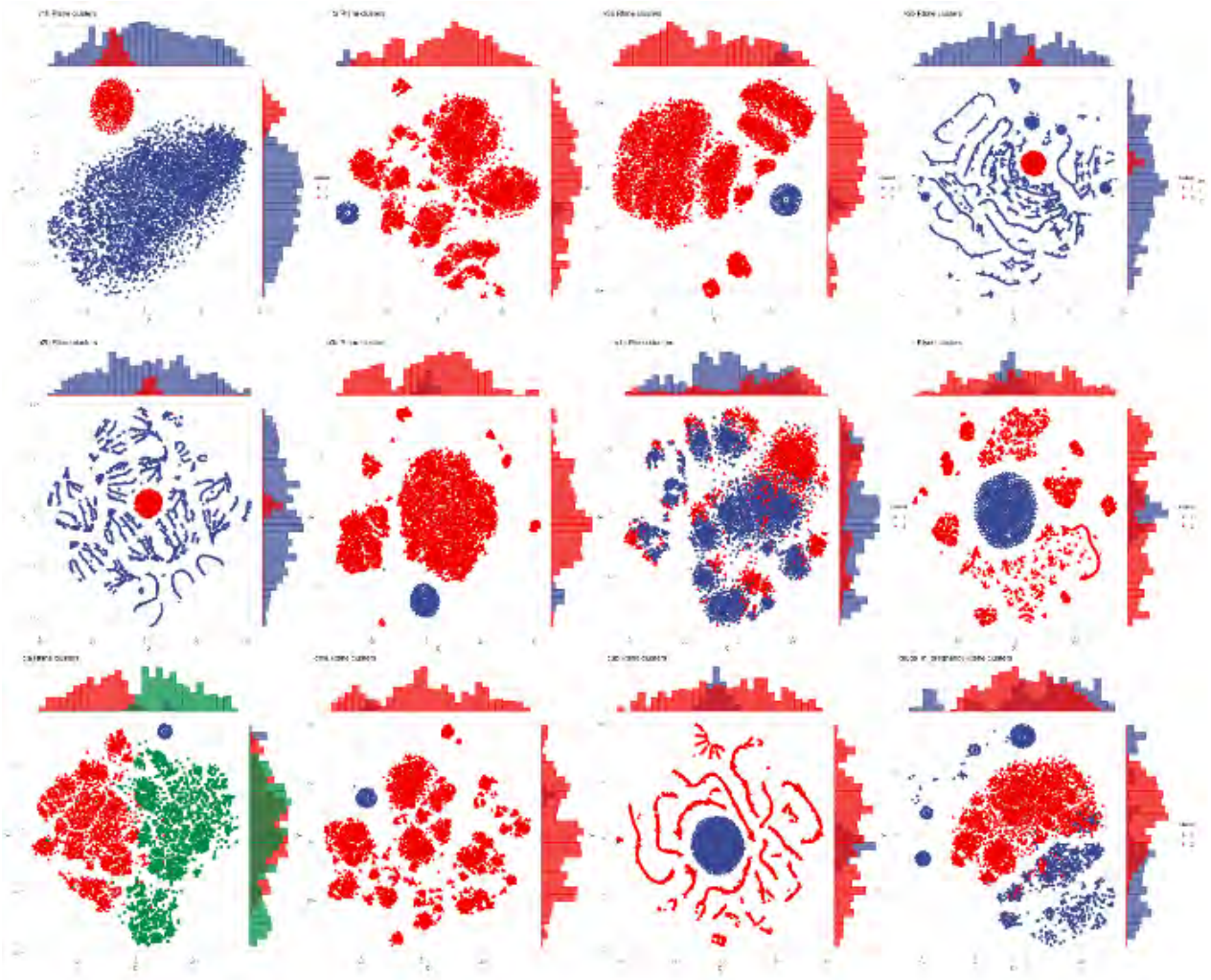
2022 Annual Research Report
Department of Pediatrics
Baylor College of Medicine



The 2022 Pediatrics Research Symposium cover art winner, created by Dr. Ryan Rochat, Assistant Professor, Pediatric Infectious Diseases, Baylor College of Medicine and Texas Children's Hospital. The original artwork displays T-distributed Stochastic Neighbor Embedding (t-SNE) plots of data from the NIH Nulliparous Pregnancy Outcomes Study Monitoring Mothers-to-be.

Dear Colleagues,

On behalf of research leadership, it is a great pleasure to present to you our 2022 Annual Research Report for the Department of Pediatrics. We continue to have a lot to be proud of as a department. I continue to be in awe of our research faculty, trainees, and staff. The breadth and depth of research across the department is both impressive and inspiring. With Dr. Shekerdemian at the helm leading our department, along with Dr. Zoghbi as our new Research-In-Chief, I know we will have the support and advocacy we need to continue to grow and flourish in our research mission.

I want to acknowledge the dedication and leadership of our Associate Vice Chairs for Research, Drs. Lisa Bomgaars and Katherine King, as well as our research leadership and administrative teams at both Baylor College of Medicine and Texas Children's Hospital. Without doubt, they are the best of the best!

Kindest regards,

Kristy O. Murray, DVM, PhD
Vice-Chair for Research & Professor of Pediatrics, Dept. of Pediatrics
Director, Texas Children's Hospital William T. Shearer Center for Human Immunobiology
Assistant Dean of Faculty and Academic Development, National School of Tropical Medicine

Dear Faculty, Staff, Trainees, and Other Research Stakeholders,

I am delighted as the Chair of Pediatrics at Baylor College of Medicine and Pediatrician-in-Chief at Texas Children's Hospital to present our annual research report for 2022. I look forward to celebrating the exciting discoveries made by our talented faculty and research teams and to strengthening and supporting the research mission of the Department of Pediatrics This annual report exemplifies all of your hard work and steadfast dedication to improving the health of children around the world.

I sincerely appreciate our research leadership team's efforts in compiling our department's metrics and accomplishments to present in this report. I wish to thank our Vice Chair for Research, Dr. Kristy Murray, and our Associate Vice Chairs for Research, Drs. Lisa Bomgaars and Katherine King for their leadership and commitment to the Department, for which I am grateful.

Most appreciatively,

Lara Shekerdemian, MD, MHA
Professor and Chair, Department of Pediatrics
Pediatrician-in-Chief, Texas Children's Hospital

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2022 Research Leadership Teams

Baylor College of Medicine, Department of Pediatrics

Lara Shekerdemian, MD
Chair and Pediatrician-in-Chief

Kristy Murray, DVM, PhD
Vice Chair for Research

Lisa Bomgaars, MD, MS
Associate Vice Chair for Research,
Clinical Research
Medical Director, RRO

Katherine King, MD, PhD
Associate Vice Chair for Research,
Basic and Translational Science

Texas Children's Hospital, Research Leadership

Dr. Huda Zoghbi
Research-In-Chief

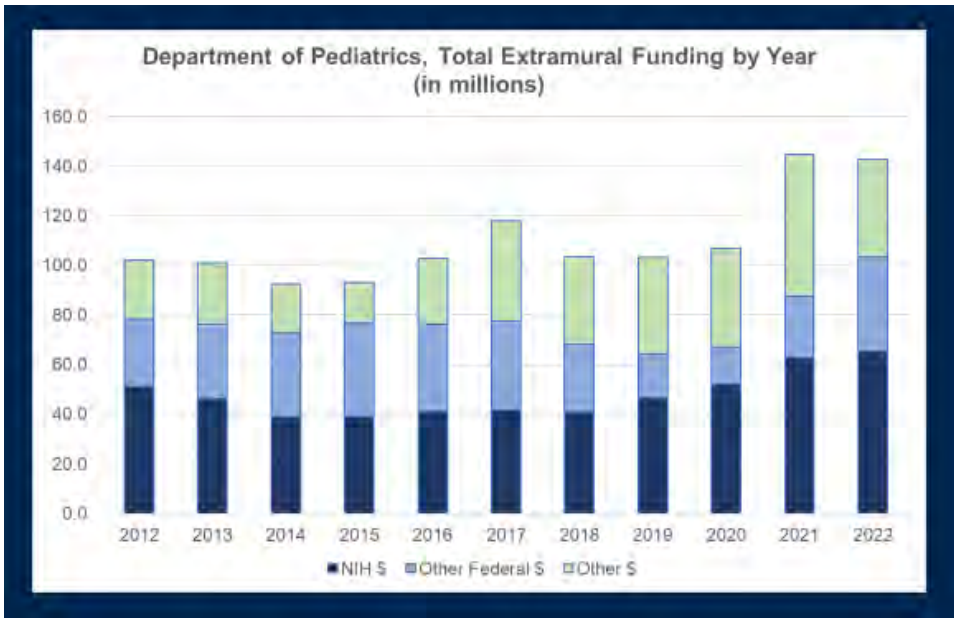
Tabitha Rice
Senior Vice President

Paige Schulz
Assistant Vice President

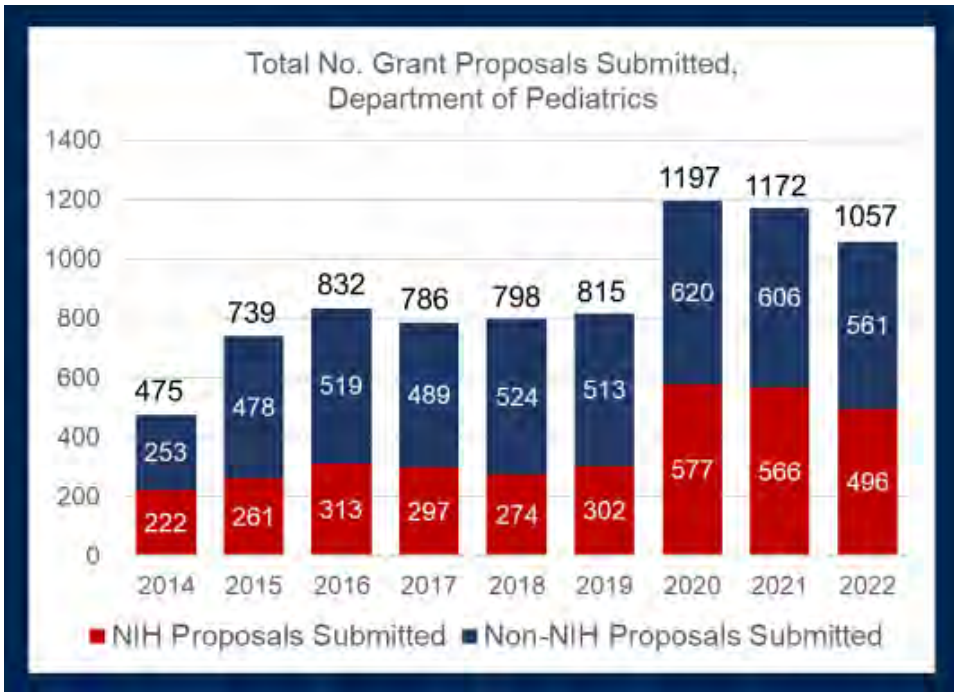
Research Metrics, by the Numbers

Department of Pediatrics

$142 million total in Extramural Funding.



Proposal submissions remained high for the third year in a row.



Research Accomplishments for 2022

We would like to acknowledge those faculty within the department who have been successful in achieving extramural support. Below are the names of those faculty who brought in over $500k and over $1 million in extramural funding over the past year. Congratulations to each of you on your success.

