves translational research in symptom and toxicities monitoring and management, patient reported outcomes, precision oncology, and implementation of evidence-based behavioral interventions to improve patient- and system-level outcomes.

This year's lecture and awards presentation, which took place on May 15, were virtual because of the COVID-19 pandemic. Sylvester Director **Stephen D. Nimer, M.D.**, started the online presentation by announcing the six recipients of the 2020 Outstanding Faculty Awards.



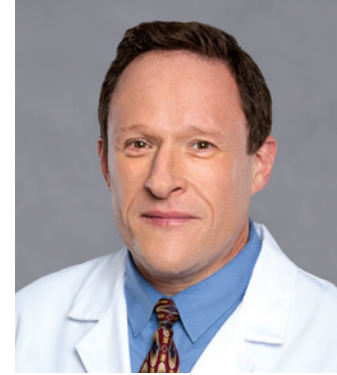
CLINICAL RESEARCHER
Carmen Calfa, M.D.

Dr. Calfa's main contribution in clinical research this year was securing Sylvester's position as Florida's sole participating site for the ASCO precision medicine clinical trial Targeting Agent and Profiling Utilization Registry (TAPUR). She also serves as the site's principal investigator for TAPUR.



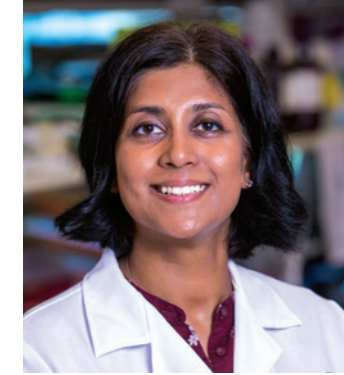
MENTOR - JUNIOR FACULTY
Joseph D. Rosenblatt, M.D.

Many of Dr. Rosenblatt's former trainees have achieved national recognition at the University of Miami, Yale University, Washington University in St. Louis, Memorial Sloan Kettering Cancer Center, Moffitt Cancer Center, and other prestigious institutions. Dr. Rosenblatt has presided over continuous recruitment and expansion of the hematology-oncology faculty.



MENTOR - TRAINEES
Jonathan H. Schatz, M.D.

Dr. Schatz works with the members of his own research laboratory and trainees throughout the Miller School as Aim Leader within Sylvester and a member of the Cancer Biology Graduate Program and Medical Science Training Program steering committees.

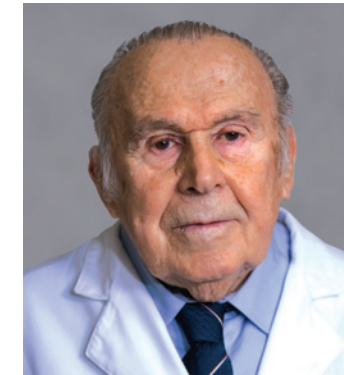


TEACHER
Pryamvada Rai, Ph.D.

Dr. Rai directs the innovative Cancer Biology flagship graduate course CAB 710 and teaches a range of graduate and medical school classes on tumor biology. She is also the director of the Medical School Summer Undergraduate Research Fellowship (SURF) program, which provides scientific research opportunities and teaches professional skills to disadvantaged and minority students from around the country.

LIFETIME ACHIEVEMENT AWARD
Andrew Schally, Ph.D.

Dr. Schally's research and discoveries laid the foundation for modern endocrinology. As an endocrine oncologist and the discoverer of hypothalamic hormones, he was a co-recipient of the Nobel Prize in Physiology or Medicine in 1977 for his work in neuroendocrinology. He has authored and co-authored more than 2,400 scientific publications in the field of endocrinology and oncology.



Dr. Schally has held many roles at the University of Miami, including Distinguished Leonard M. Miller Professor of Pathology, professor in the Department of Medicine's Division of Hematology/Oncology, and director of the Endocrine, Polypeptide and Cancer Institute and Distinguished Medical Research Scientist at the Veterans Administration Medical Center in Miami.

The 2020 Distinguished Lecturer was **Karen Vousden, Ph.D.**, chief scientist of Cancer Research UK and senior group leader at the Frances Crick Institute. She is a Fellow of the Royal Society, the Royal Society of Edinburgh, the Academy of Medical Sciences and the European Academy of Sciences.

Dr. Vousden's presentation streamed live from London. Her research has focused on the tumor suppressor protein p53, how it works to control cancer progression,

and how mutations in this gene actually help promote cancer development. Her research also includes exploring the role of oxidative stress and the effects of serine and glycine dietary restriction.

