"TOGETHER UNDER ONE ROOF AND IN COMMUNITIES THROUGHOUT THE STATE"

# LOUISIANA CANCER RESEARCH CENTER
ANNUAL REPORT 2023

# OUR MISSION

To work across institutional boundaries to reduce the impact of cancer throughout Louisiana and the Gulf region through locally focused high-impact cancer research, patient care, education, and community outreach and engagement done in alignment with our unique cultural, ethnic, and environmental characteristics.



VISTA
Visual Integration of Science Through Art

Cover design by the students of Louisiana Technical College's Visual Integration of Science through Art (VISTA)

# LETTER FROM THE DIRECTOR

**Working Together to build a cancer center for all Louisianans**

Last year we hosted First Lady Dr. Jill Biden and Senator Bill Cassidy at the Louisiana Cancer Research Center (LCRC). I shared with them that, like the Cancer Moonshot, The LCRC was born of the collective aspiration to end cancer as we know it across our state and the Gulf region.

Louisiana is disproportionately impacted by cancer and the LCRC provides a collaborative attack on cancer aligned with the approaches identified by the Cancer Moonshot: We collaborate across disciplines and across institutions using a multipronged approach to combat cancer with every tool at our disposal - while inventing a few new ones along the way. This statewide work is informed by our communities and done with our communities and is making a difference in those communities. We are now moving fast and well on our way to re-envisioning the Louisiana Cancer Research Center as truly Louisiana's Cancer Research Center.

Our four consortium partners, LSU Health Sciences, Tulane University, Xavier University of Louisiana, and Ochsner Health, each bring distinct strengths. Our scientists are working together to expand the reach of our programs. This expansion is increasing the breadth and impact of our work beyond what any one institution could do alone. We are adding researchers in Ruston, Monroe, Shreveport, Baton Rouge and Lafayette to our programs, and growing our work in cancer screening and prevention in communities in every corner of the state.

As you will read in the following pages, in 2023, the LCRC made substantial strides in repositioning its programs, resources, and administrative structure to work throughout Louisiana to better prevent, diagnose, treat, and survive cancer.

It is full speed ahead in 2024. By expanding LCRC

membership to cancer researchers across Louisiana, we positvely impact the cancer burden across the state. I am particularly excited about:

- Our new Community Outreach and Engagement office is expanding its connections every day, supporting advocates who are educating Louisianans in rural and urban areas about cancer risk and prevention.

- Access to clinical trials is ever expanding, as the Gulf South Clinical Trials Network continues its growth throughout the state and extends its reach into rural areas with its innovative Virtual Research Nurse Program.

- The treatment-changing discoveries and innovations that come out of our labs every day.

We are stronger than ever as we continually build and refine our work to ensure that the LCRC is making a real difference in reducing the burdens of cancer for families in every corner of Louisiana.

**JOE W. RAMOS, PHD**
Director/CEO
Louisiana Cancer Research Center

# 2023 PUT LCRC ON THE MAP

2023 was a breakout year for the Louisiana Cancer Research Center (LCRC), which boosted its profile geographically and reputationally as a center with real potential to reduce cancer in our state.

## Cancer Moonshot Lands at the LCRC

A visit from First Lady Dr. Jill Biden put the LCRC in the national spotlight. Dr. Biden toured the LCRC with Center Director Joe W. Ramos, PhD, United States Senator Bill Cassidy, Dr. Laura Cassidy, and U.S. Rep. Troy Carter, to highlight the need for increased cancer research as part of President Joe Biden's Cancer Moonshot Initiative, which aims to cut cancer rates by 50 percent.


Augusto Ochoa, MD and Eileen Mederos, RN, Clinical Trials Network Manager at LSU Health New Orleans explain the Virtual Research Nurse (VRN) Program, a critical tool to bring clinical trials to patients across Louisiana through the Gulf South Minority/Underserved NCORP.

LCRC faculty member and Tulane Prof. Erik Flemington, PhD, discussed his cancer research with First Lady Jill Biden, Senator Bill Cassidy, and Congressman Troy Carter. Dr. Flemington's lab studies the Epstein Barr virus, which causes lymphomas and stomach cancers, and is a key etiological agent of multiple sclerosis.

Dr. Biden told a room of researchers and policymakers how impressed she was with the work of LCRC's member institutions and its statewide partner researchers. She commended the Louisiana legislature for creating the LCRC with an understanding that "the only way we can end the devastation of this disease is by bringing researchers, doctors, and nurses, and patients together. We see the power of that collaboration here, where LSU, Tulane, Xavier, and Ochsner are working together under one roof and in communities throughout the state," Dr. Biden said.

## Aligned in pursuit of NCI Designation

In November, Louisiana Governor John Bel Edwards held a press conference to announce an important statewide cooperative endeavor agreement among LCRC member institutions to accelerate the attainment of the state's first National Cancer Institute (NCI) designated cancer center. The LSU LCMC Health Cancer Center was identified as the lead applicant for the eventual application for NCI designation.

"In addition to the educational opportunities this affords our partners and their students, this collaboration is vitally important to Louisiana and the nation," Gov. Edwards said. "A National Cancer Institute designation would allow vulnerable populations in Louisiana who may not have the means to travel to get care much closer to home. The center will become a magnet attracting the best minds to tackle cancer issues specific to Louisiana, managed in cooperation with Louisianians. It will also benefit Louisiana by becoming an economic driver in the form of intellectual property, ideas that can become companies and bring in new researchers and clinicians."


Governor Edwards, Mayor Cantrell, Commissioner Dardenne join the leadership of the LCRC, LSU Health Sciences Center - New Orleans, Tulane University School of Medicine, Louisiana Childrens Medical Center, and the New Orleans Bio District to announce the historic agreement.

"This moment marks an incredible acceleration of our mission to make a tangible impact in reducing the burden of cancer throughout Louisiana and towards bringing the first NCI-designation to the state," Dr. Joe W. Ramos said. "This new agreement between LSU Health Sciences Center, LCMC, Tulane, and LCRC brings all the resources currently at our disposal and aligns and focuses them on the goals we all share to reduce the burden in every corner of the state and to bring NCI-designation. The agreement clarifies that when we are ready to apply, LSU will be our applicant on behalf of and with our partner institutions. It also ensures that these efforts are completely in line with the expectations of NCI in terms of how NCI-designated centers need to be organized."

## A Statewide Approach

Since its inception in 2002, the research and work of the LCRC took place mostly on the Louisiana Gulf Coast. In 2023, that focus took a wider approach. LCRC welcomed scientists from institutions throughout the state including Louisiana Tech University, University of Louisiana at Monroe, University of Louisiana at Lafayette, LSU Health Sciences Center in Shreveport, and LSU Pennington in Baton Rouge. The LCRC received a warm welcome from scientists and health advocates at each institution.

**By bringing people together** from across the state who have different areas of expertise in research and clinical care, education and community outreach, we can effectively target different types of cancer and help various communities who maybe haven't been helped as much in the past,"

*– Jamie Newman , PhD Louisiana Tech Associate Professor & new LCRC member*

LCRC Director/CEO Joe W. Ramos, PhD traveled to the University of Louisiana Monroe to personally welcome new members and discuss the resources and benefits of statewide collaboration.

The expanded reach of the LCRC was evident at the LCRC annual scientific retreat. Over 150 LCRC faculty, members and community advocates attended the daylong meeting held in New Orleans and webcast around the state.

(Rutgers Cancer Institute)