Investigators with > 1 million in extramural funding in 2022*:		
AHMED, SAEED	KAHALLEY, LISA	PLON, SHARON
BERTUCH, ALISON	KAPLAN, SHELDON	RABIN, KAREN
BIER, DENNIS	KAZINY, BRENT	REDONDO, MARIA
BOOM, JULIE	KING, KATHERINE	SCHEURER, MICHAEL
DAVE, JAYNA	LUPO, PHILIP	SHAH, MANISH
DAVIS, CARLA	MALETIC-SAVATIC, MIRJANA	SHEN, LANLAN
GRAMATGES, MONICA	MANDALAKAS, ANNA	SHULMAN, ROBERT
GREELEY, CHRISTOPHER	METELITSA, LEONID	SISLEY, STEPHANIE
HECZEY, ANDRAS	MONTEALEGRE, JANE	TAYLOR, MICHAEL
HERGENROEDER, ALBERT	MOORTHY, BHAGAVATULA	VOGEL, TIPHANIE
HESLOP, HELEN	MUNOZ-RIVAS, FLOR	WATERLAND, ROBERT
HILLIARD, MARISA	O'CONNOR, TERESIA	XU, YONG

*Brought into the Department of Pediatrics

Investigators with $500k - <$1 million in extramural funding in 2022*:		
ALLEN, CARL	FUKUDA, MAKOTO	PARTHIBAN, ANITHA
BACHA, FIDA	GAO, XIA	PAUL, MARY
BARBIERI, EVELINE	GEE, ADRIAN	PREIDIS, GEOFFREY
BLANEY, SUSAN	GOODELL, MARGARET	RAGHUBAR, KIMBERLY
BOTTAZZI, MARIA ELENA	HOLDER JR, JIMMY	RUSIN, CRAIG
BOUCHIER-HAYES, LISA	HOTEZ, PETER	SATTER, LISA FORBES
BURRIN, DOUGLAS	JONES, KATHRYN	SUMAZIN, PAVEL
CHEN, MIAO-HSUEH	KAY, ALEXANDER	SWANN, JOHN
CHINN, IVAN	LEE, HYUN-KYOUNG	WOOTON-KEE, CLAVIA
CHUMPITAZI, CORRIE	LOPEZ, JOB	WU, QI
DESALVO, DANIEL	MURRAY, KRISTY	ZOGHBI, HUDA

*Brought into the Department of Pediatrics.

Beginning on **page 41**, you will find more detailed tables listing all of our faculty who are listed as Principal Investigators (PIs) or Contact PIs for NIH federal grants and contracts, research training grants, other government (both state and federal) grants and contracts, foundation and non-profit awards, and industry-sponsored research funding.

BLUE RIDGE RANKINGS

In 2022, we were ranked at number 6 in the Blue Ridge Institute for Medical Research rankings among Departments of Pediatrics. While this did represent a fall compared to 2021we are still almost $10 million ahead when compared to 2020. Information and data can be found at www.brimr.org.

2022 Rankings of the Departments of Pediatrics from the BLUE RIDGE INSTITUTE for MEDICAL RESEARCH		BRIMR.ORG
Rank	Name	Pediatrics
1	EMORY UNIVERSITY	$77,177,149
2	DUKE UNIVERSITY	$67,863,592
3	UNIVERSITY OF COLORADO DENVER	$63,284,778
4	VANDERBILT UNIVERSITY	$58,285,930
5	UNIVERSITY OF CALIFORNIA SAN DIEGO	$53,399,667
6	BAYLOR COLLEGE OF MEDICINE	$53,326,510
7	INDIANA UNIV-PURDUE UNIV INDIANAPOLIS	$38,006,252
8	JOHNS HOPKINS UNIVERSITY	$37,704,345
9	UNIVERSITY OF WISCONSIN MADISON	$36,047,047
10	STANFORD UNIVERSITY	$35,448,734

2021 Rankings of the Departments of Pediatrics from the BLUE RIDGE INSTITUTE for MEDICAL RESEARCH		BRIMR.ORG
Rank	Name	Pediatrics
1	DUKE UNIVERSITY	$209,692,204
2	UNIVERSITY OF COLORADO DENVER	$61,643,897
3	BAYLOR COLLEGE OF MEDICINE	$57,335,346
4	EMORY UNIVERSITY	$53,920,719
5	UNIVERSITY OF CALIFORNIA SAN DIEGO	$48,952,991
6	VANDERBILT UNIVERSITY	$45,769,545
7	UNIVERSITY OF WISCONSIN MADISON	$37,536,181
8	JOHNS HOPKINS UNIVERSITY	$35,164,538
9	INDIANA UNIV-PURDUE UNIV INDIANAPOLIS	$34,791,601
10	STANFORD UNIVERSITY	$33,652,793

2020 Rankings of the Departments of Pediatrics from the BLUE RIDGE INSTITUTE for MEDICAL RESEARCH		BRIMR.ORG
Rank	Name	Pediatrics
1	EMORY UNIVERSITY	$97,142,316
2	DUKE UNIVERSITY	$74,805,966
3	UNIVERSITY OF COLORADO DENVER	$57,243,484
4	VANDERBILT UNIVERSITY	$46,037,716
5	BAYLOR COLLEGE OF MEDICINE	$44,371,037
6	UNIVERSITY OF CALIFORNIA SAN DIEGO	$41,767,629
7	INDIANA UNIV-PURDUE UNIV INDIANAPOLIS	$32,413,945
8	UNIVERSITY OF MINNESOTA	$30,562,004
9	UNIVERSITY OF CALIFORNIA LOS ANGELES	$29,061,064
10	WASHINGTON UNIVERSITY ST LOUIS	$27,999,836

NIH Research Career Development Awardees

Over the past five years, we have greatly increased the number of early career research faculty within the DOP who have successfully been funded with NIH K awards. This is an incredible accomplishment. Congratulations to each of you!

2022 NIH Career Development (K) Awardees			
K23 Patient-oriented Research	**K08 Clinical Scientist Research**	**K01 Research Scientist**	**K07 Academic Leadership**
Eva Clark Andrew Dinardo John Hollier Christina Miyake Davut Pehlivan Mary Elizabeth Tessier Mustafa Tosur Venée Tubman	Bernhard, Brooke Jonathan Davies Jason Gill Jill Weatherhead	Gregory Guthrie Alex Kay Amy Sanyahumbi Erica Soltero	Austin Brown

2022 Pediatric Pilot Awardees

We were thrilled to reinstate the Pediatric Pilot Award (PPA) program after pausing the program during the COVID-19 pandemic. Congratulations to the following faculty on their PPA Awards!

Faculty Member	Division	Project Title
Alli Antar	Nutrition	Determining the contribution of hepatic folate metabolism to NAFLD and insulin resistance
Melanie Bernhardt	Hem/Onc	Impact of the gut microbiome on the development of significant toxicities in pediatric patients with acute lymphoblastic leukemia receiving high-dose methotrexate
Austin Brown	Hem/Onc	Exploring clonal hematopoiesis of indeterminate potential as a biomarker for cardiovascular injury in pediatric leukemia and lymphoma survivors
Sujith Joseph	Hem/Onc	Rational development of antigen-specific T cells for sarcoma immunotherapy
Ariel Lyons-Warren	Neurology	Development of a new sensory tool: The Sensory Responses Quantitative Phenotyper (SRQP)
Aikaterini Nella	Endocrinology	Oxidative stress and mitochondria in Type 2 diabetes
Margaret Raber Ramsey	Nutrition	Project LAUNCH: A Virtual Food and Cooking Education Pilot Program for Low-income High School Seniors Served by the TCH Mobile Clinic
Melissa Richard	Hem/Onc	Using epigenetic signatures to evaluate the role of in utero metabolic traits on hypospadias risk
Shannon Ronca	Tropical Medicine	The therapeutic potential of an FDA-approved IL-1 receptor antagonist for treating viral encephalitis
Arun Saini	Critical Care	Fibrin Clot Function and Structure Analysis in Sepsis Induced Disseminated Intravascular Coagulation
Katherine Simon	BIPAI	Impact of a Brief Mother-Child Index Case Testing Tool on Pediatric HIV Case Identification
Diwakar Turaga	Critical Care	Reverse-Remodeling after Ventricular Unloading in Pediatric Dilated Cardiomyopathy

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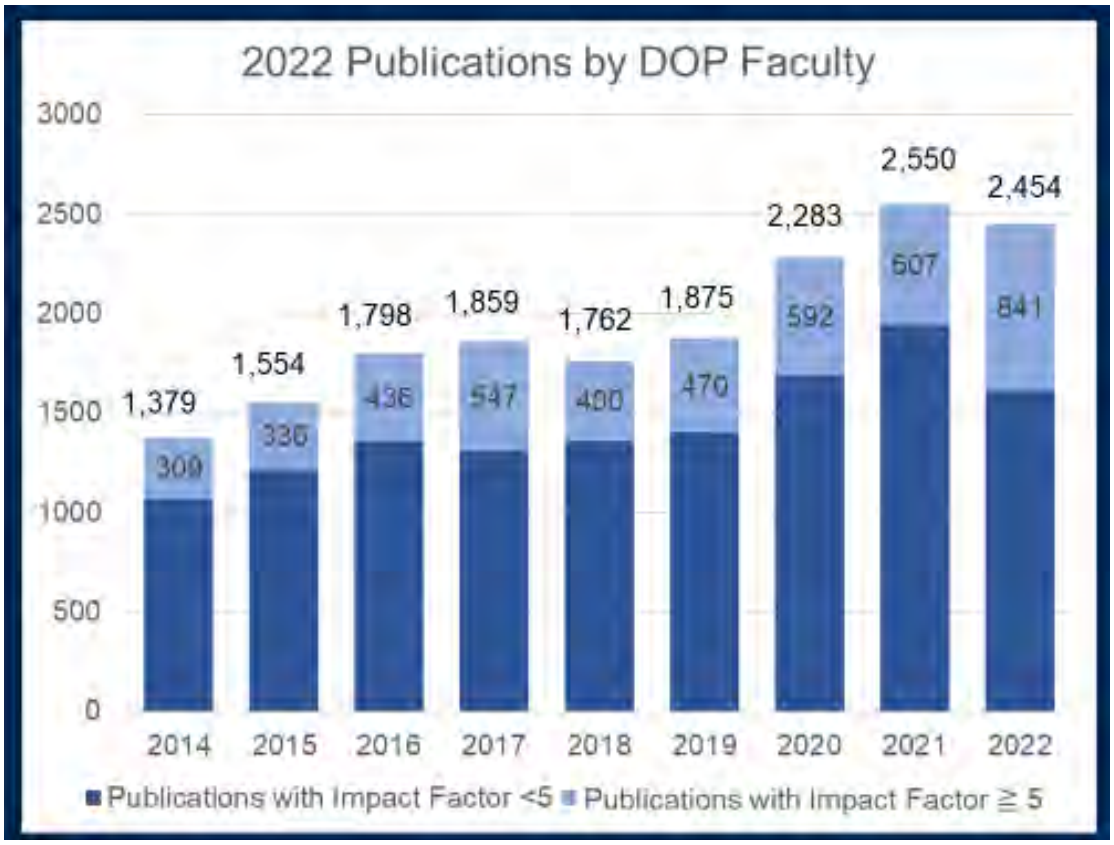
Peer-Reviewed Journal Publications



Overall, publications by our faculty were down slightly in 2022; however, the percentage of papers published in journals with impact factors ≥ 5 rose from 24% to 34%. In 2022, we had 645 faculty author publications, with an average of 3.8 publications per faculty member.

The following 55 faculty members published 10 or more articles in 2022:

Acosta, Sebastian	Glaze, Daniel	Miyake, Christina	Ronca, Shannon
Akcan Arikan, Ayse	Hair, Amy	Montealegre, Jane	Ruan, Wenly
Anders, Marc	Hilliard, Marisa	Morris, Shaine	Sahni, Leila
Anvari, Sara	Hotez, Peter	Munoz-Rivas, Flor	Savorgnan, Fabio
Boom, Julie	Howard, Taylor	Murray, Kristy	Scheurer, Michael
Bottazzi, Maria	Hughes, Sheryl	Musaad, Salma	Shekerdemian, Lara
Calame, Daniel	Kellermayer, Richard	O'Connor, Teresia	Shulman, Robert
Checchia, Paul	Kim, Jeffrey	Okcu, Mehmet	Spinner, Joseph
Chintagumpala, Murali	Leung, Daniel	Parsons, Donald	Tume, Sebastian
Chumpitazi, Bruno	Loftis, Laura	Pehlivan, Davut	Tunuguntla, Hari
Coss-Bu, Jorge	Lopez, Keila	Plon, Sharon	Venkatramani, Rajkumar
Desalvo, Daniel	Lupo, Philip	Qureshi, Athar	Vogel, Tiphanie
Fishman, Douglas	Lyons, Sarah	Rabin, Karen	Wood, Alexis
Flores, Saul	Mandalakas, Anna	Redondo, Maria	

The 2022 Highest Impact Research Publication Awards

Beginning in 2018, we recognized the importance of identifying high impact papers published within the DOP and providing awards to those who deserve recognition. The following two faculty were awarded the **Highest Impact Research Publication Awards** as First and Senior Author:

Spotlight on Global Health Research

Written by the TCH Writing Team: Emily Schaffer, Bettina Siegel, and Catherine Johnson

As a department, our researchers are not only making an impact in improving health outcomes through discoveries here locally, but we also have a large footprint globally, with research spanning 23 countries across 5 continents. Through this research, our researchers address the significant causes of morbidity and mortality in vulnerable pediatric and adult populations.