"Unfortunately, due to the COVID-19 pandemic, we were unable to meet in person for the Zubrod lecture or to give out faculty awards," Dr. Nimer said. "Nonetheless, we heard a fantastic lecture on the cell's response to oxidative stress, which was followed by many probing questions, from a very engaged audience. With so many students, faculty members and members of the Zubrod family on the teleconference call, it was a great day for Sylvester and the Miller School of Medicine." ■

SYLVESTER HOSTS SECOND NATIONAL FIREFIGHTER CANCER SYMPOSIUM

Screening, prevention, and research are vital for reducing the deadly toll of cancer on firefighters and their families, according to experts at the 2020 National Firefighter Cancer Symposium, hosted by Sylvester at Hard Rock Stadium in February.

"Occupational cancer continues to be the leading cause of death among firefighters," said **Erin Kobetz, Ph.D., M.P.H.**, associate director for population science and cancer disparity, director of Sylvester's Cancer Control Program and co-vice provost at the University of Miami. "Our goal as scientists is to generate knowledge that can be translated into action, and we thank you for being part of this life-saving collaborative journey."



Erin Kobetz, Ph.D., M.P.H.

More than 300 volunteer and professional firefighters attended the second annual national symposium organized through Sylvester's Firefighter Cancer Initiative, a multidisciplinary team of scientists, clinicians, and firefighters focused on cancer control and cancer prevention strategies.

"This symposium promotes discussion and collaboration of innovative cancer control ideas across stakeholder groups who might not necessarily meet each other," said **Alberto J. Caban-Martinez, D.O., Ph.D., M.P.H.**, assistant professor of public health sciences.

The symposium was held in conjunction with the Dolphins Challenge Cancer which raises funds for cancer research.

"While the American people love firefighters, the dollars available for research are very limited," said **Patrick Morrison**, assistant to the general president of the International Association of Fire Fighters. "We really

appreciate the work of the Sylvester researchers and we need to continue that support."

Dr. Caban-Martinez said many of the sessions were on topics requested by firefighters, including a workshop on "Total Worker Health," an occupational health and safety framework for policies, programs and practices that support worker well-being.

"Our Firefighter Cancer Initiative has been developing innovative curriculum specific to the U.S. Fire Service to promote cancer screening strategies in an integrated organizational-level approach," he said.

At the symposium, **David J. Lee, Ph.D.**, professor and chair of public health sciences, discussed the Firefighter Cancer Initiative, and a medical panel of Sylvester oncologists gave an update on cancer screening procedures. Other sessions included the latest research on health promotion and intervention studies.

"In this era of patient-centered and precision care medicine, I am thrilled that our cancer center is addressing the unique survivorship and psychosocial needs of our firefighter community," said **Frank J. Penedo, Ph.D.**, Sylvester Professor of Psychology and Medicine, associate director for Cancer Survivorship and Translational Behavioral Sciences, and director of the Cancer Survivorship Program. "Through our ongoing collaborations with cancer center experts and our firefighter community, we are developing tailored programs to tackle the challenges faced following a cancer diagnosis and treatment to improve health outcomes."



2020 National Firefighter Cancer Symposium held at Hard Rock Stadium.

Natasha Schaefer Solle, R.N., Ph.D., research assistant professor of medicine, led a workshop that addressed the physical and emotional changes that often affect cancer survivors and family members. She urged attendees to visit and evaluate Sylvester's Firefighter Cancer Survivorship online portal.

At the symposium, **Brian McQueen**, chair of the National Volunteer Fire Council, gave an emotional account of his personal battle with cancer after being diagnosed in 2014.

SYLVESTER RESEARCHERS STUDY COVID-19 ANTIBODIES IN FIRST RESPONDERS

In response to the pandemic, the Firefighter Tracking, Resources, Assessment of COVID-19 Epidemiology (F-TRACE) was established and led by **Alberto J. Caban-Martinez, D.O., Ph.D., M.P.H.**, deputy director of the Firefighter Cancer Initiative at Sylvester, along with **Natasha Schaefer Solle, Ph.D., R.N.**, and Director **Erin Kobetz, Ph.D., M.P.H.**

They are co-authors of a paper, published in August, in the international peer-reviewed journal *Occupational and Environmental Medicine*. This research is first in the U.S. to document the seroprevalence of SARS-CoV-2 in a first-responder workforce.

"Prior research has suggested that first responders are at high risk of exposure to coronavirus due to the frequent and multiple encounters with members of the general public," said Dr. Caban-Martinez, associate professor of public health sciences in the Division of Environment & Public Health at the Miller School of Medicine. "Understanding risk factors and mitigators of exposure to coronavirus are important steps to controlling the spread of the virus, particularly for our first responders."