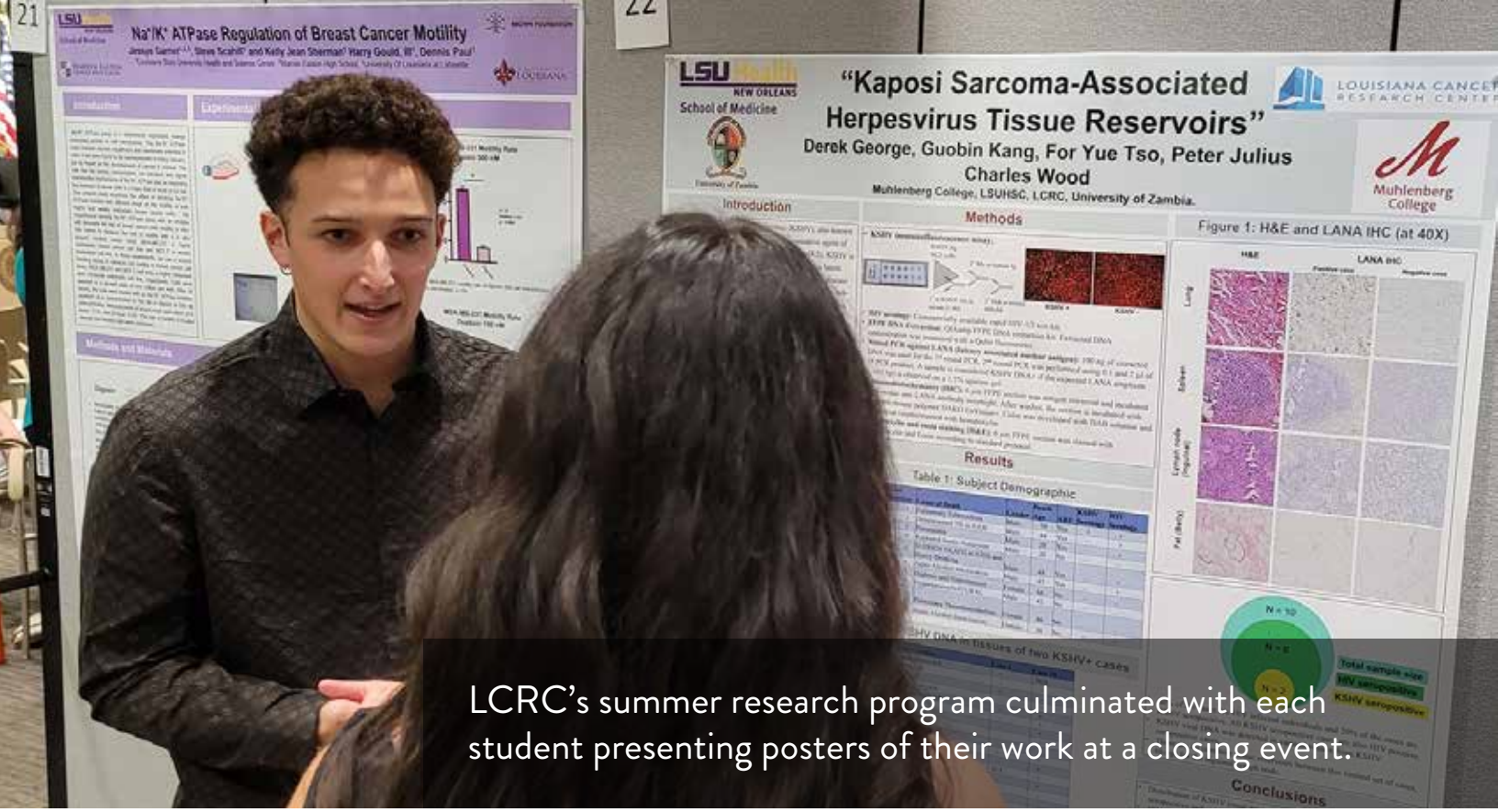
The full day of presentations included presentations from each of the Center's four research programs and was capped by a keynote address by Dr. Anita Kinney, Director, Center for Cancer Health Equity, School of Public Health, Rutgers Cancer Institute, New Jersey, whose topic was appropriate for the day: "Approaching Precision Prevention and Treatment with an Equity Lens."

## Expanded Community Outreach and Engagement Iniative

In a state with some of the highest cancer rates in the country, LCRC's newly established office of Community Outreach and Engagement (COE) has a daunting task as it aims to curtail those rates through prevention and education. Dr. Earl "Nupsius" Benjamin-Robinson, COE Director, is casting a net far and wide as he crafts a strategy. "We are constantly bringing community members, healthcare providers, institutions, and researchers together so we can learn from one another other - sharing information and resources with the intent of impacting Louisiana's health," he said. (See p. 9 for more information on COE initiatives)

Tobacco Control Iniative Director Michael Celestin, PhD, speaks during an LCRC COE convened meeting of Black researchers from Tulane University, University of New Orleans, Xavier University of Louisiana, Grambling State University, and LSUHSC School of Public Health to discuss their experiences and barriers in research. The information learned will be used to help the LCRC support, recruit, and retain diverse researchers.

LCRC's COE team cultivates advocates in untapped areas of the state by presenting informational programs for community health advocates, especially in rural areas. An all-day "Promising Practices Conference" at Louisiana Tech University highlighted the resources and assistance that are available and to strategize on ways to overcome challenges.




LCRC's summer research program culminated with each student presenting posters of their work at a closing event.

**Cultivating tomorrow's cancer researchers**

The LCRC's outreach to scientists extended to the cancer researchers of the future with the launch of a summer research program for undergraduate and newly graduated students. In its inaugural year, the Summer Undergraduate Cancer Research Experience (SUCRE) program, LCRC faculty provided nine young researchers with an opportunity to develop their interests by working in a lab with an assigned faculty mentor from member institutions. The eight-week program was funded by the Louisiana Board of Regents and supervised by Charles Wood, PhD, assistant director of cancer research training at the LCRC and a professor at Stanley S. Scott Cancer Center at LSU LCMC Health Cancer Center. Plans are underway for an even larger class in 2024.

Abigail Bendixsen, a senior from Brigham Young University, studied HERV retroviruses in glioblastoma and was impressed with the level of collaboration: "Everyone is doing their own projects but there's so much collaboration going on you really can't do all the research yourself. You're relying on other people and you have to bounce ideas off of others. It's just one big team working together."

Tayla Hunter, a New Orleanian, recent graduate of Howard University, and 2022 Goldwater Scholar, is currently completing an Intramural Research Training Award Postbaccalaureate Program at the National Institutes of Health/National Institute on Aging and applying to medical school. She found the experience very helpful. "I definitely would recommend the experience as it has helped me gain skills that I am currently using - computational, writing, and presentational skills."

# PROGRAMMATIC REORGANIZATION

## Cancer Biology

60 Members

$6.1M Grants (Direct Cost)

73 Publications

**Program Leaders**
Hua Lu, MD, PhD
Krzysztof Reiss, PhD
Christopher Williams, PhD

## Genes X Environment

24 Members

$6.3M Grants (Direct Cost)

25 Publications

**Program Leaders**
Erik Flemington, PhD
John West, PhD

## Population Sciences

42 Members

$3.8M Grants (Direct Cost)

69 Publications

**Program Leaders**
Ed Trapido, SCD, FACE
Michael Hoerger, PhD
LaKeisha Williams, PhD

## Translational Oncology

60 Members

$3.3M Grants (Direct Cost)

70 Publications

**Program Leaders**
Tony Hu, PhD
Qiang Shen, MD, PhD
Guangdi Wang, PhD

**"The programs form the core that will guide future development of the shared resources, developmental funds, clinical and behavioral translation, seminars & symposia."**

*— Dr. Ramos explained while announcing the realignment*

In 2023, the LCRC research programs underwent reorganization in order to align with the National Cancer Institute Cancer Center Support Grant guidelines and leverage existing strengths. This realignment was intended to foster greater productivity and impact in the pursuit of cancer research goals.

# INVOLVING THE COMMUNITY IN THE FIGHT AGAINST CANCER

**When we talk about cancer, often we talk about it from the perspective of obesity and tobacco, but there are many other factors that can contribute to cancer. Everything is related. Nothing happens in a vacuum,"** insists Dr. Benjamin-Robinson, director of LCRC's office of Community Outreach and Engagement (COE), established in 2023. He is also director of the Louisiana Campaign for Tobacco-Free Living, which is why he takes a holistic approach to cancer prevention, always looking at other factors such as trauma and violence - two stress triggers that can cause someone to take up smoking, a known cancer risk.


Earl "Nupsius" Benjamin-Robinson, DRHSC CPH, is director of the LCRC's office of Community Outreach and Engagement and the Louisiana Campaign for Tobacco-Free Living. Donna Williams, MS MPH DRPH is LCRC's Associate Director of Population Sciences and Community Outreach & Engagement and Associate Professor, Director of Louisiana Cancer Prevention and Control Programs, LSU Health - New Orleans.

That is why community input is essential to advancing cancer research. Patient data that is gathered from Louisiana's population at large reveals trends, weaknesses and behaviors that can help researchers refine their therapies.

Donna Williams, LCRC associate director of population sciences and community outreach & engagement stressed the importance of being invested in one's work. "We are doing this for our community. Not for a community but our community," adding that it is crucial to involve community members even before the first research questions are formulated.

But it can be challenging in rural areas and underserved communities, where a longstanding mistrust of the health care system exists. When it comes to convincing a reluctant community member to get a cancer screening or answer survey questions about their health, it often comes down to one thing: trust.

"Change happens at the speed of trust," said Kristie Bardell of the Children's Coalition for Northeast Louisiana, who echoed the sentiments of fellow panelists that authenticity, transparency and listening are must-haves.

## LCRC's office of COE has programs working throughout Louisiana.

**The Louisiana Campaign for Tobacco Free Living** engages in local and statewide tobacco control policy efforts that focuses on tobacco prevention, eliminating secondhand smoke exposure, promoting cessation services, and identifying and eliminating cancer and other tobacco-related disparities.

THE LOUISIANA CAMPAIGN FOR TOBACCO-FREE LIVING
A Program of the Louisiana Cancer Research Center and the Louisiana Public Health Institute

**The Tobacco Control Initiative (TCI)** partners with close to 20 health systems and clinics across the state to provide smoking cessation services (i.e., behavioral counseling and access to medication) for patients ready to quit and training and technical assistance for administrators and health professionals to integrate evidence-based cessation interventions into routine healthcare practices. Additionally, TCI conducts novel research with smoking patients at higher risk of developing cancer and health professionals to study strategies that can improve their use of evidence-based cessation services. TCI also engages communities to promote smoking cessation through events and activities for tobacco-related national health observances. This year, TCI tobacco treatment specialists presented quit smoking material on display tables for world lung cancer awareness day and Great American Smokeout day for patients and employees to learn more about the harms of tobacco use and the local cessation resources available to help them quit.