The following faculty have active research projects in low-to-middle income (LMIC) countries:

***Malawi*:** Saeed Ahmed, Carl Allen, Heather Haq, Alex Kay, Maria Kim, Joseph Lubega, Anna Mandalakas, Casey McAtee, Rebecca Mercedes, Amy Sanyahumbi, Michael Scheurer, Katherine Simon, Mark Zobeck,
Uganda: Carl Allen, Andrew DiNardo, Alex Kay, Joseph Lubega, Anna Mandalakas, Rebecca Mercedes, Michael Scheurer, Mark Zobeck
Kenya: Joseph Lubega
Liberia: Venee Tubman
Tanzania: Carl Allen, Andrew DiNardo, Alex Kay, Joseph Lubega, Anna Mandalakas, Rebecca Mercedes, Michael Scheurer, Venee Tubman
Botswana: Carl Allen, Maria Elena Bottazzi, Heather Haq, Peter Hotez, Joseph Lubega, Mogomotsi Matshaba, Rebecca Mercedes, Michael Scheurer, Mark Zobeck
Eswatini: Andrew DiNardo, Alex Kay, Anna Mandalakas, Rebecca Mercedes
Mozambique: Andrew DiNardo, Alex Kay, Anna Mandalakas
Lesotho: Alex Kay, Anna Mandalakas
Moldova: Anna Mandalakas
Papua New Guinea: Anna Mandalakas
Philippines: Andrea Cruz, Anna Mandalakas, Kristy Murray
India: Maria Elena Bottazzi, Peter Hotez
Indonesia: Maria Elena Bottazzi, Peter Hotez
Mexico: Maria Elena Bottazzi, Peter Hotez, Job Lopez
Guatemala: Flor Muñoz
Belize: Sarah Gunter, Kristy Murray, Shannon Ronca
El Salvador: Sarah Gunter, Flor Muñoz, Kristy Murray, Shannon Ronca
Panama: Job Lopez
Ecuador: Rojelio Mejia
Colombia: Rojelio Mejia
Argentina: Rojelio Mejia
Chile: Job Lopez

Dr. Saeed Ahmed, Associate Professor of Pediatrics, has spent 15 years working as a pediatrician, educator, public health practitioner, and researcher focused on creating, delivering, and expanding access to improved care for children and families with HIV in Malawi. He is the Co-Founding Director of the Tingathe program (translation: "yes we can"), a community-health-worker-based platform designed to support HIV programming and research in Malawi and Southern African since 2008.

Dr. Ahmed's passion for HIV and global health began during medical school at Yale in the late 90's when he witnessed the dramatic impact of advances in HIV medicine, particularly antiretroviral treatments. While there was an entire hospital floor dedicated to caring for adult HIV/AIDS patients during his first year, it had been rendered unnecessary by graduation.

Pediatric HIV/AIDS treatment, however, lagged far behind. As a resident, Dr. Ahmed spent time in the Dominican Republic, where he saw the disease ravage sugar cane workers' children. "They had no access to HIV/AIDS treatments at all. Of course, this affected me deeply," Dr. Ahmed recalls. Determined to drive change, he and his wife, Dr. Maria Kim, joined BCM's inaugural Pediatrics AIDS Corps class in 2006 and moved to Malawi.

At the time, more than 30,000 Malawian infants contracted HIV each year, the vast majority of whom died by age five despite available, effective prevention and treatment options. "At first, we were saving lives every day. But there were too many sick kids to treat individually. We knew we had to figure out how to identify HIV+ kids who weren't seeking healthcare or seeking it too late, and how to prevent transmission in the first place," Dr. Ahmed says.

So, in 2007, Dr. Ahmed and Dr. Kim successfully secured funding to design and pilot the Tingathe program using 15 Community Health Workers (CHWs) to act as treatment advocates for HIV-infected mothers and their infants. By 2009, the Tingathe program increased the number of children receiving HIV treatment from 50 to more than 2,000 and decreased HIV transmission from mothers to infants from 30% to less than 5%. The program then grew from $150,000 in funding, 15 CHWs, and three sites to $15 million in annual funding, more than 1,500 employees, and 120 sites at Ministry of Health facilities in Malawi.

Drs. Ahmed's and Kim's work has also led to over 50 published peer-reviewed articles, including some of the first studies in the region using CHWs for HIV support, adolescent depression, healthcare worker burnout, and video-based interventions to optimize HIV outcomes. While Tingathe's clinical and programmatic infrastructure has enabled novel clinical and implementation research studies, it has also supported successful grant applications now totaling over $200 million. In 2016, Dr. Ahmed led a successful application for a 5-year $69 million technical assistance award from the USAID Regional HIV AIDS Program (RHAP) to share the best practices developed in Malawi with nine other countries in southern Africa. In 2021, Dr. Ahmed helped land a five-year $80 million care and treatment award for Malawi, "our largest to date."

Although Dr. Ahmed remains focused on HIV, he strives to apply lessons learned to other health challenges. He is proud that his work has helped "prove that healthcare services *can* be offered in low income countries with good continuity of care—it doesn't have to be episodic, when patients are so critically ill that they're forced to seek treatment." He notes that "the clinical and research scaffolding we built around HIV/AIDS can be applied to other diseases and conditions such as TB, asthma, diabetes, pediatric cancers, depression, to name a few." We look forward to seeing the fruits of Dr. Ahmed's and his colleagues' research endeavors continue to make the world healthier for all people.

Dr. Anna Mandalakas is a Professor of Pediatrics and Chief of the Global Immigrant Health Division at Baylor College of Medicine (BCM). A world-renowned pediatric tuberculosis expert, she also serves as Director of the Global Tuberculosis (TB) Program at Texas Children's Hospital (TCH).

The daughter of Greek immigrants, Dr. Mandalakas grew up in the United States and spent summers with her grandfather on a small island in Greece. Stories about disparities and lack of access to quality healthcare inspired a passion for improving the health and lives of children in low- and middle-income countries. During her residency at Case Western Reserve University, she spent time on Ward 11 (the HIV ward) at Makerere University in Uganda and conducted a research project on TB in long-term survivors of perinatal HIV who had never received antiretroviral therapy. "That was an amazing experience that motivated me to pursue a career in global research because it illustrated how developing evidence to inform policy could impact the care and treatment of children."

In 2012, Dr. Mandalakas was recruited to BCM and TCH to establish the Global TB Program, which was intended to complement BCM's international network of pediatric HIV clinics. The Global TB Program's first priority was to enhance the TB care and treatment that pediatric patients received in the HIV clinics, followed by improved program monitoring and evaluation that enabled the Global TB Program to capture information about TB in children living with HIV, culminating in an analysis of 57,000 patient years of data. The publication of this research was a turning point for the program, which has since experienced sustained success in obtaining funding for ground-breaking TB research and training initiatives.

A decade on, the Global TB Program is thriving. It recently received seminal funding from the National Institutes of Health to support work on novel stool-based tests that are used to diagnosis TB, assess treatment efficacy, and identify genetic mutations that predict drug resistance. In 2020, the Global TB Program and BCM's Children's Foundation partners in Eswatini, Lesotho, Malawi, Uganda, and Tanzania were awarded a five-year grant by the U.S. Centers for Disease Control and Prevention, called TB GAPS. The program has four primary aims: to screen and diagnose TB in children and adolescents, to prevent the progression from *Mycobacterium tuberculosis* infection to TB disease, to evaluate the cost-effectiveness of TB screening and diagnostic tools and preventive treatment regimens, and to sustain best practices. Most recently, the Global TB Program launched a project in Papua New Guinea focused on TB case detection in the maternal/neonatal arena funded by the United Nations Stop TB Partnership's TB Reach program.

The Global TB Program has also developed an exceptional training platform. The Program receives funding from the NIH Fogarty International Center to support two international training programs that will collectively train nearly 150 promising young researchers from the U.S. and low- and middle-income countries over five years. In addition, under Dr. Mandalakas' tutelage, team members have received prestigious mentored career development awards from the NIH and young investigator awards from St Jude's and the Pediatric Infectious Disease Society. Dr. Mandalakas shared that "training these young researchers is one of the most rewarding privileges of my career."

With over 100 employees in Houston and overseas, the Global TB Program has grown exponentially in its first ten years of existence. The impact of its work cannot be overstated. Not only is the program developing a robust team of researchers, but—as demonstrated by the patient-centered healthcare it provides to clients ranging from infants to young adults—it is providing vital care to children who are now living longer, healthier lives.

Dr. Andrew DiNardo, is an Assistant Professor and core member of the Global Tuberculosis Team. He has always wanted to work in global health, but he feels especially fortunate to partner with the Texas Children's Global Health Network. "To be able to do this work within such an impressive infrastructure, and partner with such a strong group on the ground, has allowed me to jump in and really be efficacious," he says.

Dr. DiNardo currently spends three to four months each year in Eswatini (formerly, Swaziland) and surrounding regions, focusing primarily on the after-effects of tuberculosis and helminth (parasitic worm) infections. His previous research found that children with schistosomiasis (a parasitic disease) lost a significant amount of their vaccine immunity and were at increased risk of developing secondary infections. "We worked with collaborators at Baylor Foundation Eswatini to follow children, adolescents, and their parents longitudinally and identified a new mechanism by which the helminths inhibit host immunity—through reorganization of the epigenome."

Partnering with the Eswatini Bilharzia program, he and his team are now conducting a clinical vaccine trial in which children are dewormed and then re-vaccinated with the BCG vaccine, a one-hundred-year-old tuberculosis vaccine long known to offer immunity beyond its intended target due to its own epigenomic effects. "We're hoping to reboot the immune system in such a way that we can swing the pendulum back to a healthy immune system for these kids and adolescents," he says.

Dr. DiNardo is also studying the epigenetic effect of tuberculosis, which not only leaves patients vulnerable to recurrent infections and an increased risk of cancer, but also a threefold increased risk of heart attacks. "Recurrent infections and cancers are easier to understand because we know the immune response is weakened, but that doesn't make sense with cardiovascular disease. So we started asking, do inflammatory markers go back to normal? And we found they're a lot higher than they should be long after successful treatment. So we're trying to figure out, is that because of how the epigenome was altered?"

To relieve this inflammation, Dr. DiNardo's team is focusing on micronutrition. "There are plenty of places where you have accessibility to calorie-rich, micronutrient-deficient foods, and we may need to address those micronutrient deficiencies in order to help that healing process," he says. But because both schistosomiasis and tuberculosis are severe infections that often go untreated for months, "you can't replicate that in an animal model. That's where the strong partnerships in the Baylor Global Health infrastructure come in, allowing us to do longitudinal cohort studies"

Dr. DiNardo is also working with partners in Mozambique on a promising surveillance study in which families are given an electronic tablet showing their exact GPS location, the number of members in their household, and the diseases for which they are most at risk. "For example, based on how many helminths are in the area, we can figure out we need to deworm this frequently. It's this super rich epidemiologic tracking system," he says. "Learning that from them is allowing us to bring additional work back to Eswatini and then we're transferring some of our diagnostic capacities to them. So it's a really, really rich collaboration."