Firefighter Tracking, Resources, Assessment of COVID-19 Epidemiology (F-TRACE).

"Six years later, I still remember those weeks of radiation treatments in Manhattan," said McQueen, a resident of Utica, New York. "Too many of us attend funerals for our colleagues who have died from cancer. Take the information you learn here back to your station and put these best practices into your daily routine. That's how you can help your friends and families." ■

In April, the City of Hialeah Fire Department was the first in the country to undergo finger-prick coronavirus antibody screening using a rapid immunoglobulin (Ig) M-IgG combined point-of-care lateral flow immunoassay to estimate the prevalence of the virus that causes COVID-19. Over a two-day period, 203 firefighters/paramedics were tested. Of those, 18, or 8.9%, tested positive for the antibodies, which was low compared to the community infection rate, which was double that.

Dr. Caban-Martinez says the discrepancy is likely due to the regular and consistent use of personal protective equipment and decontamination practices adhered to by the fire department workers.

Over several months, numerous fire departments underwent antibody testing.

As part of a multi-prong approach to COVID-19 surveillance and control for first responders, the F-TRACE project will continue to provide firefighters/paramedics with the resources and guidance to minimize the burden of COVID-19 within their workforce and the communities they serve. ■



Alberto J. Caban-Martinez, D.O., Ph.D., M.P.H.

PROGRAMS BENEFITING CANCER SURVIVORS ADAPT AND THRIVE THROUGHOUT 2020

Vital programs and support services for the large survivor community at Sylvester were able to successfully pivot and grow in 2020, despite pandemic challenges.

“Our cancer support services and survivorship teams acted quickly and efficiently, and moved most of our programs to online delivery using several platforms. Overall, Sylvester has done an exceptional job at providing continuity of support services and care and staying connected with our survivor community,” said **Frank J. Penedo, Ph.D.**, professor of psychology and medicine and associate director for Cancer Survivorship and Translational Behavioral Sciences.

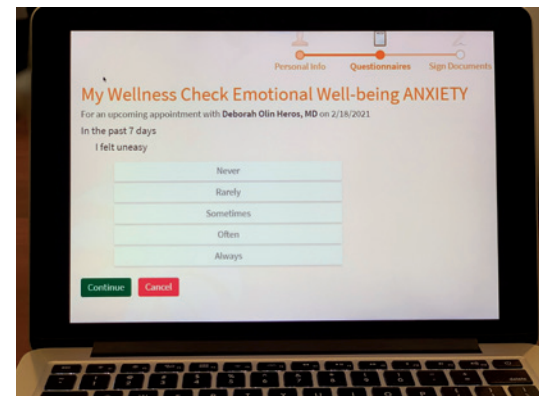
CANCER SURVIVORSHIP PROGRAM

Sylvester’s annual Survivorship Celebration, which in 2019 was held in person at Marlins Stadium, happened virtually in 2020. Live and pre-recorded musical performances and presentations from clinicians and survivors were part of the hour-long celebration which wrapped up with dancing to a DJ. More than 200 attended in real time.

Sylvester continued to deliver survivorship care plans via telehealth. These plans are an essential component of survivorship care with key information for the patients and primary care providers. The plans summarize all treatments received, list all providers involved in care, outline treatment follow-up guidelines, and provide personalized recommendation on lifestyle factors such as nutrition and physical activity that promote health and well-being.

Another key activity of the survivorship program is *My Wellness Check*—a personalized care program that uses the patient portal to assess symptoms and psychosocial needs to assure that the physical, emotional, and practical needs of our survivors are being adequately addressed. *My Wellness Check* continues to be rolled out across our cancer clinics and is expected to be available systemwide by early 2022. Notably, *My Wellness Check* identified an uptick in rates of anxiety and depression in parallel with the pandemic and the system continues to be used to refer our patients to appropriate psychosocial services.

To learn how the pandemic continues to impact survivors, led by our faculty and in collaboration with scientists from other NCI-designated cancer centers, we developed the COVID-19 cancer impact survey. The survey will provide a picture of how the pandemic is impacting emotional and physical well-being, financial conditions, and quality of life of our survivors so we can develop strategies to assist them. To this date, about 500 Sylvester cancer survivors have completed the questionnaire.



My Wellness Check survivorship questionnaire.

“We are also part of a collaborative with 19 NCI-designated institutions, where we are capturing data on how the COVID-19 pandemic has impacted everything from financial resources to medical visits and follow ups in our communities. We tap into satisfaction with telemedicine and ask several questions regarding depression, anxiety, and stress associated with the pandemic, as well as resiliency and factors related to quality of life,” Dr. Penedo said.