TCI
Tobacco Control Initiative

**Raenique Sylve, MPH**, joined the office of COE as Program Manager and is responsible for coordinating activities across a myriad of initiatives, including LCRC's Louisiana Campaign for Tobacco-Free Living (TFL), LSU's Louisiana Cancer Program (LCP) - Louisiana Health Community Coalitions (LHCC), LSU's Tobacco Control Initiative (TCI), and Southern University Ag Center's Communities of Color Network (COC), as well as new community-centered activities. She holds a Bachelor of Science in Public Health (BSPH) from Dillard University and a Master of Public Health (MPH) with a concentration in Community Health Sciences from Tulane University School of Public Health and Tropical Medicine.

**The Healthier Air for All Campaign (HAFA)** is TFL's secondhand smoke initiative. A large number of Louisiana residents are not protected from the dangers of secondhand smoke exposure: entertainers, bar, and gaming facility employees. HAFA encourages support for the protection of all employees with the expansion of smoke-free policies, businesses, and events across Louisiana, growing the movement toward a 100 percent smoke-free Louisiana.There are currently 34 smoke free policies in the state, thus protecting over 1.4 million Louisianans.

HEALTHIER AIR FOR ALL
HealthierAirForAll.org

TFL works statewide to eliminate tobacco-related health disparities in vulnerable populations with a focus on African Americans, low socioeconomic communities, and LBGT individuals. **The Communities of Color Network (CoC)** provides support and technical assistance to ensure that communities affected by health disparities are well informed about the dangers of tobacco use, and that these communities are prepared to take action to protect themselves from unhealthy exposure. Over 27 thousand individuals have been reached through CoC's community outreach and engagement efforts, including targeted outreach with African American men and youth and young adults.

COMMUNITIES OF COLOR NETWORK
The Louisiana Campaign for Tobacco-Free Living
Louisiana Tobacco Control Program
Southern University Agricultural Research & Extension Center

CoC Network has a 100 percent Tobacco Free Church Initiative The focus of this initiative is to incorporate policy changes within the African American church. Upon completion of the program, the churches adopt tobacco control into its health ministry as a system change to educate and build awareness within the congregation about the dangers of tobacco use and exposure. Through this work, to date there are 245 churches that have 100 percent tobacco free campuses.

**The Louisiana Healthy Communities Coalition** strives to improve the health and quality of life of Louisianans by mobilizing communities through policy and system implementation, as well as spearheading environmental changes in order to build healthier communities.

LOUISIANA HEALTHY COMMUNITIES COALITION

Eleven projects were selected for the 2023-24 LHCC grant funding period. Four grant projects will focus on tobacco use prevention and seven grant projects will focus on obesity prevention. LHCC grantee projects are estimated to reach more than 24,000 Louisiana residents. The LHCC engages with four coalitions across the state. Additional coalitions are led by partner agencies such as LSU AG and other community organizations.


Hua Lu, MB, PhD, Reynolds & Ryan Families Chair in Translational Cancer Research at Tulane, says completing the proposed study would unveil critical information for identification of CCDC3 as another potential anti-breast cancer molecule for future drug discovery.

## EXAMINING AN ANTI-BREAST CANCER MOLECULE AS A LEAD FOR FUTURE DRUG DISCOVERY

The p53 protein is a tumor suppressor mostly functional in the nucleus of cells throughout the body. Its job is to regulate cell division, growth and death by keeping cells from dividing in an uncontrolled way.

It does so largely by regulating gene expression via its ability to directly bind to DNA. When the DNA is damaged by agents such as toxic chemicals, radiation, or ultraviolet (UV) rays from sunlight, this damage signal will lead to p53 activation. Once activated, p53 plays a critical role in determining whether the DNA will be repaired or the damaged cell will self-destruct. If the DNA can be repaired, p53 activates other genes to fix the damage. If the DNA cannot be repaired, p53 prevents the cell from dividing and signals it to undergo cell death. By doing so, p53 helps prevent the development of tumors and suppresses their growth.

According to Hua Lu, MB, PhD, chair of the Department of Biochemistry and Molecular Biology at Tulane and LCRC faculty member, the formation of breast cancer is highly related to the deactivation of p53. One possible culprit is a gene called MDM2.

"Approximately 30% of breast cancers contain high levels of MDM2," said Dr. Lu. "It inhibits the activity of the p53 tumor suppressor protein, but the mechanisms for how normal breast cells activate p53 by blocking MDM2 activity are not completely understood."

Dr. Lu's research, published in November, 2022 in Oncogene, attempts to shed light by investigating how a newly discovered protein – coiled-coil domain containing 3 or CCDC3-blocks MDM2.

CCDC3 is under-expressed in breast cancers, and low levels are well correlated with poor overall survival and higher rates of relapse. Dr. Lu's team hypothesizes that CCDC3 can suppress the growth of breast cancers by blocking MDM2, preventing the degradation of p53 and consequently activating p53.

*REVOLUTIONIZING CLINICAL TRIAL ENROLLMENT IN REMOTE AREAS THROUGHOUT THE SOUTHERN GULF*

**DR. JILL BIDEN**

# BRINGING CANCER CARE DIRECTLY TO PATIENTS

With a new take on telemedicine, LSU LCMC Health Cancer Center is bringing specialized research nursing support to physicians and clinical practices regardless of their location by utilizing virtual communications technology.

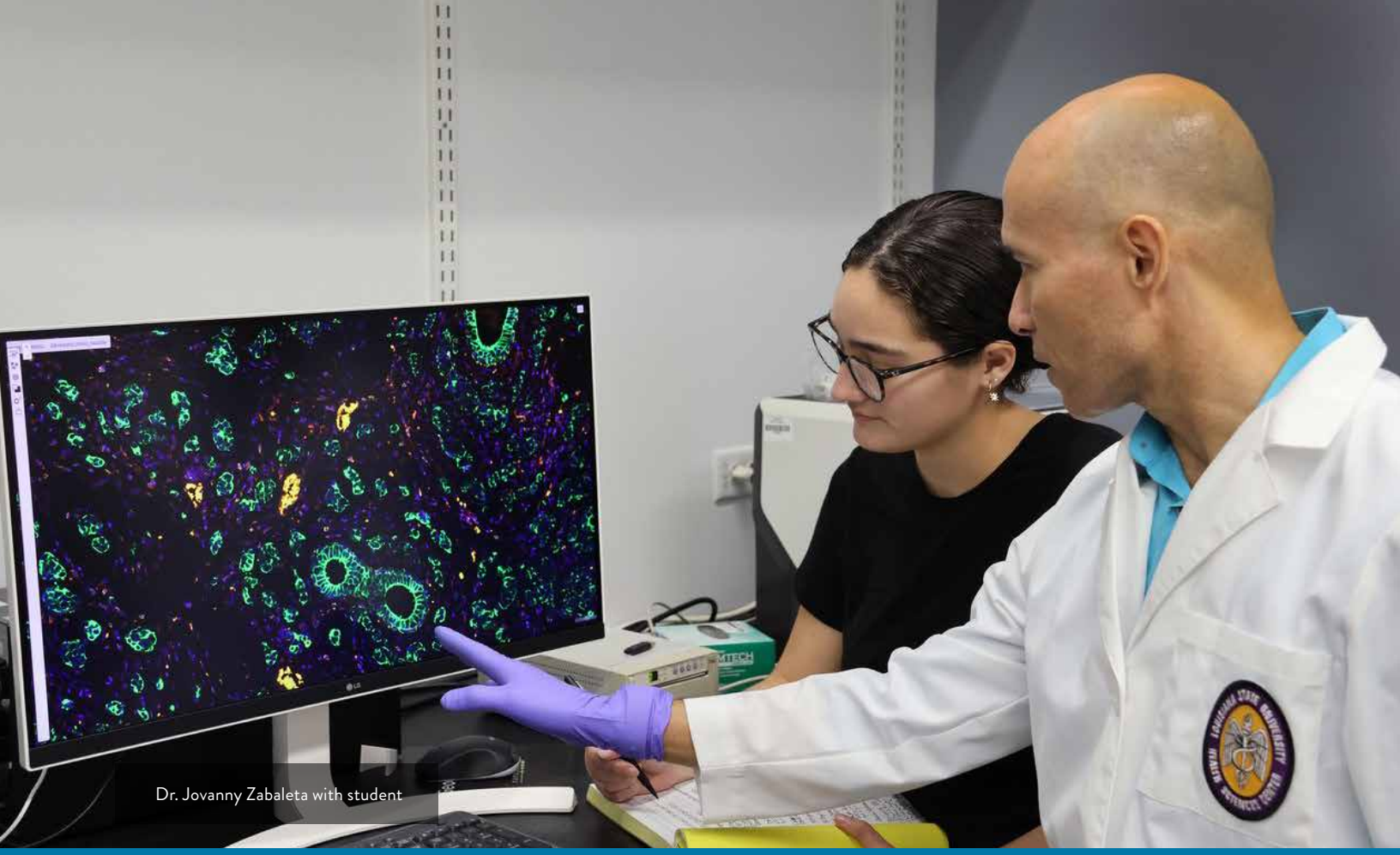
Funding from a $5.6 million grant to LSU Health New Orleans in 2014 funded the Gulf South Minority/Underserved NCORP (NCI Community Oncology Research Program) to improve the care and outcomes of cancer patients by increasing access to cutting-edge clinical trials. In 2019, the NCI awarded LSU Health New Orleans a new $13.6 million grant to further expand the clinical trials network. The LSU-led network is now a collaboration that includes Mary Bird Perkins Cancer Center, Ochsner Medical Center, and many community hospitals and physicians caring for patients with cancer at 50 sites throughout the Gulf South region.