Dr. DiNardo's team is pairing this epidemiological surveillance with work by Baylor faculty member Dr. Alexander Kay, who has created mobile medical teams in Mozambique to treat children at home so they don't have to miss school to see a doctor. "From what we've learned in Mozambique, we can say in Eswatini, hey, this is a high-risk homestead," says Dr. DiNardo. "We've had too many cases of TB here, so Dr. Kay's team will check up on it a little more frequently."

Ultimately, Dr. DiNardo thinks his biggest impact to date has been his elucidation of post-infectious epigenetic scars. "Hopefully, in the next ten years—whether it's through nutrition, whether it's through different vaccine implementation trials—we can go back and help mitigate some of these persistent, post-infection problems."

Dr. Alexander Kay is an Assistant Professor in the Division of Global Immigrant Health in the Department of Pediatrics at Baylor College of Medicine (BCM), Associate Director of the Global Tuberculosis (TB) Program at Texas Children's Hospital, and head of the TB Department at Baylor College of Medicine Children's Foundation–Eswatini (Baylor Children's Foundation Eswatini).

Dr. Kay's interest in global healthcare and research was sparked by a trip to Sub-Saharan Africa during medical school. While there working on a nutrition-related public health project, he witnessed firsthand the devastation being wrought by the early HIV epidemic. The experience made a deep impression on Dr. Kay, who decided to focus his career on the disease. He completed his residency in internal medicine and pediatrics at Maine Medical Center, where he met his wife, Dr. Jaime Petrus, who is now an Assistant Professor in Pediatrics, Global Health Corps at BCM. After residency, both Dr. Kay and Dr. Petrus joined the Baylor Pediatric International AIDS Corps and moved to Lesotho to work in the HIV clinic there. Two years later, Dr. Kay returned to the United States to complete a pediatric infectious diseases fellowship at Stanford University, where he developed a burgeoning interest in conducting research focused on HIV and TB in children. An opportunity to work directly with families impacted by these diseases led to Dr. Kay's appointment as Associate Director of BCM's Global TB Program and a move to Eswatini, where he and Dr. Petrus now live and work.

Under Dr. Kay's leadership, a wealth of TB research is being conducted at Baylor Children's Foundation Eswatini through the Global TB Program. "The research I'm most involved in tends to be very practical and driven by what's needed to shape clinical guidelines for kids living with HIV and TB." He has worked on a series of systematic reviews for the World Health Organization that helped shape guidelines for diagnosing and treating TB in children and adolescents. Most recently, Dr. Kay led a review focused on the diagnostic accuracy of the Xpert Ultra test, which is becoming the primary test used to diagnose pediatric TB in Africa. Baylor Children's Foundation Eswatini is part of an NIH-funded multi-center team funded by Dr. Anna Mandalakas, the Director of the Global TB Program, that is developing novel stool-based tests to diagnose TB and identify drug-resistant strains of TB bacteria, and is an implementing partner in TB GAPS, a program funded by the U.S. Centers for Disease Control and Prevention that evaluates TB screening, diagnostic, and preventive strategies and tools. Dr. Kay's team has also partnered with the United Nations Stop TB Partnership's TB Reach program to develop a community-based contact management program to encourage adherence to preventive TB regimens and works closely with the Eswatini National TB Control Program to improve clinical care for children with TB and HIV throughout the country. "Working on programmatic projects that immediately transfer into patient care is something I really enjoy," Dr. Kay says.

In 2020, Dr. Kay was awarded a K01 grant to evaluate clinical diagnostic tools that can be used to predict outcomes in children with TB and HIV. In connection with this research, he received supplemental funding from the NIH to evaluate the impact of COVID-19 in the same cohort of patients. He also received a grant from the Texas Developmental Center for AIDS Research to investigate how cytomegalovirus affects the risk of developing TB in children living with HIV.

Since Dr. Kay's arrival in Eswatini, the team has grown to over thirty people, including nurses, research assistants, and data managers—all focused on top-notch research and clinical care. "For almost twenty years, Baylor Children's Foundation Eswatini has been the largest provider of pediatric HIV care in Eswatini and, since 2015, our TB facility has served as a reference center for kids throughout the country who need treatment. I'm proud to be a part of the Global TB Program and of our work implemented with Baylor Children's Foundation-Eswatini."

Dr. Sarah Gunter, an Assistant Professor of Pediatrics-Tropical Medicine, didn't anticipate working in global health when she began her medical education. But now that she's applied her epidemiological expertise around the globe, there's no looking back. "It's really been one of the highlights of my career," she says. "Helping low-resource settings respond to different problems, where they potentially couldn't have done it otherwise, is incredibly rewarding."

Dr. Gunter is currently working on a number of different global health projects. In Central America, for example, she and her team are researching tickborne disease in the region. "It's something we don't know a whole lot about, so we're doing a lot of surveillance work and basic epidemiological work to get a better handle on it," she says.

She's also collaborating on Dr. Kristy Murray's five-year, CDC-funded Acute Febrile Illness Surveillance project in Belize and El Salvador. Tracking febrile illnesses allows for better detection of emerging infectious diseases, which is especially needed in low-resource settings that lack diagnostic testing capacity. "Let's say they know they're having a gastrointestinal outbreak," she says, "but maybe they don't have the infrastructure to determine exactly what pathogen is causing it. So we bring in testing algorithms and technology to get to the nitty gritty of what's causing the disease, and to give the Ministry of Health a profile of pathogens in the region so they can better respond."

Dr. Gunter is particularly proud of the work she's done in Belize. At the outbreak of the COVID-19 pandemic, her team worked hard to help the country bolster its initial response. More recently, they've helped with tracking new COVID variants—a particular concern in a small country that attracts one million tourists a year. "We developed a low-cost, nanopore sequencing protocol that could be easily implemented into a low-resource setting," she says. "Then we actually brought the Belize team here to Baylor, did a one-week training, and then implemented it in country. And they've been doing their own variant tracking ever since, which has been a huge success for us."

In Malawi, Dr. Gunter is collaborating with Dr. Amy Sanyahumbi, an Assistant Professor of Pediatric Cardiology at BCM, to study acute rheumatic fever. The condition follows a step infection and can be quite serious, but it often goes untreated in low-income countries. They hypothesize that children who develop the condition may have had a previous parasitic or a soil-transmitted helminth infection that altered their immune response. "One of my favorite parts about that study is the collaborative aspect," says Dr. Gunter, "with me coming from the tropical medicine and epi side, partnering with a pediatric cardiologist, and using our respective expertise to help tackle that problem."

What especially excites Dr. Gunter about global health research is that "every project brings a list of new questions." For example, stemming from the current work in Malawi, her team identified a high burden of schistosomiasis, a disease caused by parasitic worms. "In talking with Malawi's Ministry of Health, we learned they don't have the resources to do extensive testing. So we just put in a proposal to expand on the work we're doing there to help give them some tools to implement public health interventions for schistosomiasis."

Looking ahead, Dr. Gunter anticipates that her global health work will continue to unfold organically from her existing projects. And her biggest reward, she says, is making a lasting impact. "Just doing your research and then leaving is a huge misstep in global health research. We want to ultimately transfer our technology and expertise to that country so that when our grant funding is over, they can continue to improve the health of their community."

Dr. Heather Haq, Assistant Professor of Pediatrics at BCM and a pediatric hospitalist, was just two years old when she took her first global health trip, accompanying her mother, a global health family doctor, to Uganda. She continued to take such trips throughout her childhood and also lived in Geneva during her high school years, where her mother worked at the World Health Organization. “All of those trips and experiences really shaped my world view,” she says now, “and they sparked my interest in addressing health and inequities.”

After majoring in international development as an undergrad at McGill University, Dr. Haq earned a master’s degree at the Johns Hopkins Bloomberg School of Public Health and then worked for several years in the public health sector. She eventually decided to go to medical school, after which she joined the combined pediatrics and global health residency program at Baylor College of Medicine.

Dr. Haq became the Chief Medical Officer of the Baylor International Pediatric Aids Initiative (BIPAI) in 2020. She currently devotes 75 percent of her time to global health, bringing to her work the perspective she’s gained from her wide-ranging background. “In my current role, I'm able to marry my clinical skills with my public health skills and help provide technical assistance to all of our global health programs around the world,” she says. “And I like to use my qualitative research skills and apply them in global health settings to get a richer explanation for various phenomena and to dig deeper into various questions.”

One of those questions is why children with cancer in low-resource settings often abandon treatment. By interviewing caregivers in Botswana and Malawi, Dr. Haq is currently seeking to identify the main barriers to keeping children in care—work that could have broader applications throughout Africa, where there’s a high rate of pediatric cancer treatment abandonment.

Another of Dr. Haq’s initiatives is boosting research across the BIPAI and Texas Children's Global Health Network, a project she’s addressing on many fronts. “It will involve creating a culture of scholarship and scientific inquiry, supporting basic writing skills, supporting research methodology, and equipping our staff across the network with research skills,” she says, “as well as supporting the regulatory side of research, like IRBs and so forth.” Dr. Haq’s larger goal is to empower local staff to take the lead in determining their own research goals. “I think it's really important that the research agenda be set by local physicians and local scientists who know best. What are the problems? What are the priorities? That shouldn't be set by people who live and work in the United States.”

But the work of which Dr. Haq is most proud is improving medical education in the field of global health. “We’re looking at how best to educate learners in the US who want to do global health,” she says. “We want to make sure we’re adequately preparing them for these experiences, that they’re engaging in equitable global health partnerships, and that they have the support and debriefing they need when they come home.” Dr. Haq’s research has validated the importance of all of those factors, and she now works with the American Academy of Pediatrics and the Association of Pediatric Program Directors to improve global health training and curricula nationwide.

For Dr. Haq, the ultimate purpose of global health work is creating meaningful partnerships that give back to the local community. “You can’t just implement research, jet out, and publish a paper,” she says. “You should really work to make sure there’s a skills transfer before you leave, so you’re empowering local physicians and scientists to sharpen their research skills and to become research leaders in their own right.”

Dr. Mogomotsi Matshaba is a Clinical Associate Professor of Pediatrics at Baylor College of Medicine (BCM) and the Executive Director of the Botswana-Baylor Children's Clinical Centre of Excellence Trust (Botswana-Baylor), which is an implementing partner of the Texas Children's Global Network.

Born in Botswana, Dr. Matshaba did his basic medical training at the University College Dublin, Ireland and joined Botswana-Baylor in 2007 as a medical officer. Early in his career, he decided to pursue pediatrics. From 2008 to 2011, he completed general pediatrics training in Houston at BCM, Texas Children's Hospital, and Ben Taub Hospital before returning to Botswana-Baylor. There, his interest in research developed organically: "I started as a clinician and over time grew into research because I began to question certain outcomes and to ask whether we could improve upon them."

Due to the high prevalence of HIV in Botswana (20.8% of the adult population is infected), most of the research conducted at Botswana-Baylor is centered around the disease and related issues, including but not limited to tuberculosis (TB), malnutrition, and neurocognitive disorders. The first pediatric clients to receive treatment for HIV in Botswana were part of a research protocol at Botswana-Baylor that looked at whether children could tolerate and thrive on antiretrovirals, suppress the disease and halt progression, and sustain viral suppression over the long term. Dr. Matshaba and his colleagues built on the success of new treatment regimens and began conducting operational research to improve systems and care delivery.

Over time, this led to other avenues of research. "HIV revealed to us that there are different ways that people respond to treatment that are beyond how they take the medicine, related to their genetic make-up." In 2014, Botswana-Baylor, BCM, and Texas Children's Global Network implementing partner centers in Uganda and Eswatini were awarded a National Institutes of Health grant to study the genetic determinants of HIV and TB progression in African children. Dr. Matshaba is the lead investigator for the Collaborative African Genomics Network (CAfGEN), which has built capacity by improving access to high-end technology, improved human capital by training 11 PhDs in bioinformatics and genomics, and engaged meaningfully with local communities. Botswana-Baylor has also partnered with the University of Botswana and the University of Pennsylvania to develop a battery of tests to assess neurocognitive function in children living with HIV and identify deficits that can be addressed by teachers in schools. In addition, Dr. Matshaba and his team are studying the role that psychological reactance plays in the willingness of adolescents to adhere to HIV drug regimens. Finally, Botswana-Baylor is on the forefront of Botswana's national efforts to reduce and prevent mother-to-child transmission of HIV. At the end of 2021, Botswana was recognized by the World Health Organization as the first high-burden country to be on the path to eliminating mother-to-child HIV transmission.