CANCER SUPPORT SERVICES

COVID-19 safety measures made it no longer possible for support groups to meet in person or to bring services like pet therapy and musical performances into clinical areas. Cancer Support Services was forced to quickly adapt and all of Sylvester’s weekly classes, group meetings, and events were transformed into a virtual format.

Videos were created and posted on Sylvester’s YouTube channel on yoga, journaling, art therapy, relaxation, nutrition, and more. Patients can participate at home and on their own schedule or join online meetings in real time.

Music therapist and leader of the Sylvester Survivorship Choir, **Mary Adelyn Kauffman, DMA**, realized this change allowed more people to participate. Survivors, caregivers, and families who could not make it to Miami or Sylvester’s other locations in person have a new way to access services. As a result, Kauffman has more than tripled the number of outpatient survivors in hour-long music therapy sessions each week, compared to the previous year.

“This has been a great win for Cancer Support Services in general and the music therapy department, in particular,” Kauffman said.

The Survivorship Choir practices regularly on Zoom and has worked out many of the technical challenges



Sari Velar, wellness instructor, teaches chair yoga for Sylvester Cancer Support Services at home.

associated with virtual groups. For the holidays they performed via Zoom, which was seen not only on survivors’ laptops, smartphones, and computers, but also on inpatient room television screens.

The online format has been so successful that, once pandemic fears ease, Kauffman foresees resuming a combination of in-person and online survivorship services, so all survivors can benefit.

“It has been very reassuring for our patients and survivors to continue to be able to access these critical services during the pandemic,” said Dr. Penedo. “In some ways, continuity of support services retains a sense of normalcy under what have arguably been challenging times. We are fortunate to have such dedicated cancer support and survivorship programs that continue to thrive and expand despite the pandemic challenges.”

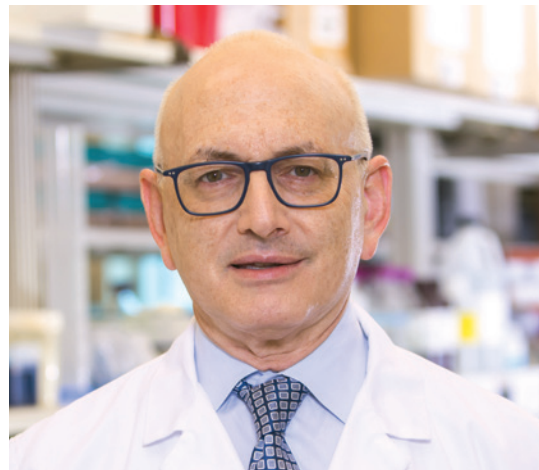


Music therapist Mary Kauffman leads music-assisted relaxation on the Sylvester Comprehensive Cancer Center YouTube channel.

TRANSFORMATIONAL \$126 MILLION GIFT PROPELS SYLVESTER INTO NEW CHAPTER OF EXCELLENCE

A landmark gift of \$126 million to Sylvester Comprehensive Cancer Center will accelerate breakthrough advances in finding cures for cancer and expand innovative treatment options for cancer patients. The groundbreaking donation – the single largest in the University of Miami’s 95-year history – will further propel Sylvester’s standing as one of the nation’s preeminent cancer centers.

The unrestricted donation was made in honor of **Stephen D. Nimer, M.D.**, director of Sylvester and the Oscar de la Renta Endowed Chair in Cancer Research. “I am truly humbled by the magnitude of this gift,” said Dr. Nimer. “I never expected to experience such immense generosity for simply answering the call to serve those in need.”



Stephen D. Nimer, M.D.

The gift is an anonymous bequest from a member of a family Dr. Nimer has known for decades. When facing several health challenges, including cancer, the family and those in their immediate network turned to Dr. Nimer for guidance and support.

“I’ve dedicated my life to excellence and serving the well-being of others,” said Dr. Nimer. “I now want to honor this donor. With a gift of this size, it’s our goal to maximize its impact, ensuring that we invest in programs

and people who can change outcomes for as many patients as possible. That will mean a legacy that lasts for generations to come.”

To maximize the impact, the donation will serve as a matching gift to leverage additional contributions of \$1 million or more to Sylvester. To date, philanthropists – including **The Pap Corps Champions for Cancer Research, Paul J. DiMare and the DiMare family, Steven Dwoskin (Dwoskin Charitable Trust Foundation), Eric and Elizabeth Feder, and Annette de la Renta** – have met the challenge, donating \$21 million in total, to accelerate innovative cancer research and bolster endowment funds for faculty chairs.