To increase enrollment in clinical trials, the Virtual Research Nurse Pilot Program (VRN) is helping to link urban and rural community oncology clinics to provide patients with access to clinical trials that they may not have otherwise. The pilot program is currently offered through West Jefferson Medical Center in Metairie, Louisiana and Memorial Hospital in Gulfport, Mississippi. To date, more than 830 patients have been screened.

Initially funded by the Al Copeland Foundation, the VRN Program has garnered national attention and is supported by a pilot grant from the National Cancer Institute, which recognizes the potential of the VRN program to revolutionize clinical trial enrollment.

During her visit to the LCRC last year, First Lady Dr. Jill Biden commended the program for "revolutionizing clinical trial enrollment in remote areas throughout the southern Gulf."


The Gulf South Clinical Trials Network website provides a searchable online database of clinical trials in Louisiana and the Gulf Coast. https://www.gulfsouthclinicaltrials.org/



Dr. Jovanny Zabaleta with student

# BIOMARKERS AND CANCERS IN MINORITY POPULATIONS

Cancer biomarkers can provide insight into a person's cancer (such as its likelihood of spreading, which treatments will be most effective, and how treatment is working), a person's risk for developing certain kinds of cancer, and the chances of a person's cancer returning.

Jovanny Zabaleta, MS, Ph.D., LCRC faculty and Associate Professor, Department of Interdisciplinary Oncology, LSU LCMC Health Cancer Center and head of the Translational Genomic Core, is studying how biomarkers play a role in how and why minority populations are more likely to develop certain cancers or more aggressive forms of cancer.

By understanding these biomarkers, cancer could be caught in earlier stages — or before it even becomes cancer. Dr. Zabaleta's research focuses on breast, colorectal, cervical, and gastric cancers. Though as with all cancer research, these findings also provide insight into cancer in general.

Cancer disparities are differences in cancer measures, such as new cases, years of survival after diagnosis, and deaths. Disparities exist in many groups, including different races and ethnicities.

For instance, African Americans are more likely to die from many kinds of cancer compared to all other racial/ethnic groups. When it comes to cervical cancer, Hispanic and African American women have higher rates compared to women in other racial/ethnic groups.

The causes of cancer disparities are not straightforward. There are many factors at play, including access to healthcare, socioeconomic status, lifestyle choices, and geographic location. While Dr. Zabaleta's research considers these factors, especially obesity, genetics is a primary focus.

Among the many findings in his research, one is a specific gene in African Americans that is associated with increased inflammatory responses and gastric cancer. Inflammation is a key part of cancer, including how it develops, spreads within the body, and responds to treatment.

By detecting biomarkers for cancer early, there are more options, such as reducing inflammation or the number of bacteria in a patient.

Dr. Zabaleta detected other biomarkers that may put minority patients at a higher risk of cancer. The genetic array in colorectal cancer also shows up in gastric cancer, specifically in Hispanic patients who have higher African ancestry. As for breast cancer, he found an array of genes related to the luminal B subtype of breast cancer in Hispanic women with high Native American ancestry fraction.

Cancer disparities exist for many reasons. Dr. Zabaleta's research at the LSU LCMC Health Cancer Center is aimed at removing factors that put certain populations at risk of developing cancer or more aggressive forms of cancer. Some of his most recent work was published in early 2023 in Frontiers in Genetics and focused on the evaluation of genetic alterations in hereditary cancer in the Ashkenazi Jewish women community of Mexico.

> Many men will develop prostate cancer as they age. The lack of reliable genetic biomarkers to understand who will progress to aggressive metastatic disease has led to many cases of over treatment. And the ways in which these patients are treated can have very devastating physical and psychological effects. If our work can change this, it will have very important implications for disease management.
>
> **VICTORIA BELANCIO, PHD**


Victoria Belancio, PhD, was recently awarded a Department of Veterans Affairs Merit Award Grant to support her team's work to identify possible biomarkers and genetic variations associated with a higher risk for aggressive metastatic prostate cancer.

## RESEARCHER INVESTIGATES BIOMARKERS FOR METASTATIC PROSTATE CANCER

Despite progress in the development of drugs and treatment options for prostate cancer, metastatic disease mortality remains a major concern, highlighting a critical need for the discovery of biomarkers and development of tests that can identify men at high risk for metastatic disease.

Victoria Belancio, PhD, associate professor of structural and cellular biology at Tulane and LCRC assistant director of cancer research training, is working on just such a test.

"This idea is similar to BRCA1, BRCA2 and other genetic tests that identify elements already present in the genome," said Belancio. "It could be administered at any point during a man's life to identify the presence of a particular biomarker and locations of genetic variations in the genome associated with aggressive metastatic disease."

The biomarker Belancio is targeting is a mobile element called polymorphic L1 — or pL1. Mobile elements are segments of DNA that can jump around within the genome, reshuffling genetic material as it copies and reinserts itself randomly.

"L1 is known to cause mutations that can either initiate tumorigenesis or contribute to the progression of cancer," said Belancio.

Belancio's preliminary analysis shows that specific pL1s are enriched in the genomes of patients with metastatic disease, meaning they could be a potential new biomarker of aggressive prostate cancer.

Belancio's team also aims to identify novel genetic variations to determine whether the number and/or composition of pL1s — alone or in combination with identified variations — is associated with aggressive disease.

Whole genome sequencing is time-consuming, expensive, and impractical for clinical use. "So we've developed a technique for which Tulane has filed a patent that would allow us to determine the presence of both pL1 and targeted genetic variations through a simple blood test," said Belancio.

The long-term goal would be a reliable genetic blood test that is accurate, fast and easy to administer in the clinic.

> If we can start moving the ability to look at the tissue microscopically closer to the patient in space and in time — meaning right into the operating room — then we can move toward a future 'see-and-treat' paradigm for localized prostate and other cancers.
>
> **J. QUINCY BROWN, PHD**

# RESEARCHER DEVELOPING MICROSCOPE THAT CAN SHORTEN TIME FROM BIOPSY TO CANCER DIAGNOSIS

J. Quicny Brown

Tulane University

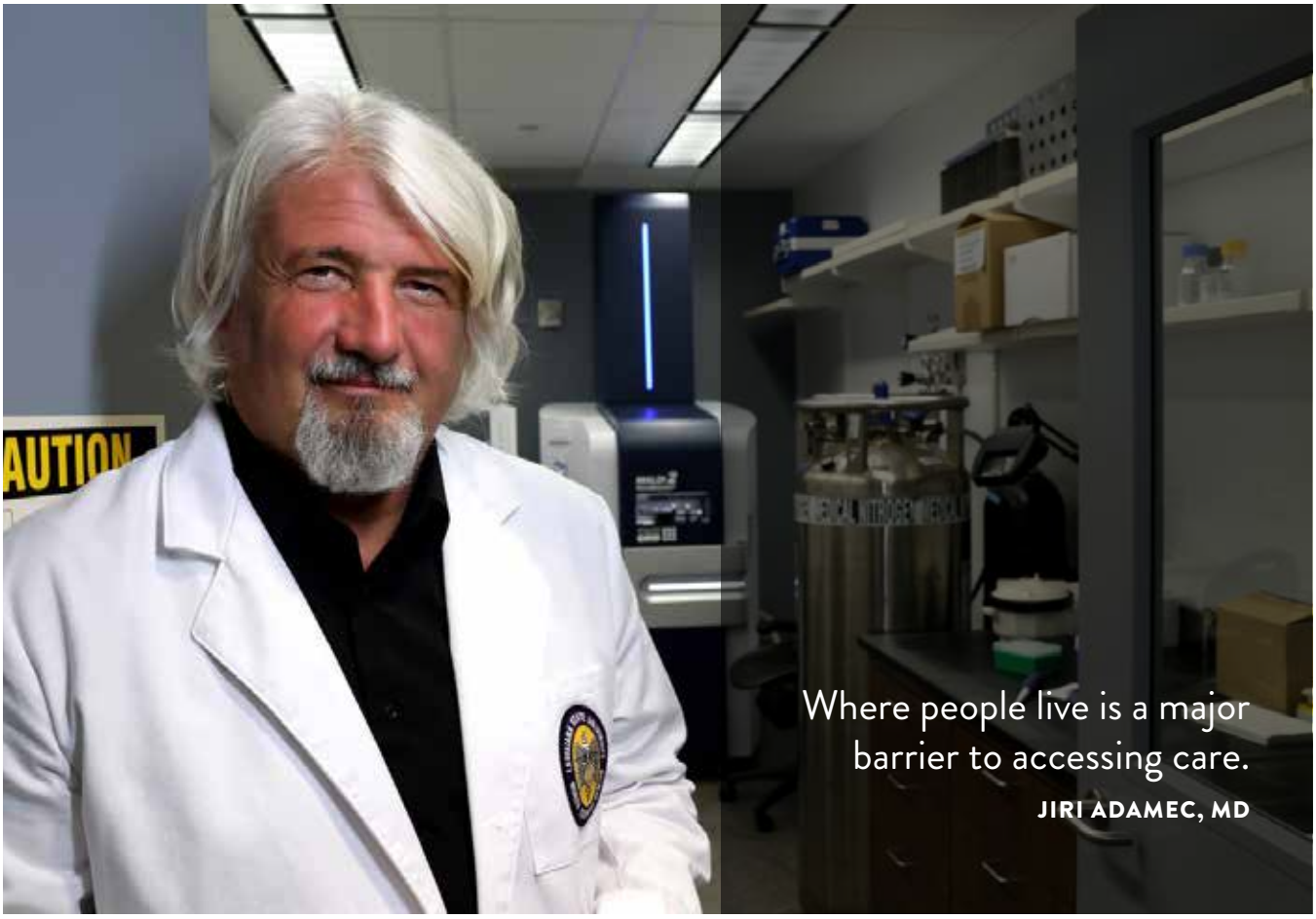
"Many men have unfortunately had the experience of getting a prostate biopsy and then waiting a week or two for the results, and only then can their physician determine whether they have cancer and if so, how to treat it," said J. Quincy Brown, PhD, associate professor of Biomedical Engineering at Tulane and LCRC faculty member.