Botswana-Baylor works closely with the Botswana government to translate its research achievements into guidelines and protocols that improve patient care as quickly as possible. Since the start of the pandemic, Dr. Matshaba has served as a scientific advisor on the Republic of Botswana's Presidential COVID-19 Task Force and was recently appointed its national coordinator. The task force worked with a large team of scientists from Botswana and South Africa that was credited with the discovery of the Omicron variant.

Dr. Matshaba cannot imagine his work having a greater impact elsewhere. "It is gratifying to see that research, if it is planned well and is relevant to the population you are working with, can be beneficial and literally save lives," he says. "It's been an interesting journey so far and we look to the future with optimism as we endeavor to better serve humanity."

Dr. Kristy O. Murray, DVM, PhD is a Professor in the Department of Pediatrics, Immunology and Microbiology and Vice-Chair for Research at Baylor College of Medicine; Director of the William T. Shearer Center for Human Immunobiology at Texas Children's Hospital; and Assistant Dean for Faculty and Academic Development at the National School of Tropical Medicine at BCM/TCH.

While Dr. Murray's home base is in Houston, she has worked internationally since taking her first trip to the Philippines with the CDC in 1998 to investigate Australian bat lyssavirus, a virus in the rabies virus family. "The first country you visit is always special because it opens your eyes to this work—to what global medicine and research can do," she says. She has continued to conduct research in the Philippines for more than 20 years now, and she has conducted field work in Ireland, Bangladesh, Nicaragua, Belize, El Salvador, and elsewhere, too.

"As I moved into academia in the early 2000s, I knew I wanted to keep up my international research because of its far-reaching impact. When you work in LMICs [Lower or Middle Income Countries], you realize how much you can contribute to improving health outcomes in vulnerable populations."

Currently, Dr. Murray's team's main projects involve understanding disease causes. "We work in 13 sentinel hospitals across Belize and El Salvador and perform advanced diagnostic workups to determine the source of illness in patients who come in with acute febrile illness. We're able to piece together what pathogens exist in these countries as well as discovering new ones. We are able to detect disease outbreaks in real time, identify the pathogens causing them, and, ultimately, prevent disease. We get to be disease detectives, and the work is both exciting and rewarding."

Dr. Murray's multidisciplinary team—which includes our own Drs. Shannon Ronca, Sarah Gunther, and Flor Muñoz, in addition to international colleagues , the CDC, and health ministry officials—works together using state-of-the-art diagnostic and communication tools, like the Acute Febrile Illness Network, to adapt and respond quickly to whatever diseases present problems in a given place at a given time.

Of all of her team's accomplishments, she is most proud of helping to build research and disease-prevention infrastructure in the countries in which she's worked. "We're learning how to take the resources and innovation we have here [in the U.S.] and adapt them so that other countries can apply them. This helps each country to detect and respond to disease threats in ways that make sense for them and, most importantly, to understand and prevent those diseases. We really saw this at work with COVID, including developing and implementing low-cost sequencing platforms in LMIC settings to track virus variants. It's satisfying to be part of the process."

Dr. Murray's global view of disease detection and prevention underlies all of her research efforts, whether undertaken in Houston or far-away places.

Dr. Job Lopez is an Associate Professor in the Division of Tropical Medicine and heads the Vector Biology and Bacterial Pathogens Lab. He conducts research in infectious diseases, with a focus on tick-borne pathogens.

International travel has been part of Dr. Lopez's life since birth. Half-Guatemalan, half-Armenian, he was born in Dallas and spent his early childhood in Central America. During his post-doctoral training at the Laboratory of Zoonotic Pathogens, Rocky Mountain Labs, National Institutes of Health, he traveled to West Africa to study ticks and tick-borne relapsing fever. While there, he discovered a passion for fieldwork. When he started his first lab at Mississippi State University, he knew that international work would play a significant role in his professional life. In fact, his interest in relapsing fever soon led him back to Central America. A fascinating aspect of the disease is that while it is well-documented in Africa, it has not been studied in Central America, South America, or Texas for almost seventy years. Tick-borne relapsing fever is, for the most part, overlooked in these regions and often misdiagnosed as malaria, Lyme disease, or Rocky Mountain spotted fever. Dr. Lopez set out to demonstrate that the disease—like the soft-bodied ticks that transmit it—has been in these places all along, hiding in plain sight.

His first stop was Guatemala, where he established a collaboration with a local researcher. During one of his visits, the collaborator encouraged Dr. Lopez to attend a meeting in Honduras, where he met Dr. Maria Elena Bottazi, who subsequently recruited him to BCM. Since joining BCM in 2014, Dr. Lopez has done work in Nicaragua and Panama and trained colleagues from around the world to conduct tick surveillance and related diagnostic lab work. He recently co-authored a paper about a new tool capable of amplifying and sequencing the mitochondrial genome for individual tick specimens for $10 per sample, a significant cost savings compared to other available methods. This advance is not only cost-effective but can be used for all kinds of vector surveillance, benefiting the wider scientific community.

Dr. Lopez and his research team—Aparna Krishnavajhala, Alex Kneubehl, Serhi Filatov, and Michael Curtis—conduct molecular surveillance to determine if people or animals have antibodies to the pathogen that causes relapsing fever. They have successfully cultured the first bacterial isolates in samples from various countries in Central and South America, all critical contributions to filling gaps in knowledge about the disease.

Dr. Lopez is proud of the work his team has done ("None of this is possible without them," he says), particularly their success in raising awareness about relapsing fever. "Some of our most impactful work is helping people in different countries get programs going to study this disease." Their efforts have resulted in great progress toward the accurate diagnosis and treatment of relapsing fever across the globe.

Dr. Amy E. Sanyahumbi is a pediatric cardiologist at Texas Children's Hospital, Assistant Professor of pediatric cardiology at Baylor College of Medicine, and research scientist who spends 75% of her time living and working in Malawi with her husband and young twins.

Dr. Sanyahumbi developed a keen interest in global health research and clinical care when she first moved to Malawi after completing her pediatrics training in 2006. "The disparities in healthcare quality, access, and infrastructure were so glaring …that's what inspired me to go into global health."

She became particularly interested in the relationship between pediatric HIV and cardiac events, so she returned to the States to complete fellowships not only in pediatric cardiology, but also in global health research.

Upon her return to Malawi as a Fogarty Research Fellow, Dr. Sanyahumbi witnessed rheumatic heart disease's devastating toll on young Malawians. A totally preventable disease that causes heart-valve scarring and stems from an untreated strep infection, rheumatic heart disease is the most prevalent acquired heart disease in the world, affecting over 40 million people, making it more widespread than HIV.

Dr. Sanyahumbi has used her K01 award funds to discover ways to improve adherence to penicillin—the only evidence-based intervention associated with improvement—for children with rheumatic heart disease. Under the mentorship of our own Dr. Kristy Murray and Malawi's late Dr. Kazembe and Dr. Hosseinipour, Dr. Sanyahumbi is entering her K01's final year and has already procured R21 funding to study the connection between gastroenterological parasites and the development of acute rheumatic fever. She has also won funding from the Leducq Foundation to try to isolate a rheumatic heart disease biomarker.

Dr. Sanyahumbi's clinical work goes hand-in-hand with her research. As one of only two pediatric cardiologists in Malawi, a country of 22 million, she is able to provide "a really critical clinical service. These children come in so sick and have been to health centers and traditional healers, misdiagnosed and treated with the wrong medicines, and we're able to properly diagnose and treat them. Often, we can get them back to school and functioning in their families. The ones we refer for surgery tend to do remarkably well. That's why I do this research—to make the lives of my patients better. And I think we're doing that."

Dr. Sanyahumbi recognizes that, "one day, I will leave Malawi." She is therefore especially proud to have trained and collaborated with Malawian medical students, residents, interns, and colleagues, as well as her "wonderful" clinical officer, Treasure Mkaliainga, and research nurse, Tayamika Tambala, on pediatric cardiology and research methods. "I think the pediatric cardiology clinic and service we've built will make a great base for future research projects and clinical care in Malawi." In this particular case, Dr. Sanyahumbi would be all too happy to successfully put herself out of business.

Dr. Nader Kim El-Mallawany is an Associate Professor of Hematology-Oncology in the Department of Pediatrics at Baylor College of Medicine; treats patients at Texas Children's Cancer and Hematology Center; and is a member of the Lymphoma & Histiocytosis Team and the Global HOPE (Hematology-Oncology Pediatric Excellence) program.

Dr. El-Mallawany lived and worked in Malawi between his residency and fellowship with Baylor International Pediatric AIDS Initiative's (BIPAI) inaugural class in 2006. "I was immediately hooked [on working in Global Health]," he says. So, after completing his heme-Onc fellowship in New York City, in 2010, Dr. El-Mallawany returned to Lilongwe, Malawi—now as a pediatric hematologist/oncologist —and stayed until 2013. During this time, he was stricken by the children he saw with cancer. "They'd come in so sick. At best, they'd receive palliative chemotherapy. Otherwise, they'd be sent home to die," he recalls. With support from Dr. Peter Kazembe, the Tingathe Program, BIPAI, and, eventually, the Global HOPE Program, Dr. El-Mallawany and his team helped establish a pediatric hematology/oncology program at Kamuzu Central Hospital in Lilongwe.

Although Dr. El-Mallawany "never thought" his career would focus on research, he became determined to understand the pathology driving Kaposi sarcoma's (KS) distinct features in children. As the most common HIV-related cancer in Africa and the second most common childhood cancer in Malawi, many of Dr. El-Mallawany's patients had KS. Unlike adult KS, which manifests with skin and oral lesions, swollen limbs, or lung/intestinal issues, pediatric KS often manifests with enlarged lymph nodes and severely low blood counts. "These kids were often getting misdiagnosed with an underlying infection, like TB, or with lymphoma," Dr. El-Mallawany recalls, "so they didn't respond to the prescribed therapies and ultimately died." Research provided the best path forward to understand this disease, increase awareness about its unique clinical features in children, and, most importantly, treat it.

Despite limitations in pathology resources, Dr. El-Mallawany, his team, and international collaborators established that KS primarily involving the lymph nodes was the most common presentation in children living in regions with higher HIV rates in Eastern and Central Africa. Through the research funding they were able to procure, Dr. El-Mallawany and his team found that pediatric KS symptoms differed from adult KS symptoms because of the way in which Human Herpesvirus 8—the virus that causes KS—is activated in children, and to disseminate this knowledge globally.

Because of this work, Dr. El-Mallawany was able to develop one of the world's largest pediatric HIV-related malignancy programs in Malawi; it has treated over 200 children with KS so far. He and his team have been able to establish pediatric-specific KS staging systems, risk-stratification platforms for identifying which patients require more intensive therapy, and evidence-based pediatric KS treatment guidelines. Best of all, these children's survival rate has improved from 30% to 70% over the past 15 years in Lilongwe.

Although Dr. El-Mallawany will always appreciate how his team's KS research enabled them to enhance pediatric KS treatment, "in my heart, I'm really a grassroots clinician. Working in Malawi, for most of us, was the greatest work we'll ever do, because we've witnessed that we can make a real difference for children's health even in places where the injustice of health disparities is so overwhelming."

Of all the impactful research and clinical care he has under his belt, "the fact that our program in Malawi is in such good hands [especially those of William Kamiyango and Jimmy Villiera] and going strong 13 years later…that makes me the most proud," Dr. El-Mallawany says. And rightly so.

The 2022 Research Mentor Awards

Annually, we recognize our faculty for their outstanding dedication and passion for mentoring students, residents, fellows, and junior faculty with the **Research Mentor Awards**. To be nominated for this award, faculty must demonstrate:

- Continuous contribution to the growth and development of students, trainees, staff, fellows, and junior faculty in their area of research and pursuit of research goals;
- A willingness to contribute to the strength of the overall research activities and research training in the Department of Pediatrics;
- A strong independent research program;
- The attributes of a positive career role model;
- Evidence of leadership, compassion and constructive feedback to their students, trainees, staff, and colleagues.

