

Sylvester Researchers Receive Grants from Woman's Cancer Association

Four researchers at Sylvester Comprehensive Cancer Center at the University of Miami Miller School of Medicine have been awarded a total of \$105,000 by the Woman's Cancer Association (WCA) of the University of Miami to further their work.

WCA, which began at the University as a grassroots effort by Miami-Dade County women in the late 1950s and has grown to a major fundraising association for cancer research and patient care, announced that Zane Zeier, Ph.D., would receive \$50,000; Marilyn Huang, M.D., M.S., \$25,000; Asha B. Pillai, M.D., \$25,000; and G. Patricia Cantwell, M.D., \$5,000.

"What drew me to this organization was knowing that 100% of the funds raised through our efforts go directly to cancer researchers in their aim for a cure. Additionally, through our Silver Lady Fund, we provide stipends to cancer patients who due to illness cannot afford things such as housing, utilities, and even travel to and from treatment," WCA President Nancy Cigno said.

Testing Model Therapies for Brain Tumors



Zane Zeier, Ph.D.

Dr. Zeier, a Sylvester research scientist with the Cancer Epigenetics Program and associate professor in the Department of Psychiatry and Behavioral Sciences, said the WCA grant is critical for advancing his research focused on developing new technologies to model brain tumors and testing much needed novel therapeutic approaches in glioblastoma. Securing funding for this kind of cancer research can be difficult in the early stages of development, he said.

“Despite promising results in animal models, new therapies for glioblastoma have failed in human trials. It is increasingly recognized that current drug development pipelines are not sufficiently relevant to human disease states, including glioblastoma,” Dr. Zeier said. “In collaboration with neurosurgeons at the Miller School, I have developed a human-based model system where freshly-resected tumor cells are introduced into miniature human-derived brain organoids. Using this model system, we can more accurately evaluate the effects of potential therapies on important glioblastoma characteristics, such as cellular heterogeneity and invasion

of surrounding brain tissues.”

The goal, according to Dr. Zeier, is to “de-risk” the drug discovery pipeline by developing a more disease-relevant, human-based model of glioblastoma.

“If successful, our work will allow the field to identify effective drugs more efficiently and at an earlier stage of drug development,” he said. “This will make clinical trials more successful, less expensive and facilitate the development of effective therapies, that have so far remained out of reach.”

Untangling the Complexities of Ovarian Cancer



**Marilyn Huang,
M.D., M.S.**

Dr. Huang, co-lead of the Gynecology Cancer Site Disease Group at Sylvester, director of Translational Gynecologic Oncology Research and associate professor of gynecologic oncology, said she was extremely thankful to receive WCA funding for advancing her research aimed at untangling the complex picture

of treatment responses among women with ovarian cancer – a cancer that accounts for more deaths in women than any other cancer of the female reproductive system.

The WCA grant will help Dr. Huang and Sylvester colleagues characterize immune marker differences in patients treated with neoadjuvant chemotherapy, with or without immunotherapy.

“We will explore how gene expression profiles and other global changes occur in the immune cell repertoire across the duration of treatment,” Dr. Huang said. “Data from this project will be used to develop future clinical trials. Our findings will enhance options for new treatment. By improving our understanding of the immune system in ovarian cancer, we aim to improve treatment selection for women.”

Research like this is particularly important, given that the majority of women with ovarian cancer will recur within two years of completing treatment for which new targets are needed, according to Dr. Huang.

Keeping Seed Projects Going



Asha B. Pillai,
M.D.

Asha B. Pillai, M.D., a Sylvester pediatric cancer researcher and associate professor of pediatrics and microbiology and Immunology, said she was grateful to receive WCA's funding when so much of today's funding is focused on COVID-19.

"Contributions from WCA – a long-time and dedicated supporter of Sylvester Comprehensive Cancer Center – are critical for keeping seed projects going," Dr. Pillai said.

WCA named Dr. Pillai, who also is associate professor of pediatrics and microbiology and immunology at the Miller School, "Cancer Researcher of the Year" in 2018. The WCA's 2021 grant funding Dr. Pillai's research will further her work on a novel immunotherapeutic strategy that she first developed at St. Jude Children's Research Hospital and optimized at the Miller School. The immunotherapeutic strategy optimizes tumor targeting using innovations developed in collaboration with Roger M. Leblanc, Ph.D., professor, Department of Chemistry.

"These are high-risk, high-impact efforts that will greatly expand efforts for off-the-shelf immunotherapies that can be readily transported across centers." Dr. Pillai said. "This work is of great impact to pediatric cancers, particularly relapsed disease and solid tumors where immunotherapy with CAR-T cells have failed and where innovations are sorely needed. Our goal is to apply sound immunological design and thought processes to engineer the next generation of easily transportable immunotherapies with high efficiency in targeting pediatric solid tumors."

Support for Palliative Medicine



G. Patricia
Cantwell, M.D.

G. Patricia Cantwell, M.D., division chief of Pediatric Critical Care Medicine and medical director of the Pediatric Palliative Medicine initiative, said the \$5,000 in funding is on behalf of the University of Miami-Holtz Children's Hospital PediPals Team, which the WCA has funded annually since the mid-1990s.

"WCA funds initially supported our Pediatric Bereavement Program, and WCA remained staunch supporters as we have broadened our program," Dr. Cantwell said. "The PediPals team is our Pediatric Palliative Medicine initiative. Today, WCA funds enable us to provide education and training to our staff. Palliative medicine is imperative to support our cancer program. There was significant angst that palliative medicine was the equivalent to 'giving up' or 'hospice.' But the WCA support has enabled us to glean resources to educate colleagues, patients and families that our mission is to

support quality of life.”

While in this case the WCA support has not been devoted to a specific research question, the funding has enabled the multidisciplinary PediPals team to investigate its outcomes, as well as to network with state and national palliative medicine initiatives

The focus of palliative medicine in cancer treatment is to strive for excellence in pain and symptom management.

“The palliative medicine specialists afford another layer of support for our primary hem/onc subspecialists,” Dr. Cantwell said. “It has been gratifying to have a role in improving our pain management, enhancing our true interdisciplinary focus and providing guidance to patients and families in navigating goals of care and treatment.”

In 2020, WCA formed a Grants Oversight Committee to revise and streamline the research grant application review and selection process, and to provide oversight and accountability, according to Cigno.

“Applications go out to all researchers at the Miller School and Sylvester, then the Committee reviews the applications, and candidates are voted on by the membership,” she said. “The WCA remains committed to raising funds in an effort to eradicate cancer, and we look forward to hearing about the progress of this year’s WCA research recipients.”

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