Shortening the time from biopsy to diagnosis can reduce anxiety, but it can also mean patients start their treatments sooner, extremely important to positive outcomes.

Brown and his team are addressing this issue by creating microscopes that can quickly and accurately provide pathology at the point of care. The field is called ex vivo microscopy, and Brown and his team are at the center of it, having invented and patented a microscope that can image fresh bulk tissue in the operating room within minutes of removal, without the need for histological staining or slicing required by current pathology methods.

In their recent publication (Rapid On-Site Microscopy and Mapping of Diagnostic Biopsies for See-And-Treat Guidance of Localized Prostate Cancer Therapy. Cancers (Basel), 2023 Feb; 15(3): 792), led by Biomedical Engineering PhD candidate Madeline Behr, Brown's team analyzes whether their new microscopic technology would be feasible as an adjunct tool to confirm malignancy in fresh prostate biopsies.

"We utilized tissue samples from 39 patients undergoing diagnostic biopsy at Tulane Medical Center," said Brown, "and asked urologists to give their best guesses using the imaging tools they have now — MRI and ultrasound — if they were going to do a see-and-treat, would they do it on each of the patients biopsied. A comparison of the urologists' suspicions of malignancy to pathologist diagnosis based on biopsy images obtained by our microscope reveals that real-time biopsy imaging could significantly improve confirmation of malignancy over medical imaging alone."




# HOW BLOOD SAMPLES ARE CHANGING CANCER RESEARCH

Jiri Adamec, PhD, Professor of Interdisciplinary Oncology and Director of Proteomics and Metabolomics Core laboratories at LSU LCMC Health Cancer Center frequently focuses his research on remote areas. In early 2023, his work on the effects of mercury exposure on Amazonian fish was published in Chemosphere.

Dr. Jiri Adamec, Professor of Interdisciplinary Oncology and Director of Proteomics and Metabolomics Core laboratories at LSU LCMC Health Cancer Center and LCRC faculty member, is leading research to help identify biomarkers that could act as early signs of cancer and neurodegenerative diseases. While these biomarkers are not a guaranteed diagnosis, they can be a factor in capturing a picture of a person's overall health and determining if further testing, including for cancer, needs to be done.

To analyze biomarkers, blood samples need to be collected. However, patients who face geographical, financial, or other barriers don't get this crucial snapshot of their health. In response to this need, Dr. Adamec has developed a system that collects, stores, and analyzes blood samples using a plasma separation card.

While the cards look simple, they are highly functional. A few drops of blood are taken at home and placed on the card, which separates the plasma from the blood in just three minutes. Once separated, the samples are stabilized and can be transported anywhere to be analyzed for health conditions, including cancer.

Where people live is a major barrier to accessing care. Whether they're in the remote areas of the Amazon or rural areas of the US, getting to a healthcare facility can be difficult if not impossible. Using plasma separation cards, all they need is access to a mailbox.

Other barriers to care include lack of insurance, wariness of the healthcare system, and time — all of which can be addressed through the plasma separation card. Patients would never have to step foot in a healthcare facility, but they would still have access to lifesaving care by catching signs of cancer early. In addition to helping patients understand their own health, the option to collect mass amounts of data could revolutionize cancer research. Currently, researchers have limited information about people who live in rural areas, are uninsured, or distrust healthcare. By gathering blood samples from more people — whether their names are attached, or the samples are collected anonymously — researchers would be able to personalize medicine, including cancer prevention and treatment.

The plasma separation card has already shown promising results. Now, the focus is on gathering the right data from these blood samples.

While in its early stages, this technology is not far from being a reliable way to test blood samples using blood from plasma separation cards. With that, the ability to test thousands of patients — no matter where they live or what kind of insurance they have — will become an effective way to treat cancer and advance cancer research for everyone.


# HEALTH DI

## XAVIER UNIVERSITY OF LOUISIANA'S RCMI PROGRAM RENEWED

The Xavier University of Louisiana celebrated the five-year-renewal of the Research Centers in Minority Institutions (RCMI) $25 million award that will allow the university to continue its substantial work in lessening health disparities.

The RCMI program is through the National Institute on Minority Health and Health Disparities (NIMHD), a sector of the National Institutes of Health (NIH) that is explicitly dedicated to research that improves the health of underrepresented communities and reduces health disparities. The program aims to develop and strengthen the research infrastructure necessary to conduct state-of-the-art biomedical research and foster the next generation of researchers from diverse backgrounds. Launched in 1985, RCMI gives an award every five years to institutions that demonstrate their capability to live up to the mission of the program. These institutions also can have their award renewed after every five-year term. This will be Xavier's third award renewal after the initial approval.

"The point of RCMI is to continue to increase our research capacity. It funds a wide variety of research facilities, which include research instrumentation; people who are highly skilled at statistics that can help faculty with their projects; [and] in how to develop new drugs," said Dr. Gene D'Amour, special assistant to the president and the first principal investigator for Xavier's RCMI program. "Those serve faculty and students across the university, and candidly, without them, I don't know how we would continue to do research."

Each renewal cycle awards Xavier about $5,000,000 a year for five years to support the projects developed in the proposal. Originally, Xavier's RCMI programs focused on cancer and cancer research, and in each renewal cycle, the grant's use at the university has expanded to include the research of other diseases such as diabetes, HIV, and Alzheimer's, with special consideration on research that impact health disparities. For this renewal cycle, Xavier's three projects will focus on researching sugar consumption, vaccine hesitancy, and the use of protax molecules on the degeneration of molecular targets.

The grant enables Xavier to have and operate core labs and equipment that make this research possible.

"Xavier has been able to dramatically expand its work in health disparities. Louisiana has the second highest proportion of African Americans in this country, and in those communities, they have the highest death numbers from cancer and diabetes and other diseases," said Dr. D'Amour. "So, one of the things this grant has done is helped us further develop our work with federally qualified health clinics around the state to get in these communities...to study the diseases that are there and study ways those diseases can be prevented or assisted in their cure."

Along with Dr. D'Amour, Dr. Guangdi Wang, a professor in the Chemistry department, and Dr. Christopher Williams, chair of the Division of Basic Pharmaceutical Science in Xavier's College of Pharmacy, both of who are LCRC faculty members, were also heavily involved in the most recent renewal cycle as multi-Principal Investigators (PIs). As multi-PIs, they will provide guidance and facilitate the projects that will develop under the grant.


# ISPARITIES

## ADDRESSING HEALTH DISPARITIES

The Research Centers in Minority Institutions (RCMI) at Xavier University of Louisiana has been at the forefront of addressing health disparities through a series of impactful community activities in 2023. These events have effectively spotlighted diverse health topics, including cancer, Alzheimer's disease and dementia, maternal health, and chronic conditions. RCMI's commitment to community engagement is evident in the development of programs in cancer and health disparities, which have provided a platform for education, awareness, and dialogue. Through workshops, seminars, and awareness campaigns, RCMI has fostered a deeper understanding of health disparities within these specific domains, empowering communities to take proactive measures. By bringing together experts, researchers, and community members, RCMI has facilitated a collaborative approach to tackle these pressing health issues, promoting inclusivity and equitable access to healthcare resources. These community activities reflect RCMI's dedication to advancing health equity and improving outcomes for underrepresented populations.