A historical list of Research Mentor Awards is now available on the TCH website:
https://www.texaschildrens.org/research/awards/research-mentor-awards

Congratulations to the following faculty for receiving the 2022 Research Mentor Awards. Below are selected quotes from mentees' letters of support that highlight the impact of each awardee's mentorship.

Lisa Bouchier-Hayes, PhD, Assistant Professor, Hem-Onc. "….Dr. Bouchier-Hayes is one in a million, highly admired by all her trainees, an epitome of where scientific innovation and professionalism meet kindness and compassion, everything Baylor College of Medicine values stand for. Recognizing Dr. Bouchier-Hayes gives every woman in science hope that goodness persists in the academic world…Dr. Bouchier-Hayes constantly seeks a variety of opportunities for all her trainees and untiringly motivates us to pursue them…Dr. Bouchier-Hayes went above and beyond to introduce us to some of the pioneers in our field. Dr. Bouchier-Hayes constantly cultivates a collaborative spirit and 'be kind to one another' motto. With her inspiring teaching style, effective communication, centralized laboratory protocol system, summer reading course to update us on the scientific field's historical and latest developments, and structured career progression guidelines, Dr. Bouchier-Hayes, has successfully created a decade of happy trainees." "Lisa has the essence of a true 'giver' who is naturally keen to share knowledge with students, postdocs and peers. Moreover, she advocates for developing trainee's careers… In summary, her natural skills as an educator, generous leader and role model make her an invaluable part of the Baylor Community and highly deserving of this recognition."

Robin Parihar, MD, PhD, Assistant Professor, Hem-Onc. “Dr. Parihar has a consistent record of excellence in teaching and mentoring developing scientists, spanning undergraduate students, medical students, graduate students, and clinical fellows, meeting them all at their level and nurturing their development to the next stage in their education and career. He is endlessly encouraging and always emphasizes the importance of the long-game in science, giving his mentees the perspective to see beyond the inevitable day to day failures that occur in laboratory research and inspiring them to keep working towards larger goals.” “Dr. Parihar takes a measured and meticulous approach to training students. His ability to engage his students and is students as well during difficult periods makes him easily approachable as a mentor when issues arise within or outside lab life.” “Dr. Parihar demonstrates a commitment to fostering creative, independent, and hyper focused students, helping them reach their greatest potential.”

Katherine King, MD, PhD, Associate Professor, Infectious Diseases. “On many occasions, Dr. King worked side by side with me at the bench to teach me different experimental techniques that were key in my project.” “Knowing her mentees' different career goals, I witnessed Dr. King employ different mentoring styles and plans that were tailored to each individual mentee's goals... Her dedication to the professional growth other mentees has always made her stand out as the excellent and devoted mentor she is.” The King lab was one of the very best workplaces I have ever had, I miss it and Dr. King constantly.” “ From the very beginning, she challenged me to think creatively, believed in me when I doubted myself, and provided amazing opportunities that led to multiple publications, funding, and recognitions.”

Robin Kochel, PhD, Associate Professor, Psychology. “Dr. Kochel’s approach to mentorship is thoughtful and intentional. She assesses her mentees’ strengths and areas of needed growth and scaffolds their learning by providing examples, demonstrating skills, and providing opportunities for practice with feedback. She also values collaboration and encourages mentees to cooperate with other students, staff, and postdocs to learn from each other in the process of achieving a common goal. Dr. Kochel helps her mentees’ focus on steps toward achieving research success while also maintaining a healthy work-life balance. Her openness, encouragement, and modeling of creativity provides a warm and welcoming environment.” “I credit my success as an academic clinical researcher to several factors, but certainly Dr. Kochel’s mentorship has been one of the most important influences. I consider my experience working with Dr. Kochel as a catalyst for my career and I have continued to benefit from her mentorship.” “Dr. Kochel’s investment in future generations of researchers is extraordinary, an investment I believe she makes because of her belief that one of the most long-lasting ways to shape our professional disciplines and even our world is through effective and high-quality mentorship.”

The 2022 Young Investigator Awards

In 2019, we created a new award program: the **Young Investigator Awards**. To be eligible for this award, faculty must be at the rank of Instructor or Assistant Professor and have been a faculty member within the Department of Pediatrics for 5 or more years. Department of Pediatrics faculty who are nominated for this award must demonstrate:

- Exemplary performance in research (basic, translational, and/or clinical);
- Success in obtaining extramural funding;
- Consistent history of publishing high quality manuscripts that create a meaningful impact to the medical literature;
- A willingness to contribute to the strength of the overall research activities and research training in the Department of Pediatrics;
- The attributes of a positive role model.

Information on past award recipients can be accessed at:

https://www.texaschildrens.org/research/awards/young-investigators-awards

Congratulations to the following 2022 Young Investigator Awardees:

Sara Anvari MD, Assistant Professor of Pediatrics in the Division of Immunology, Allergy, and Retrovirology, is the lead of the food allergy scientific program at TCH. She has led studies on peanut allergy and alternative routes of desensitization. As the Director of Clinical Trials for the TCH Food Allergy Program as is the site PI on a number of national food allergy studies. She has also led efforts in COVID-19 vaccine hypersensitivity and established the penicillin allergy stewardship program at TCH.

Hsiao-Tuan Chao MD PhD is a McNair Scholar and Assistant Professor in Pediatric Neurology. She is Associate Program Director of the Basic Neuroscience pathway at BCM and TCH, and a Senator-at-large for the BCM Faculty Senate, representing Pediatrics, Molecular and Human genetics, and Neuroscience. Dr. Chao's work to identify the genetic underpinnings of neurologic disease has resulted in 33 publications, prestigious grants such as the DP5 Early Independence Award from the NIH, and a host of awards including the 2020 Child Neurology Society's Philip R. Dodge Young Investigator Award.

Ivan Chinn MD is Assistant Professor of Pediatrics in the Division of Immunology, Allergy, and Retrovirology. As a founder of the Immunogenetics Program at TCH, he has identified over 35 novel genetic diseases affecting the immune system in the past 8 years, most notably in lymphoproliferative disorders. With over 60 publications, Dr. Chinn has received 12 grants with over $1.8 million dollars in funding and is currently PI of a U24 grant entitled "Curation of Genetic Defects Causing Combined Immunodeficiency and Infections in Children."

Nader Kim El-Mallawany MD is Assistant Professor of Pediatrics in the Division of Hematology and Oncology. A former Pediatric AIDS Corps Physician with the Baylor International Pediatric AIDS Initiative (BIPAI), Dr. El-Mallawany has devoted his academic work to advance knowledge of Kaposi's sarcoma and non-Hodgkin lymphoma in sub-Saharan Africa. Having authored over 40 manuscripts, Dr. El-Mallawany is supported by P30 and U54 grants from the NIH to tackle the disparity in mortality rates for children with lymphoma and Kaposi sarcoma in low-income countries.

Jimmy Holder MD PhD is as Assistant Professor in Pediatrics, Division of Neurology. Dr. Holder established himself in the field of pediatric neurology with his discovery of SHANK3 Duplication Syndrome, a neuropsychiatric disorder. He has since continued this work in continued discovery of rare genetic neurodevelopmental disorders. As a former recipient of K08 and Doris Duke awards, Dr. Holder has now established an independent research program with R03 and R01 awards from the NIH.

Alexander Kay MD is an Assistant Professor of Pediatrics in the Division of Global and Immigrant Health. A former Pediatric AIDS Corps Physician with BIPAI, Dr. Kay's work focuses on improving care of patients with HIV and tuberculosis in sub-Saharan Africa. With 39 peer reviewed publications, Dr. Kay's work is supported by a K01 grant from the NIH, a support from Texas D-CFAR and FIND.

Geoffrey Preidis MD PhD is an Assistant Professor of Pediatrics in the Division of Gastroenterology, Hepatology, and Nutrition. A graduate of the BCM MSTP program, Dr. Preidis' work focuses on mechanisms of malnutrition-induced GI dysfunction, including impaired bile acid synthesis and gut motility. Author of 48 peer reviewed publications, Dr. Preidis successful converted his K08 into R03 and R01 independent research grants without interruption. He currently serves as an Associate Director of the BCM Medical Scientist Training Program.

Research Support Services in the Department of Pediatrics

Research Resources Office

Our goal in the DOP's Research Resources Office (RRO) is to provide unified, coordinated, and comprehensive support and education for investigator-initiated, NIH cooperative group, and pharmaceutical industry studies, as well as provide centralized resources for the pre- and post-award processes involved in developing and implementing the wide range of basic, translational, or clinical studies performed by Pediatrics investigators. RRO services range from:

- Clinical research regulatory and coordination
- Quality assurance
- Statistics and study design support
- Clinical trial cost assessment
- Budget negotiation and contracting
- Research informatics and database development
- Research grant budget and application assistance

Consultation and service requests may be submitted through the RRO request portal at https://orit.research.bcm.edu/rro/

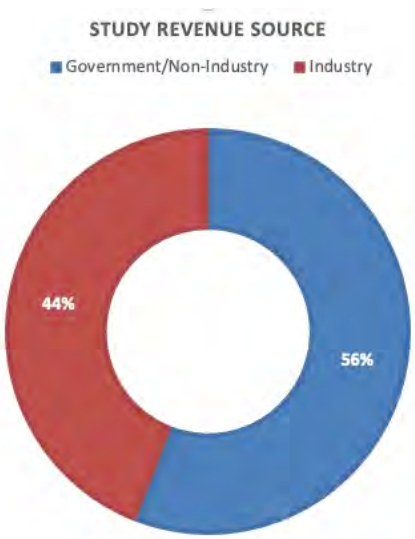
The RRO strategically partners with several industry partners and clinical research institutions, including Pfizer, BMS, and quintiles. In addition, they serve as the Department of Pediatrics liaison for the Institute for Advanced Clinical Trials for Children, (I-ACT), which, with FDA support, endeavors to advance development of new medications and devices for children.

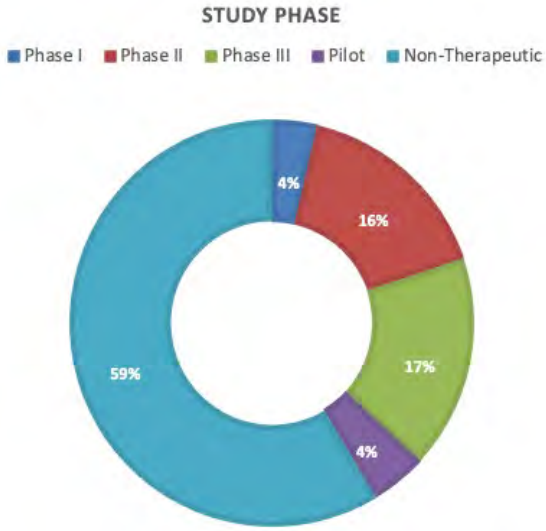
RRO Leadership

Lisa Bomgaars, MD, MS	Medical Director (term ending 2023)
Lisa Forbes Satter, MD, PhD	Medical Director (2023 and beyond)
Sowdhamini Wallace, DO, MS	Assistant Medical Director
Miki Gillis	Executive Director
Joe Kanewske, MBA	Senior Manager Business Operations
Serpil Tutan, MBA	Director of Clinical Research
Lori Malone, MBA	Director of Research Administration
Stephanie Hulsey, RN	Director, Research Coordination
Uma Ramamurthy, PhD, MBA	Executive Director, Research Information Technology

In 2022, the RRO:

- Supported 111 clinical research studies across 17 sections in the DOP, and Departments of Molecular & Human Genetics and TCH Neurosurgery.
- Reviewed and approved 1267award submissions for the DOP
- Provided pre- and post-award management for 15 Sections





Clinical Research Center (CRC)

The Clinical Research Center (CRC) is a facility that allows TCH investigators to conduct complex, often high-risk, patient-oriented clinical research safely and accurately. The CRC affords patients and families the space and privacy needed to complete lengthy, complicated studies and keeps them close to the nurses and other dedicated staff best equipped to care for them. Located on the Abercrombie Building's seventh floor, the CRC includes outpatient clinical research space, five clinical bed spaces, a room for patient interviews and consultations, sample-preparation laboratory, blood-draw room, waiting area, playroom, and Nourishment Room. It is also near the Feigin Center laboratories in which many investigators analyze samples obtained in the CRC. Two West Tower floors provide inpatient support. The CRC's facilities, research trained staff, and other resources are available to clinical studies that have been approved by IRB and the CRC Scientific Advisory Committee (SAC). A CRC application is required and can be located at https://orit.research.bcm.edu/rro/CRC-page.html. In 2022, the CRC supported 3,569 research visits.