This matching program will also establish a strong pool of resources for necessary infrastructure investments, including a new research facility to foster leading-edge scientific discovery and interdisciplinary collaboration. In addition, funds from the donation will support Sylvester’s continued efforts to attract and retain top-tier scientists and clinicians.

Jayne S. Malfitano, president of the Harcourt M. and Virginia W. Sylvester Foundation board, and vice chair of Sylvester Board of Overseers, noted, “The donor saw in our institution, and in Dr. Nimer, in particular, the conviction and talent required to alleviate the suffering of so many battling cancer. I am grateful for the trust they had in our work.”

Jayne’s involvement with Sylvester dates back more than 35 years when her father, **Harcourt Sylvester, Jr.**, first pledged a multimillion-dollar naming gift to the University of Miami to build a cancer center in honor of his parents.

“Sylvester’s preeminent national reputation is due in part to the single-minded dedication our physician-scientists have to those they serve,” added Jayne. “It is this compassion and excellence for care that makes Sylvester so special.” ■



Sylvester Comprehensive Cancer Center.

BRAMAN FAMILY FOUNDATION RENEWS COMMITMENT TO FIGHT BREAST CANCER

To elevate care, research, and outcomes for patients battling breast cancer, the **Braman Family Foundation** announced a \$2.5 million gift to Sylvester Comprehensive Cancer Center in October 2020.

The gift enhances Sylvester’s ability to recruit and retain world-class researchers, physicians, and scientists, as well as all nurses, nurse practitioners, physician assistants, technicians, and staff needed to continue life-saving work at the Braman Family Breast Cancer Institute.

“At our family foundation, we value the partnership we have with Sylvester, built over the years in our collective battle against breast cancer,” said **Debi Wechsler**, whose parents, **Norman and Irma Braman**, created the foundation.

The family’s dedication to fighting breast cancer stems from watching Irma’s sister battle the disease for almost 20 years before succumbing to it. Since then, it has been their family’s mission to find ways to better detect and treat breast cancer, estimated to impact one in every eight women in their lifetime.

The Braman Family Foundation has long had a transformative impact at Sylvester in the fight against breast cancer. In 2002, they made a formative \$5 million

gift to launch the Braman Family Breast Cancer Institute and usher in a new era in research, clinical trials, and world-class care. The vision remains the same today – to develop new means of prevention, diagnosis, and research breakthroughs that lead to powerful treatments for patients, with the help of compassionate support programs, all within one cancer center.

“We believe in Sylvester’s commitment to outstanding patient care and top-level research,” added Debi. “Hopefully, together we can eradicate the suffering of thousands of breast cancer patients.” ■



Irma and Norman Braman.

THE DOLPHINS CHALLENGE CANCER: A DECADE OF THE DCC USHERS IN A NEW ERA OF FUNDRAISING

Every year, the Dolphins Challenge Cancer (DCC), the Miami Dolphins' signature fundraising event, attracts thousands to ride, run, and walk to fight cancer. The tenth annual DCC drew a record-breaking 3,921 participants on February 29, 2020, and raised \$6.2 million for cancer research at Sylvester Comprehensive Cancer Center, the highest amount in DCC history.

More than 230 cancer survivors participated in the day's events, adding to the hope and strength of the crowd. Firefighters from around the nation showed up in bunker gear in support of Sylvester's Firefighter Cancer Initiative, a moving tribute to those who have been lost amongst their ranks as cancer continues to be the leading health concern in the firefighting profession today. Key community partners and leadership from across the University of Miami and UHealth were also in full attendance.

"I could not be prouder to be a participant in a program that the Miami Dolphins have spearheaded for 10 solid years," said **Stuart Miller**, executive chairman of Lennar Corporation, a UM Trustee, and chair of the UHealth Board of Directors. "As corporations in our community, we should all participate. Solving important issues only happens if we band together."

Stuart has been involved in the event since its inception and leads an impressive company-wide initiative at Lennar for DCC involvement. A cycling enthusiast, he is among the event's Heavy Hitter fundraisers and rises early every morning to hop on his bike and condition year-round for the Hurricane Hundred, a strenuous 100-mile ride.

A decade of the DCC ended in spectacular fashion, with a total of \$39.2 million raised for life-saving cancer research at Sylvester. **Stephen D. Nimer, M.D.**, the director of Sylvester, the Oscar de la Renta Endowed Chair in Cancer Research, and professor of medicine, biochemistry and molecular biology at the Miller School, took the stage after completing the Hurricane Hundred, along with three members of the Sylvester Board of Overseers, **Eric Feder, Craig Robins, and John Elwaw.**

"There was great camaraderie throughout the day, making this the best DCC yet," said Dr. Nimer. "With the support of our community, we have been able to cure an ever-increasing number of patients with cancer and develop new more effective approaches to preventing cancer."