## CANCER HEALTH ADVISOR PROGRAM

The RCMI Cancer Health Advisor Program is a transformative initiative designed to empower and educate community members on cancer and health disparities. This program conducts monthly training sessions, creating a dedicated space for community members to delve into critical topics that impact their well-being. The comprehensive curriculum led by Dr. LaKeisha Williams and Dr. Jasmin Eugene covers a spectrum of issues, including cancer topics, such as but not limited to breast cancer, cervical cancer, prostate cancer, colorectal cancer and lung cancer, as well as other topics such as diabetes, hypertension, nutrition, mental health and clinical trial participation. Through these training sessions, participants gain valuable insights into the prevention, early detection, and management of these prevalent health concerns, with a specific focus on addressing disparities within the community. The program not only imparts essential knowledge but also encourages open dialogue and the exchange of experiences. By fostering a supportive learning environment, the RCMI Cancer Health Advisor Program equips community members with the tools and information needed to make informed decisions about their health, ultimately contributing to the reduction of health disparities in the realm of cancer and related conditions. Furthermore, the impact of this program extends beyond the monthly training sessions, as community members actively participate in various community events. Armed with the knowledge gained from these sessions, they serve as ambassadors, utilizing their expertise to educate and empower other community members, while playing a crucial role in disseminating information on cancer prevention, early detection, and overall health and well-being

Dr. Lakeisha Williams
Xavier University of Louisiana

# PROMISING RESULTS IN TREATING RELAPSED OR REFRACTORY MULTIPLE MYELOMA

Recently published in Nature Medicine, an article on the MagnetisMM-1 phase I trial provided an overview of elranatamab, a bispecific antibody that engages B cell maturation antigen (BCMA) on multiple myeloma (MM) and CD3 on T cells that has shown promising results. The trial evaluated the safety, pharmacokinetics, and efficacy of elranatamab for the treatment of relapsed or refractory MM. Eighty-eight patients received elranatamab monotherapy, and 55 patients received doses that demonstrated efficacy. Andrew Dalovisio, MD, hematology oncologist at Ochsner Health, is a contributing author.

The trial included patients who had received a median of five prior regimens, with 90.9% considered triple-class refractory. Additionally, 29.1% of patients had high cytogenetic risk, and 23.6% had received prior BCMA-directed therapy. However, no dose-limiting toxicities were observed during dose escalation, and adverse events were manageable.

Elranatamab achieved an objective response rate (ORR) of 63.6%, with 38.2% of patients achieving a complete response or better. The median duration of response (DOR) for responders was 17.1 months, and all 13 patients evaluable for minimal residual disease achieved negativity. Notably, even patients who had received prior BCMA-directed therapy achieved a response rate of 53.8%.

The trial also demonstrated favorable progression-free survival (PFS) and overall survival (OS) outcomes. The median PFS for all 55 patients was 11.8 months, and the median OS was 21.2 months. These results indicate that elranatamab can provide durable responses and promising survival outcomes for patients with relapsed or refractory MM.

"We are in new golden age of therapy for multiple myeloma. We have many new immunotherapies, including Bispecific T cell engagers (BiTE's), which harness our own immune system's innate ability to kill malignant cells," said Dr. Dalovisio. "Historically, patients with multiple myeloma who had progressed through all the previously approved therapies had limited options and very poor outcomes. The MagnetisMM-1 trial conducted at multiple cancer centers, including The Gayle and Tom Benson Cancer Center at Ochsner Health, studied the BCMA directed Bispecific T-cell engager elranatamab in heavily pretreated multiple myeloma patients. We found that it demonstrated response rates and durations of response almost two to three times more than historical therapies in this group."

Overall, the MagnetisMM-1 trial has shown that elranatamab is a safe and effective treatment option for MM, particularly in patients with limited other treatment options. With its ability to engage BCMA and T cells, elranatamab offers a promising new approach for the treatment of this challenging malignancy.

The data contributed to the FDA approving elranatamab in August 2023.

Marc Matrana, MD, Director, Precision Cancer Therapies (Phase I) Research Program, Endowed Professor of Experimental Therapeutics, Associate director of Clinical Cancer Research, Ochsner Health

Andrew Dalovisio, MD, hematology oncologist at Ochsner Health

# PANCREATIC CANCER BREAKTHROUGH

## NEW CIRCRNA-BASED BIOMARKER PANEL ENABLES EARLY DETECTION

A groundbreaking study recently published in Gastroenterology highlights the development a microRNA (miRNA)-based biomarker panel that promises to revolutionize the early detection of

Pancreatic ductal adenocarcinoma (PDAC), a devastating form of cancer with limited treatment options. PDAC is often diagnosed at advanced stages, resulting in poor patient outcomes.

Ochsner surgical oncologist, Dr. John Bolton, was a contributing author on this comprehensive analysis aimed to address the challenges of delayed symptom manifestation and the lack of specific diagnostic markers for PDAC.

The research team identified a panel of 10 miRNA candidates during the discovery phase. Through meticulous refinement, they narrowed down the panel to 5 miRNAs in the liquid biopsy-based assay. Remarkably, this panel demonstrated robust capabilities in identifying PDAC patients and distinguishing between early-stage (stage I/II) and late-stage (stage III/IV) disease.

The diagnostic potential of the miRNA-panel for early-stage PDAC detection was outstanding. A real breakthrough came when the circRNA panel was combined with the plasma levels of CA19-9, a commonly used pancreatic cancer marker. This combination significantly improved the diagnostic performance and also efficiently identified PDAC patients who were previously considered clinically CA19-9-negative.

“This miRNA-based biomarker panel represents a potential breakthrough in the non-invasive and early detection of pancreatic cancer," said Dr. Bolton. "By combining the power of miRNAs and CA19-9, this study has developed a robust diagnostic tool that may be able to identify patients with early-stage PDAC, enabling timely intervention and potentially improving survival rates. The promising impact of this breakthrough cannot be overstated, as early detection is crucial for improving patient outcomes."

John Bolton, MD

## ADVANCES IN PRECISION MEDICINE

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# LCRC LEADERSHIP UPDATES

## Delafontaine Joins Board of Directors; Grant Named Deputy Director; Williams Appointed Associate Director of Population Sciences; Benjamin-Robinson Named Office of Community Outreach & Engagement Director

**Patrice "Patrick" Delafontaine,** MD, Executive Dean, Professor of Medicine, Pharmacology, and Physiology at Tulane University School of Medicine was appointed to the Louisiana Cancer Research Center's Board of Directors.

Dr. Delafontaine is a physician-scientist and expert in interventional cardiology and vascular biology. His current areas of investigative focus include the role of IGF-1 and its binding proteins in vascular growth and atherosclerosis; vascular smooth muscle and endothelial cell biology; unstable angina and coronary atherosclerosis; and mechanisms of muscle wasting in chronic disease states.

Dr. Delafontaine received his Doctorate in Medicine at the University of Geneva in Geneva, Switzerland, and his residency in Internal Medicine at the Hahnemann Medical College and Hospital in Philadelphia. He completed a research and a clinical fellowship program in cardiology at Harvard Medical School and Brigham and Women's Hospital in Boston. Prior to coming to Tulane, he held positions at Emory University, the University of Geneva, and the University of Kansas Medical School.

The Louisiana Cancer Research Center appointed **Stefan C. Grant,** MD, JD, MBA, as Deputy Director. Dr. Grant is a thoracic medical oncologist with extensive experience leading clinical trial operations and intellectual property development in National Cancer Institute (NCI) Designated Cancer Centers. He will also serve as chief of the Section of Hematology and Medical Oncology in the John W. Deming Department of Medicine at Tulane University School of Medicine.

Dr. Grant was formerly professor of medicine within the Section of Hematology and Oncology at Wake Forest University School of Medicine and served as associate director for clinical trial operations within the Wake Forest Baptist Comprehensive Cancer Center, where he oversaw their clinical trial operations and led them through two successful renewals of their NCI Cancer Center Designation. He also was director for intellectual property strategy and maintenance within the Center for Technology Innovation and Commercialization at Wake Forest. Previously, Dr. Grant served as medical director of the Hematology Oncology Clinic at Acton Road at UAB's NCI Designated Comprehensive Cancer Center.

**Donna Williams,** MS, MPH, DRPH, was appointed LCRC's Associate Director of Population Sciences and Community Outreach & Engagement. Dr. Williams has over 30 years of experience in public health research and practice. Over 25 years has been in cancer prevention and control. She is also the Director of Louisiana Cancer Prevention & Control program funded by the Centers for Disease Control and Prevention. Dr. Williams also serves as the Associate Dean for Public Health Practice and Community Engagement at LSU Health. New Orleans School of Public Health.

**Earl "Nupsius" Benjamin-Robinson,** DrHSC, CPH, was appointed Director of the LCRC's new Office of Community Outreach and Engagement. Dr. Benjamin-Robinson is a health equity expert, board-certified as a public health practitioner - National Board of Public Health Examiners, and a 20-year public health professional. He is LPHI's Director of Tobacco Prevention and Control & Louisiana Campaign for Tobacco-Free Living. (See article p. _)

# LCRC FACULTY AND STAFF HONORS

The American Society of Hematology (ASH) named **Dr. Chancellor Donald** a winner of this year's Exemplary Service Award. Donald is an assistant professor of medicine, hematology, and oncology at Tulane University School of Medicine and medical director of cancer management at University Medical Center New Orleans. The award specifically recognized Donald and his peers for their "extensive contributions to the COVID-19 content curation group to ensure that the hematology community had access to the most trustworthy and up-to-date resources in the rapidly evolving pandemic environment." As chair of the ASH Committee on Practice, Donald brought his insights and expertise to help the group identify and address the most pressing needs for practitioners on the front lines of the pandemic.