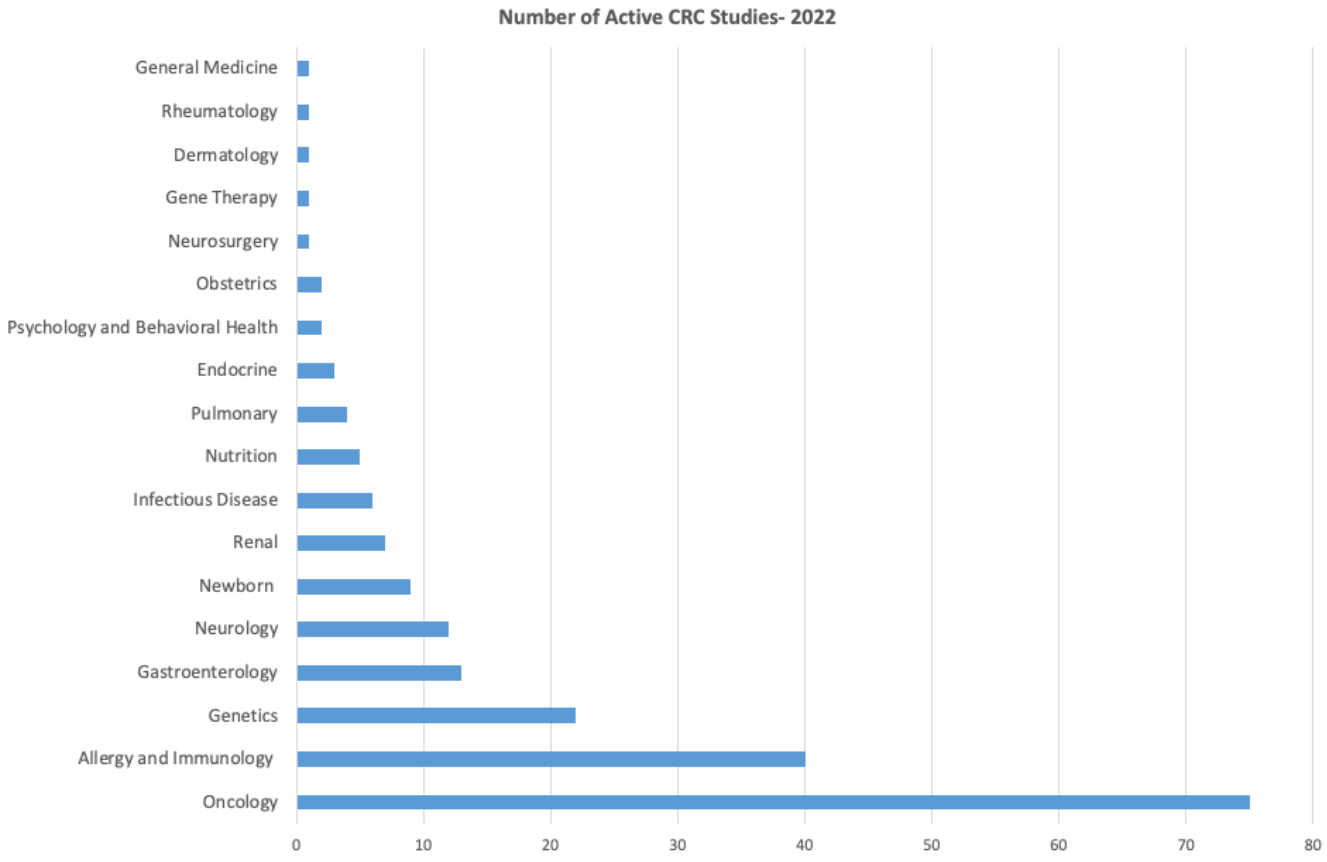
CRC Leadership

Lisa Bomgaars, MD, MS	Medical Director
Cheryl Kelly, RN	Nurse Manager
Monica Barnes, RN	Director of Nursing
Lisa Forbes Satter, MD	SAC Chair

2022 SAC Committee Membership

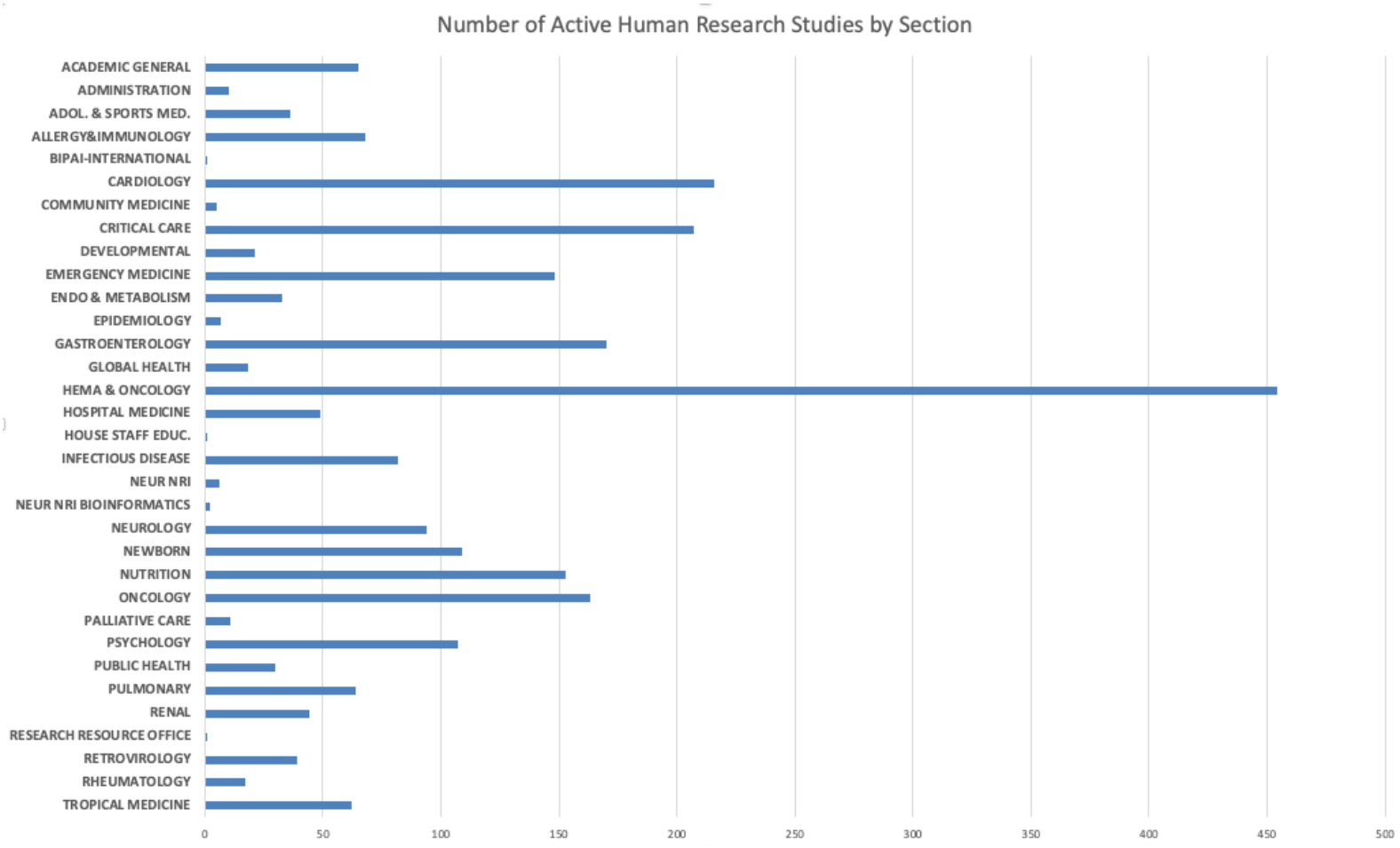
Anvari	Sara	Allergy & Immunology
Bacino	Carlos	Medicine-Molecular & Human Genetics
Banes	Monica	Director, Ambulatory Nursing
Bocchini	Claire	Infectious Disease
Bomgaars	Lisa	Medical Director, CRC
Calarge	Chadi	Psychiatry & Behavioral Sciences
Chumpitazi	Bruno	Gastroenterology
Forbes-Satter	Lisa	Allergy & Immunology (Chair)
Hair	Amy	Neonatology
Kelly	Cheryl	CRC-Interim Nurse Manager
Loftis	Laura	Critical Care
Lynds	Jennifer	Investigational Pharmacy
McCartney	Tara	Investigational Pharmacy
Minard	Charles	ICTR
Motil	Kathleen	Nutrition
Murray	Kristy	Tropical Medicine
Parsons	Kristen	Director, Research Administration
Paul	Mary	Allergy & Immunology
Rialon	Kristy	Surgery
Schafer	Eric	Hematology-Oncology
Soto	Andrea	Research Administration
Srivaths	Poyyapakkam	Renal
Suter	Bernhard	Neurology
Zachariah	Justin	Cardiology

Number of active studies in the CRC by Division:



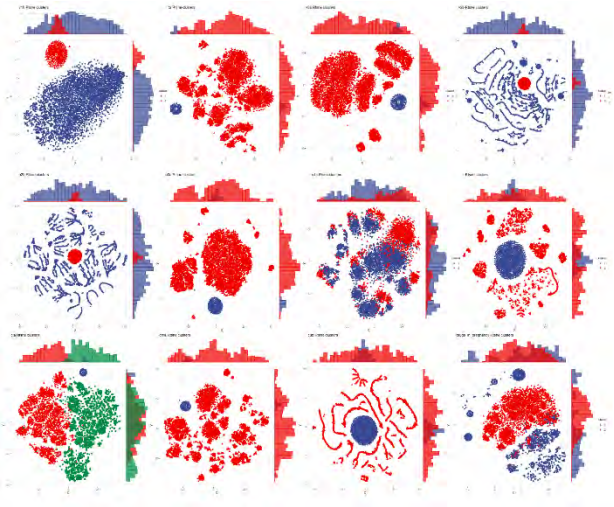
Department of Pediatrics Human Subjects Research

In 2022, Department of Pediatrics investigators had 2,493 active human subjects research studies.



2022 Pediatric Research Symposium

The Pediatric Research Symposium in April 2022 was very successful despite the need to quickly modify from in-person conference to virtual format. The theme, which was chosen prior to the pandemic, was "***Harnessing Novel Collaborations for Scientific Discovery***." This title also accurately reflects the innovative creativity of the Pediatric Research Symposium Chair, **Dr. Shaine A. Morris**, who was able to lead an exciting day of transformative science. Over 175 faculty, fellows, and students attended the virtual event, which highlighted research within the department and provided a day of some normalcy at the beginning of the pandemic shutdowns and lockdowns. We wish to commend Dr. Morris, Anissa Quiroz, and the Pediatric Research Symposium planning committee for all of their hard work.



The keynote research address, entitled "Heritable Thoracic Aortic Disease: Molecular Mechanisms and Gene-Based Management," was delivered by Dianna Milewicz, MD, PhD, President George H.W. Bush Chair of Cardiovascular Medicine, Director of the Division of Medical Genetics , Vice-Chair of the Department of Internal Medicine, University of Texas Health Science Center at Houston, McGovern Medical School. The keynote scholarship presentation, entitled "The Epidemiology of Cancer Risk in Children with Congenital Anomalies: An Opportunity for Collaboration, Team Science, and Mentorship" was delivered by Philip J. Lupo, PhD, Professor, Pediatrics - Hematology-Oncology, Dan L Duncan Comprehensive Cancer Center, Baylor College of Medicine, Texas Children's Hospital.