The funds raised by the DCC have directly supported cancer research and critical studies, making new treatments possible that have positively impacted, and even saved, lives. The support of the DCC helped Sylvester achieve the prestigious National Cancer Institute (NCI) designation in 2019, raising the cancer center's research and patient care to a whole new level of excellence.

As an organization that is accustomed to pushing the limits, the Miami Dolphins took their dedication to fighting cancer to the next level in 2020. At a news conference held at the Hard Rock Stadium, the Dolphins announced a transformational \$75 million gift commitment to Sylvester, along with a new name to usher in the next decade of what has become the NFL's #1 team fundraising event.

What began as the Dolphins Cycling Challenge in 2010 is now known as the Dolphins Challenge Cancer. While the mission remains the same, the organization is adopting a "one team, one fight" mentality that will further build on the Dolphins' year-round promise to support cancer research at Sylvester.

"The DCC began 10 years ago with one goal in mind: to unite the community against one of the most insidious diseases of our generation," said **Tom Garfinkel**, vice chairman, president, and CEO of the Miami Dolphins and Hard Rock Stadium. "In our first decade, the DCC raised more than \$39.2 million for innovative cancer research at Sylvester. As we look to the next 10 years of impact, we realize it is time for us to evolve from an event into a year-round movement focused on the challenge the cancer community faces every day."

In a dramatic moment, Dr. Nimer asked everybody in the audience who has either had cancer or been touched by a loved one who has had cancer, to stand. Not one person in the room remained seated.

"This is why we DCC," Dr. Nimer said. "This incredible partnership with the Miami Dolphins has supported vitally important research at Sylvester for a decade. We are extremely grateful for this renewed pledge to continue working side by side in pursuit of new cancer cures." ■



Participants at 5K start line.



Participants at 5K finish line.



Firefighters walking 5K in bunker gear.



Team Sarcoma of Team Hurricanes.



Stephen D. Nimer, M.D., crossing the finish line.

THE PAULA AND RODGER RINEY FOUNDATION ESTABLISHES NEW MULTIPLE MYELOMA RESEARCH PROGRAM AT SYLVESTER

Sylvester Comprehensive Cancer Center ended 2020 on a high note with a transformational gift to support the work of world-renowned multiple myeloma expert, **Ola Landgren, M.D., Ph.D.**, chief of the Multiple Myeloma Program and the inaugural leader of a developing Experimental Therapeutics Program at Sylvester Comprehensive Cancer Center.

The new program, named The Riney Family Multiple Myeloma Research Program, will accelerate the ongoing research in Dr. Landgren's lab.

"The generous gift from the **Paula and Rodger Riney Foundation** will propel our myeloma research program to make new discoveries and improve outcomes for patients faster than we ever imagined," said Dr. Landgren.

Multiple myeloma is not considered curable, but treatments for myeloma patients over the past two decades have improved significantly, thanks in large part to breakthrough science. Throughout his career, Dr. Landgren has been involved in early drug development for multiple myeloma, and he has served as principal investigator for several clinical studies.

When **Rodger Riney** was diagnosed with multiple myeloma in 2015, he realized he was in a unique position to help others. Founder of the brokerage firm Scottrade Financial Services, Rodger sold his company to TD Ameritrade and established the Paula and Rodger Riney Foundation. The foundation focuses on funding innovative research projects and novel approaches to treat—and ultimately cure—multiple myeloma.

"There's a lot of research around cancer, but not multiple myeloma," Rodger said. "I wanted to help find a cure for this disease."

In addition to his groundbreaking research in drug development, Dr. Landgren and researchers in his lab

are pioneers in developing novel methods to identify minimal residual disease (MRD) in patients with multiple myeloma. MRD refers to the small number of cancer cells left in the body after treatment.

As treatment for multiple myeloma has improved, more and more patients are achieving complete response (CR) after therapies. Unfortunately, in many patients who achieve CR, there's still evidence of low levels of tumor cells that have escaped treatment or detection and have the potential to cause a recurrence of disease years later.

Funding from the Paula and Rodger Riney Foundation will support Dr. Landgren's lab in developing novel methods to sharpen the assessment of the treatment response, including improving the accuracy of identifying if a patient is MRD positive or MRD negative through genomic profiling.

"I am honored that the Riney family has chosen to invest in my work as part of their mission so that we can continue this important work," said Dr. Landgren. ■



Paula and Rodger Riney (photo: Paula and Rodger Riney Foundation).