**Dr. Tony Hu**, who is an LCRC faculty member, for being named a Fellow by the National Academy of Inventors, which honors the nation's brightest and most impactful innovators. Two Tulane Research Pioneers Named National Academy of Inventors Fellows. Hu, the Weatherhead Presidential Chair in Biotechnology Innovation at Tulane, is a pioneer in developing advanced diagnostics for personalized medicine. His research focuses on creating and validating highly sensitive blood tests that rely on nanotechnology-based strategies to find previously undetectable biomarkers of diseases

LCRC Chief Administrative Officer/Associate Director of Administration **Sven Davisson, CRA** was elected to the board of the Association of Independent Research Institutions (AIRI). Additionally, Davisson was appointed treasurer and will serve an initial three-year term. He has served as LCRC's CAO since 2015.

**Dr. Joe W. Ramos (left)**, Director/CEO of the Louisiana Cancer Research Center and Director of the LSU LCMC Health Cancer Center, and **Dr. Amelia Jernigan (second from left)**, Medical Director of Cancer Services, University Medical Center, were named 2023 Cure Champions by the American Cancer Society. Honorees are chosen for their role in raising awareness to ensure that the unique needs of each cancer patient in Louisiana are met by delivering life-saving programs, services, and advanced research.

# SUPPORT CANCER RESEARCH IN LOUISIANA

## MAXIMUM IMPACT

A donation to the Louisiana Cancer Research Center has wide-ranging impacts. A single donation helps advance the work of our four member institutions as well as LCRC's Community Outreach and Engagement programs.

Joe W. Ramos, PhD (center) accepted a generous donation on behalf of the LCRC from members of the Crescent City OLQ charitable organization and Alpha Kappa Alpha sorority.

The LCRC relies on support from individuals and organizations, like the Crescent City OLQ charitable organization. For the second year in a row, its members presented a significant donation supporting cancer research and prevention. Accepting the donation, Director and CEO Joe W. Ramos, PhD, described the LCRC's statewide growth since the group visited just a year ago. "We now have researchers from across the state working in areas where there are great cancer burdens in an effort to improve our understanding of what causes cancer in specific areas. That's something special about great cancer centers - they're very focused on the catchment–the people that they serve," he said.

**JOIN US IN OUR WORK**

**louisianacancercenter.org/donate**

# THE GOAL:
# A TOBACCO-FREE LOUISIANA

The Louisiana Campaign for Tobacco Free Living (TFL) engages in local and statewide tobacco control policy efforts that focus on tobacco prevention, eliminating secondhand smoke exposure, promoting cessation services, and identifying and eliminating cancer and other tobacco-related disparities.

## TFL GOAL 1

### PREVENT INITIATION OF TOBACCO USE AMONG YOUTH

Next Era Program is a statewide youth movement to promote healthier, tobacco-free and nicotine free lifestyle. There were 25 active youth in this program, representing regions 6 and 8.

Next Era Youth, from Pre-K and Beyond (3rd from right, on front row-wearing plaid pants and black shirt), represented Louisiana in the Youth Advocacy Symposium in Washington, DC (insert picture with students on steps)

As part of their Community Engagement, PreK-12 and Beyond Next Era youth team extended compassion to the senior citizens residing at Madison Place Apartments by presenting them with "Blessing Bags" filled with toiletries and cleaning products, puzzles, books, blankets, and information on how tobacco use and secondhand smoke can affect their health.

### IMPACTFUL CAMPAIGN

Take Down Tobacco Day was held March 24 – April 21 and targeted teens ages 13 to 17 who use e-cigarettes or vapes and their support system (HS Teachers, Counselors and their parents)

This campaign drove 3,815 new users to the NextEra website.

## TFL GOAL 2

### ELIMINATE EXPOSURE TO SECONDHAND SMOKE

The theory of change is associated with eliminating nonsmokers' and smokers' exposure to secondhand smoke starts with increasing people's knowledge of the dangers of secondhand smoke and increasing their support for passing, implementing, and enforcing comprehensive tobacco-free policies.

Through TFL's work in communities, Ringgold is the most recent community to adopt a smoke free ordinance. With this new ordinance, 32% of Louisianans are protected by smoke free policies.

## TFL GOAL 3
### PROMOTE CESSATION

In 2022, a total of 2,937 registered tobacco users received services from the Louisiana Tobacco Quitline (1-800-Quit-Now). Quitline services offers approved pharmacotherapies along with phone counseling, web-based coaching, or an integration of both conducted by a certified Tobacco Treatment specialist. Of the total participants serviced, 1,364 (46.4%) were eligible and enrolled into the Smoking Cessation Trust services and 1,728 (58.8%) utilized the Text2Quit® coaching support service in their quit attempt.

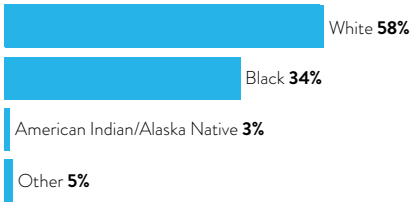
QUIT WITH US, LA
LIVE LIFE TOBACCO-FREE

### QUITLINE DEMOGRAPHICS

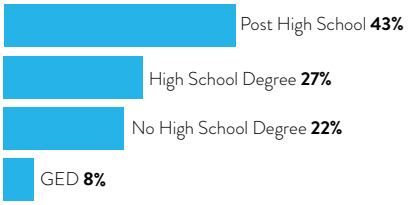
#### GENDER


#### AGE


#### RACE




#### EDUCATION




#### REFERRAL SOURCE

**49%** TV/ Commercial

**12%** Health Professional

**8%** Family/ Friend

## TFL GOAL 4
### IDENTIFYING AND ELIMINATING CANCER AND TOBACCO RELATED HEALTH DISPARITIES

TFL's Health Disparities Initiative supports reaching individuals and communities that are disproportionately impacted by tobacco use.

Highlights:

- Conducted 12 Empowering People and Communities Series (EPCS) webinars
- Reached over 444 individuals (i.e., webinar attendees)
- 19 new churches adopted a smoke free policy, with a total of 243 smoke-free churches
- CoC Network Coordinators conducted 11 outreach events targeting African American Males (reach =166 AAMs in Regions 1, 7, and 8)

### IMPACTFUL CAMPAIGN

HAFA Jefferson Parish ran from May 6 – June 30 and targeted Jefferson Parish (including geo-fencing at Festivals, Courthouse, DMV's, Hospitals, health & wellness enthusiasts, known voters, civic-minded/c-suite, business decision makers).


Lucretia Young, TCI Tobacco Treatment Specialist, and Kelly Moret, University Medical Center Cancer Navigator, standing behind a quit smoking display table for a World Lung Cancer Awareness Day Screening Event in New Orleans, LA, November 2023

# NEW LCRC FACULTY

### CHRIS BOLDEN, PHD

ASSISTANT PROFESSOR IN THE DEPARTMENT OF BIOLOGY AT XAVIER UNIVERSITY OF LOUISIANA

Prior to Xavier, Dr. Bolden completed a NIGMS Trauma Postdoctoral Research Fellow at the University of Texas Health Science at Houston in the Departments of Surgery and Pediatric Surgery. Dr. Bolden received his B.S. in Biological Sciences (Microbiology) and Biochemistry from the University of Southern Mississippi (USM) where he studied staphylococcal virulence factors and their relationship with atopic dermatitis. He was chosen as 2013 LSMAMP student of the year which awarded him an opportunity to conduct research at the University of Belize. Dr. Bolden went on to receive his PhD in Interdisciplinary Biomedical Science with an emphasis in Clinical & Translational Science at the University of Arkansas for Medical Sciences in the laboratory of Dr. Eric Peterson. While in graduate school, his research focused on evaluating anti-methamphetamine antibody gene therapy against the neurotoxic effects of methamphetamine in a rodent model. His research now focuses on characterizing the role of reactive astrocytes in glioblastoma and elucidating the mechanisms of neuroinflammation in traumatic brain injury involving astrocytes. Dr. Bolden leads a team of undergraduate researchers with fellowships from the Gulf Coast Scholar program.

### XIAOCHAO TAN, PHD

ASSISTANT PROFESSOR OF HEMATOLOGY & MEDICAL ONCOLOGY ,TULANE UNIVERSITY SCHOOL OF MEDICINE

Through his research, Dr. Tan has identified several Golgi apparatus proteins that are amplified in lung tumor cells. The tumor cells appear to use a positive feedback loop to stimulate the secretory pathway to generate more pro-tumor protein-filled vesicles. The secreted proteins find receptors on the tumor cell membrane which then activate pathways to promote additional Golgi secretion, a circular process that supports tumor cell growth and metastasis.

Dr. Tan and his team have identified and targeted a key regulator of secretion, an enzyme called PI4KIIIβ that drives protein packaging and vesicle formation in the Golgi. His group previously tested the anti-tumor activity of drugs that inhibit PI4KIIIβ – drugs that coincidentally were being developed as anti-viral agents for viruses such as hepatitis and Ebola – and found they also kill lung cancer cells with specific genetic mutations. These data plus additional testing in animal models will provide a foundation for clinical trials utilizing PI4KIIIβ inhibitors to shut down pro-tumor protein secretion in lung cancer.