WOMAN'S CANCER ASSOCIATION CONTINUES LEGACY OF SUPPORT TO SYLVESTER

For over 60 years, the **Woman's Cancer Association** (WCA) of the University of Miami has supported cancer research, education, and patients' needs. In June 2020, they announced five new grants for physician-researchers at Sylvester Comprehensive Cancer Center.

"The Miller School of Medicine and Sylvester are making incredible advances in cancer research and patient care," said **Bill Tenney**, president of the WCA. "We are dedicated to providing the seed funds brilliant physician-researchers need to forge ahead with their discoveries."

The WCA has a long history of raising funds to support research at the Cancer Center. Since its inception in 1959, the group has raised more than \$14 million to promote cancer research, patient treatment, and education, including the five new grants, which totaled \$285,000.

This year's recipients included: **Luisa Cimmino, Ph.D.**, assistant professor of biochemistry and molecular biology, for her research entitled "Enhancing TET Function with Vitamin C for the Treatment of Leukemia;" **Marzena Blonska, Ph.D.**, assistant professor of medicine, for her research entitled "Oncogenic Signaling Pathways in B-Cell Lymphomas;" **Julio Barredo, M.D.**, professor of medicine and associate chair for basic research at the Holtz Children's Hospital at the University of Miami/Jackson Memorial Medical Center, for his research targeting the intersection of metabolism and epigenetics in the treatment of acute leukemia.

Other support included the Pearl M. and Edwin L. Powell Woman's Cancer Association Endowment Fund. Each year, the WCA awards a grant to a physician-researcher at Sylvester from the endowment's accrued interest. This year, **Macarena de la Fuente, M.D.**, neuro-oncology clinical service leader for the Oncology Service Line at Sylvester Comprehensive Cancer Center and chief of the Neuro-Oncology Division in the Department of Neurology at the University of Miami Miller School of Medicine, was the recipient for her groundbreaking brain cancer research.

In addition to research, the WCA's funding initiatives focus on cancer patient treatment and recovery. The organization continued their 20-year support of the Holtz Children's Hospital Pediatric Palliative Care team with a \$5,000 grant. They have also established a bereavement room for families of pediatric cancer patients and supplied materials for the library at the Batchelor Children's Research Institute.

The Woman's Cancer Association got its start in the late 1950s, when 28 Dade County women met to discuss ways to help fight the battle against cancer. By 1959, the group had adopted its organizational charter as the Woman's Cancer Association of the University of Miami. There are currently two chapters that comprise the Woman's Cancer Association — the Barton Ravlin Chapter and Heidi Hewes Chapter — both of which raise funds from individual and family grants, community partners, corporate sponsors, fundraisers, and proceeds from their resale store, the Bargain Box. ■



WCA members at the Woman's Cancer Association of the University of Miami 59th Annual Ruth Self Memorial Education Day held on March 12, 2020 (picture taken before COVID-19).

PHILANTHROPY DURING THE COVID-19 PANDEMIC

The COVID-19 pandemic altered the world, with consequences that will be felt for many years to come. Because cancer does not stop for even a global pandemic, and neither does the need of cancer patients to get treatments and possible cures, the importance for continued philanthropy at Sylvester Comprehensive Cancer Center had never been more crucial. We would like to highlight some extraordinary ways that our partners showed up during our most challenging time to continue the life-saving work at Sylvester.

VIRTUAL TOUR KICKED OFF THE GARDEN OF HOPE CAMPAIGN FOR THE PAP CORPS CHAMPIONS FOR CANCER RESEARCH

To provide comfort and serenity to cancer patients while supporting cancer research, **The Pap Corps Champions for Cancer Research** unveiled the first look at its eagerly anticipated Garden of Hope, which is slated to bloom at The Pap Corps Campus of Sylvester Comprehensive Cancer Center in Deerfield Beach. More than 240 people tuned in for an hour-long Zoom webinar on October 15, 2020, to get their first look at colorful renderings of the Garden created by the architectural firm of Curtis + Rogers Design Studio.

Designed to be a place of peaceful reflection for those fighting cancer, their families, and health care workers, the beautification project is planned to include three phases. Once the Garden of Hope is completed, work will begin in an area behind the building, by the lake, that will be known as the Park of Hope. A third phase, the Path of Hope, will be a walkway that will lead visitors from the Garden of Hope down to the lake area.



From left, Rayna Becker, Susan Dinter, Beverly Berkowitz, Linda Moses, Stavroula Christodoulou, and Stacia Anderson.

The Pap Corps leadership led viewers through a virtual walk through the garden, explaining that donors can support the Garden of Hope by purchasing multicolored bricks with personalized messages, as well as benches and plaques that will adorn the garden. All the proceeds from the campaign will support Sylvester's research programs.