# NEW LCRC MEMBERS

## THE LCRC WELCOMES NEW MEMBERS FROM ACROSS THE STATE

### DILIP DEPAN, PHD

ASSISTANT PROFESSOR, CHEMICAL ENGINEERING DEPARTMENT, UNIVERSITY OF LOUISIANA AT LAFAYETTE

Dr. Depan is the Director of BEAM Lab at the University of Louisiana at Lafayette. He is a member of the Society for Biomaterials (USA), The Minerals, Metals, and Materials Society (TMS-USA). He received Ph.D. in Polymer Science and Engineering from National Chemical Laboratory, India. His research is focused on biomaterials for tissue engineering and drug delivery applications. He is an Editorial board member of Bioinspired, Biomimetic and Nanobiomaterials, and International Journal of Polymer Science. Dr. Dipan received his doctorate in polymer engineering from the National Chemical Laboratory.

### PAUL KIM, PHD

ASSISTANT PROFESSOR, BIOLOGICAL SCIENCES, GRAMBLING STATE UNIVERSITY

Dr. Kim has been interested in the effects of dietary lipids ever since my first experience as an undergraduate research assistant, studying the regulation of hibernation in marmots by lipid-derived prostaglandins. Lipid biology has many intersections with cancer biology and is particularly relevant considering the prevalence of the so-called western diet and ongoing obesity epidemic. A portion of his lipid research has focused on cancer and how omega-3and omega-6 fatty acids modulate prostate tumor growth. Later research focused on endoplasmic reticulum stress and inflammation which are associated with multiple chronic conditions including cancer. Dr. Kim's other research areas include metagenomic analysis of wastewater, conducting genomic surveillance of SARS-CoV-2 and the impact of spaceflight on the liver using in vitro on-the-ground systems.

### KACIE MENNIE, PHD

ASSISTANT PROFESSOR, PSYCHOLOGY AND BEHAVIORAL SCIENCES, LOUISIANA TECH UNIVERSITY

Dr. Menni's research seeks to uncover the multifaceted underpinnings of memory formation, particularly as this pertains to how then use those memories to make our everyday decisions. She stresses applicability in her research–feeling a scientific finding that cannot be applied to understanding a real phenomenon is not useful. Dr. Menni's training is rooted in basic cognitive psychology, with an emphasis on the encoding and retrieval of emotional memory. To wit, she has ongoing research in three areas regarding long-term memory: event memory formation and retrieval, emotional associative memory, and, most importantly for the LCRC, the interpretation of misinformation warnings.

### SIVA MURRU, PHD

ASSOCIATE PROFESSOR OF CHEMISTRY, UNIVERSITY OF LOUISIANA MONROE

Dr. Murru's research focuses on synthetic polymeric biomaterials that are important for various biomedical applications. His lab group is at the forefront of chitosan scaffold research, having developed new systems for cellular modulation, as well as variety of in-vitro studies for osteoblast and cancer cell behavior. They focus on engineering materials for biomedical applications and has broad and strong expertise in biomaterials, bioimaging, cell-ECM interactions, material characterizations, tissue engineering, and advanced drug delivery systems.

# STATEMENT OF FINANCIAL POSITION

June 30, 2023 (with comparative financial information as of June 30, 2022)

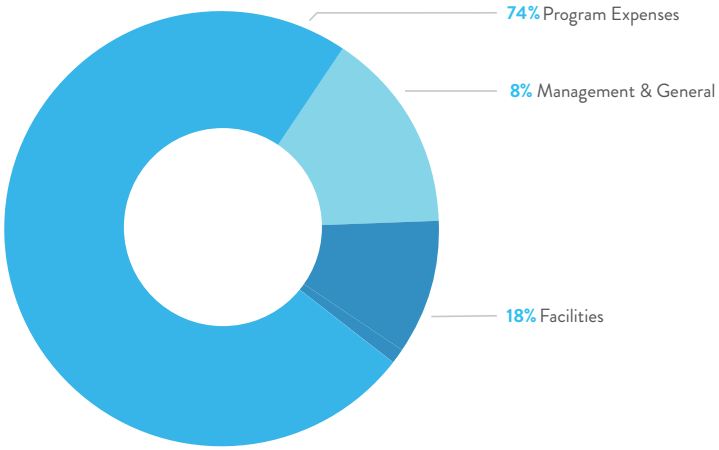
## ASSETS

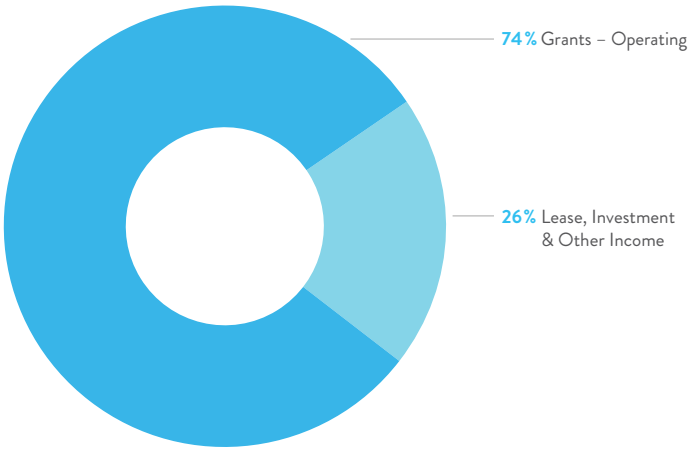
| | 2023 | 2022 |
|---|---|---|
| Cash & Cash Equivalents | 25,020,850 | 29,802,449 |
| Investments | 18,264,772 | 18,154,587 |
| Receivables - Grants | 5,743,445 | 1,672,704 |
| Receivables - Other | 33,342 | 100,112 |
| Property and Equipment | 77,509,308 | 80,422,696 |
| Prepaid Expenses | 151,997 | 83,600 |
| Deposits | 52,400 | 52,400 |
| Right of Use Asset | 3,497,421 | |
| **TOTAL ASSETS** | **130,273,625** | **130,288,548** |

## LIABILITIES AND NET ASSETS

| LIABILITIES | 2023 | 2022 |
|---|---|---|
| Accounts Payable | 2,683,663 | 2,692,432 |
| Accrued Liabilities | 234,300 | 185,617 |
| Lease Liabilities | 3,497,420 | 2,878,049 |
| **TOTAL LIABILITIES** | **6,415,383** | **3,835,875** |

| NET ASSETS | 2023 | 2022 |
|---|---|---|
| Without Donor Restrictions | 4,375,478 | 5,319,010 |
| With Donor Restrictions | 119,482,764 | 122,091,489 |
| **TOTAL NET ASSETS** | **123,858,2242** | **127,410,499** |
| **TOTAL LIABILITIES AND NET ASSETS** | **130,273,625** | **130,288,548** |



LOUISIANA CANCER RESEARCH CENTER

# STATEMENT OF ACTIVITIES

Year ended June 30, 2023 (with summarized financial information for the year ended June 30, 2022)

## REVENUES

| | WITHOUT DONOR RESTRICTIONS | WITH DONOR RESTRICTIONS | 2023 TOTAL | 2022 TOTAL |
|---|---|---|---|---|
| Grants | | 12,810,400 | 12,810,400 | 14,412,796 |
| Lease Income | 4,051,292 | | 4,051,292 | 3,797,008 |
| Investment Income | 4,843 | 208,573 | 213,416 | (424,899) |
| Other | 135,277 | | 135,277 | 144,211 |
| Fundraising & Contributions | 27,947 | | 27,947 | 29,203 |
| Net Assets Released from Restrictions | 15,627,698 | (15,627,698) | - | - |
| **TOTAL REVENUES** | **19,847,057** | **(2,608,725)** | **17,238,332** | **17,958,319** |

## EXPENSES

| | | | | |
|---|---|---|---|---|
| Research Expenses | 7,838,984 | | 7,838,984 | 6,565,195 |
| Cessation/TFL Expenses | 3,675,777 | | 3,675,777 | 4,067,702 |
| Salaries and Related Benefits | 1,400,188 | | 1,400,188 | 1,046,391 |
| Operating Services | 3,992,656 | | 3,992,656 | 3,097,854 |
| Supplies | 46,749 | | 46,749 | 48,223 |
| Professional Services | 255,024 | | 255,024 | 619,093 |
| Travel & Meeting Expenses | 77,836 | | 77,836 | 2,040 |
| Depreciation | 3,480,121 | | 3,480,121 | 3,361,352 |
| Fundraising Expenses | - | | | 35,220 |
| Other | 23,254 | | 23,254 | 8,103 |
| **TOTAL EXPENSES** | **20,790,589** | | **20,790,589** | **18,851,173** |
| **INCREASE (DECREASE) IN NET ASSETS** | **(943,532)** | **(2,608,725)** | **(3,552,257)** | **(892,854)** |
| NET ASSETS, BEGINNING OF YEAR | 5,319,010 | 122,091,489 | 127,410,499 | 128,303,353 |
| **NET ASSETS, END OF YEAR** | **4,375,478** | **119,482,764** | **123,858,242** | **127,410,499** |

Backcover by Louisiana Technical College's
Visual Integration of Science through Art (VISTA)

LSU Health NEW ORLEANS

Tulane University SCHOOL OF MEDICINE

XAVIER UNIVERSITY of LOUISIANA

Ochsner Health

QUIT WITH US, LA
1.800.QUIT.NOW
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THE LOUISIANA CAMPAIGN FOR TOBACCO-FREE LIVING
A Program of the Louisiana Cancer Research Center and the Louisiana Public Health Institute