The idea for the Garden of Hope was first planted when the Deerfield Beach location was named for The Pap Corps in honor of its historic \$50 million pledge to Sylvester in 2016. Since its founding nearly 70 years ago, the nonprofit group has donated more than \$110 million to Sylvester. The Pap Corps leadership and members ceremoniously broke ground on The Garden of Hope in December. The project is slated for completion in spring 2021.

KAYAKING FOR A CAUSE: SEBASTIANSTRONG AND CASTAWAYS AGAINST CANCER TEAMED UP FOR PEDIATRIC CANCER RESEARCH

Every year, a group of committed paddlers set off on a week-long kayak expedition that spans 160 miles between Miami and Key West. In 2020, two local foundations joined forces and took to the open seas to raise funds and awareness for pediatric cancer research.

SebastianStrong—a nonprofit dedicated to the memory of Sebastian Ortiz, an exceptional and bright young student at Christopher Columbus High School who lost his battle to cancer—and **Castaways Against Cancer**—a Christopher Columbus-affiliated kayaking team that has raised funds for cancer for 21 years—set off on the 20/20 Perfect Vision Tour in June.



Kayakers approach Bear Cut Bridge, Key Biscayne (photo: Bob Sosa).

Sebastian's father, **Oscar Ortiz**, founded SebastianStrong after losing his middle son in December 2016 to a rare form of cancer called rhabdomyosarcoma. Witnessing his son's painful journey, Oscar is laser-focused on raising funds to help researchers find less toxic, more targeted treatments for children with cancer. An avid kayaker and tremendous athlete, events such as the kayak expedition were a natural fit for his mission.

Eric Pino, the captain of Castaways Against Cancer, was Sebastian's cross-country coach at Columbus. He describes the Castaways as "a bunch of sea hippies," who are devoted to supporting and honoring those who have fought, and those who continue to fight every day.

Columbus teacher, **Steve O'Brien**, founded the group after his mother's death and has since raised \$1.2 million for cancer research.

The 20/20 Perfect Vision Tour kick-off was tempered by social distancing due to the COVID-19 pandemic, but people sent good wishes via social media. **Stephen D. Nimer, M.D.**, director of Sylvester, inspired the group with a video message. Oscar's wife and their sons **Oscar**, 22, and **Luke**, 17, were part of the road crew assisting the kayakers.

Together, the organizations raised an impressive \$100,000 to support the work of **Nagi Ayad, Ph.D.**, co-director of Sylvester's Brain Tumor Initiative. Dr. Ayad is seeking safe, effective therapies for medulloblastomas, the most common type of brain tumors in children. Their gift was matched dollar for dollar by Sylvester for a total research investment of \$200,000.



Bonnie Sepe, Acelia Gonzalez, Mary Rosenberg, Cheryl Ettelman, Erin Hager, Mario Fauert, Susan Kaufman, Ivette Martino Sarol, Jean Messier, Barbara Berg, Norma Jean Abraham, Donna Lyons, Marlene Berg, Judy Rosenblum, Staria Petersen, Linda Leeds, Faye Koniver, Sondra Marcus, Melissa Horowitz, Wayne Haltiwanger, Patrice Gimenez, Kathy Sheeran, Ana Britti, Diane Madden, Dale Rockkind, Harriet Shapiro, and Laurie Landgrebe at a Cancer Link Luncheon.

Both organizations will continue with their plights to fight cancer and have committed to continue supporting Sylvester with their generous efforts.

CANCER LINK PIVOTS TO CONTINUE THEIR FIGHT AGAINST BREAST CANCER

Over thirty years ago, **Marlene Berg** founded **Cancer Link** with a small group of women to increase awareness of breast cancer and raise funds for research. Since then, the all-volunteer organization has raised over \$3 million to support Sylvester Comprehensive Cancer Center.

Since 1987, Cancer Link's fundraising strategy has been primarily event focused. Through their vast influential social network, the organization garners an impressive amount of donations year after year through sponsorship, major annual luncheons, and several events with its various community partners.

After an extraordinarily successful golf tournament in February 2020 to benefit Sylvester in partnership with the **Deering Bay Women's Golf Association**, Cancer Link's fundraising events were abruptly cut short by COVID-19.

Driven by their dedication to their mission to combat breast cancer, these fearless fundraisers lead by Marlene, and co-presidents **Diane Madden** and **Mary Rosenberg**, did not allow anything to stand in their way. In lieu of their highly anticipated Cancer Link Luncheon, they sent an appeal to their members and friends and raised an inspiring \$34,000 during the pandemic. ■

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