Over 105 abstracts were submitted this year by fellows, students, and trainees in the department. Here is the list of the top 5 chosen for oral presentations:

- **Dr. Jessica Butts (Molecular & Human Genetics),** Elucidating the molecular basis of Atoh1 lineage diversity in the developing hindbrain
- **Saliha Pathan (Gastroenterology, Hepatology & Nutrition),** P2Y2 purinergic receptor-mediated metabolic reprogramming and activation of aerobic glycolysis contributes to sepsis-induced liver injury in mice.
- **Dr. Reem Shawar (Diabetes and Endocrinology),** Adipokines and Bone Health in Hispanic Children
- **Dr. Margaret Taylor (Infectious Diseases),** The Clinical Impact of Penicillin Allergy Labels on Pediatric Outpatients
- **Dr. Jacob Junco (Hematology/Oncology),** A novel transgenic mouse model of DS-ALL identifies upregulation of DNA repair signaling and kinase signaling as targetable vulnerabilities

Symposium Cover Art Award Winner: Every year we honor the creative side of research and beauty of medicine with the booklet cover art competition. The 2022 symposium announcement displays the original artwork showing T-distributed Stochastic Neighbor Embedding (t-SNE) plots of data from the NIH Nulliparous Pregnancy Outcomes Study Monitoring Mothers-to-be. The artwork was created by Dr. Ryan Rochat, Assistant Professor, Pediatric Infectious Diseases, Baylor College of Medicine and Texas Children's Hospital.

Special Thanks

We especially want to acknowledge the hard work and contributions of our planning committee and abstract reviewers to ensure that the symposium was a huge success:

Symposium Chair:	Shaine A. Morris, MD, MPH
Chair-elect:	Maria Gramatges, MD, PhD (2022 Chair-Elect)
Immediate Past Chair:	Fong Lam, MD, FAAP
Program Administrator:	Anissa Quiroz

Symposium Planning Committee

Lisa Bomgaars, MD, MS	Hematology-Oncology
Lisa Forbes Satter, MD	Allergy, Immunology, & Retrovirology
Kristy Murray, DVM, PhD	Tropical Medicine
Jennifer Rama, MD	Pulmonary
Dequita Hall, MBA	TCH Research Administration

We would like to thank the following faculty members for their assistance in reviewing abstracts:

Aguirre, Rebecca S
Antar, Alli Martina
Arunachalam, Athis
Bachim, Angela
Bernhardt, Melanie B.
Bhalakia, Avni M
Bomgaars, Lisa
Bouchier-Hayes, Lisa
Brown, Austin
Carisey, Alexandre F.
Chinen, Javier
Chinn, Ivan Kingyue
Conneely, Shannon Elise
Cuevas, Milenka
Davis, Carla Mcguire
Dei-Tutu, Selorm
Demberg, Thorsten
Dinu, Daniela
Doherty, Erin E.
Dutta, Ankhi
Ettinger, Nicholas Andreas
Flores, Ricardo J.
Flores, Saul
Friend, Brian D.
Gillispie-Taylor, Miriah
Gramatges, Maria M.
Greeley, Christopher Spencer
Gunter, Sarah Murphy
Harpavat, Sanjiv
Hilliard, Marisa
Hoang, Thanh Thien
Joseph, Sujith Kurian
Kim, Taylor
Kitagawa, Melanie Gwendolyn
Kitagawa, Seiji
Knadler, Joseph J
Lam, Fong
Lee, Hyun-Kyoung
Lin, Frank Y.
Lyons-Warren, Ariel
McNeil, Jonathon C
Meskill, Sarah D.
Michael, Silvia
Moonat, Hatel R.
Moran, Nancy Engelmann
Moreno, Jennette Palcic
Morris, Shaine
Nguyen, Trinh T.
Noll, Lisa M
O'Connor, Teresia Margareta
Parihar, Robin
Parthiban, Anitha
Pereira, Maria
Preidis, Geoffrey Alan
Prudowsky, Zachary
Rabin, Karen
Ramgopal, Veena
Richard, Melissa Anne
Richards, Tanisha
Rochat, Ryan Henry
Rooney, Cliona M.
Salciccioli, Katherine B.
Sanchez Mejia, Aura
Sanyahumbi, Amy
Satter, Lisa Forbes
Savorgnan, Fabio
Schraw, Jeremy
Schutze, Gordon Edward
Schwartz, David D.
Shah, Manish
Shivanna, Binoy
Shneider, Benjamin
Siddiqui, Sahar
Singh, Nidhi Vaidya
Soni, Krishnakant
Steffy, Teresa
Stevens, Alexandra M.
Strych, Ulrich
Su, Erik R
Tessier, Mary Elizabeth
Thompson, Kathleen Parks
Torrey, Susan B
Tosur, Mustafa
Tran, Jennifer N.
Tsang, Rocky
Van Horne, Bethanie Shannon
Vogel, Tiphanie P.
Zhu, Yi

Pediatrician-Scientist Program

The Baylor College of Medicine Pediatrician-Scientist Program (PSP) Residency Track is an ideal career choice for MD/PhD or MD graduates with significant research experience who are seeking to build a career as a pediatrician-scientist. As the largest children's hospital and Department of Pediatrics in the United States, we have the resources and commitment to provide expert clinical training, mentorship, and educational opportunities necessary to support the development of a successful career as a physician scientist. The PSP program has been designed to offer structured educational activities along with the flexibility required to foster longitudinal development as a physician-scientist.

Program Website: https://www.bcm.edu/departments/pediatrics/education/pediatrician-scientist-training-development

Program Leadership
Donald Williams Parsons, MD, PhD, Program Director
Audrea Burns, PhD, Associate Program Director

2022 Residents

- Marimar Bonilla Cruz, MD, PhD, PGY3
- Ian Francis, MD, PhD, PGY3
- Jennifer Rha, MD, PhD, PGY2
- Dr. Jimmy Chang, MD, PhD, PGY2
- Dr. Audra Iness, MD, PhD, PGY2
- SathiWijeyesinghe, MD, PhD, PGY1

Steering Committee Members

Anna Mandalakas	Fong Lam	Maria Redondo
Huda Zoghbi	Hsiao-Tuan Chao	Michael Braun
Audrea Burns	James (Jim) Thomas	Peter Hotez
Benjamin Shneider	Jean Raphael	Robert Shulman
Brendan Lee	Karen Rabin	Sanjiv Harpavat
Daniel Penny	Lisa Bomgaars	Susan Blaney
Flor Munoz	Trung Nguyen	Carl Allen

TCH RESEARCH NEWS FROM 2022

As a department, we made impactful and innovative advances in pediatric research that deserve celebration. Below, you will find the list of headlines from TCH Research News in 2022, each linked to the full article on the TCH Research News website. We highly encourage researchers in the DOP to promote their novel research findings, publications, and grant awards by emailing TCHResearchNews@texaschildrens.org. Full stories for each of the headlines below can be found at https://www.texaschildrens.org/research/news.

Promising approach to mitigate complications of leukemia treatment (Oct 6, 2022)
Researchers at Baylor College of Medicine and collaborating institutions have engineered immune cells to control two major life-threatening complications, namely graft-vs-host disease (GvHD) and cancer relapse, which typically emerge after treating leukemia with allogeneic hematopoietic stem cell transplantation (allo-HSCT).

A novel instructive role for the entorhinal cortex discovered (Nov 2, 2022)
A longstanding question in neuroscience is how mammalian brains (including ours) adapt to external environments, information, and experiences. In a paradigm-shifting study published in Nature, researchers at the Jan and Dan Duncan Neurological Research Institute (Duncan NRI) at Texas Children's Hospital and Baylor College of Medicine have discovered the mechanistic steps underlying a new type of synaptic plasticity called behavioral timescale synaptic plasticity (BTSP). The study, led by Dr. Jeffrey Magee, professor at Baylor, who is also a Howard Hughes Medical Institute, and Duncan NRI investigator, reveals how the entorhinal cortex (EC) sends instructive signals to the hippocampus — the brain region critical for spatial navigation, memory encoding, and consolidation — and directs it to specifically re-organize the location and activity of a specific subset of its neurons to achieve altered behavior in response to its changing environment and spatial cues.

An animal model of West Syndrome exhibits a progressive increase in epileptic spasms and learning and memory deficits (Nov 2, 2022)
West syndrome, the most prevalent type of syndromic epileptic encephalopathy affecting infants, is a devastating and often fatal condition. It is characterized by a triad of symptoms – seizures/spasms, a signature brain activity between seizure events, and intellectual disabilities. Researchers in the laboratory of Dr. John Swann, professor at Baylor College of Medicine and investigator at the Jan and Dan Duncan Neurological Research Institute at Texas Children's Hospital, have provided the first demonstration of a progressive increase in epileptic spasms along with learning and memory deficits in an animal model of this disorder. In addition, the study published in Epilepsia, establishes this as an 'ideal' model to identify the underlying molecular mechanisms and to discover targeted therapies for this condition.

Duraine wins an electron microscopy image contest (Oct 21, 2022)
Lita Duraine, a certified electron microscopist at Baylor College of Medicine and Jan and Dan Duncan Neurological Institute at Texas Children's Hospital, won an image contest held by JEOL USA, a leading global supplier of electron microscopes, ion beam instruments, mass and NMR spectrometers.

Spontaneously arising variants in FRMD5 gene are associated with a novel neurological disease (Oct 7, 2022)
A study led by Dr. Hugo Bellen, investigator at the Jan and Dan Duncan Neurological Research Institute (NRI) at Texas Children's Hospital (TCH) and distinguished service professor at the Baylor College of Medicine (BCM), reports de novo variants in a gene involved in regulating cellular motility to be the underlying cause of a new neurological disorder. The study was published in the American Journal of Human Genetics.

Researchers discover 50 novel Parkinson's disease candidate genes using an innovative multilayered approach (Oct 3, 2022)
Many neurodegenerative disorders such as Parkinson's disease (PD) result from the combined effects of mutations in several genes (i.e., polygenic). Although previous studies have identified a few genes that are responsible for familial or sporadic cases of PD, we are still far from knowing the entire spectrum of genes that contribute to this complex disorder. Researchers at the Jan and Dan Duncan Neurological Research Institute at Texas Children's Hospital and Baylor College of Medicine have recently developed an integrated functional genomics approach that led to the discovery of 50 genes that have been shown for the first time to modify PD pathology in a disease animal model. The study was published in Human Molecular Genetics.

Dr. Huda Zoghbi awarded 2nd Elaine Redding Brinster Prize in Science or Medicine (Sept 28, 2022)
Dr. Huda Zoghbi, director of the Jan and Dan Duncan Neurological Research Institute at Texas Children's Hospital, a distinguished service professor at Baylor College of Medicine and an investigator with Howard Hughes Medical Institute, has been awarded the second Elaine Redding Brinster Prize in Science or Medicine from the Penn Institute for Regenerative Medicine at the University of Pennsylvania.

Global Collaboration: mapping the whole human brain (Sept 27, 2022)
Researchers in the Tolias Lab and the Xiaolong Jiang Lab are part of a global collaborative led by the Allen Institute to map the whole human brain. In what is being called the brain equivalent of the Human Genome Project, this initiative will map 200 billion cells in the human brain by their type and function as well as create a primate brain atlas.

Disruption of MTSS2 function causes a new syndromic intellectual disability (Sept 27, 2022)
An Undiagnosed Diseases Network (UDN) study led by Dr. Hugo Bellen, investigator at the Jan and Dan Duncan Neurological Research Institute (NRI) at Texas Children's Hospital and distinguished service professor at the Baylor College of Medicine, has found a spontaneous mutation in MTSS2 gene to be the underlying cause of a new syndromic intellectual disability.

Dr. Gerarda Cappuccio receives a postdoctoral fellowship from Autism Speaks (Sept 15, 2022)
Dr. Gerarda Cappuccio, a physician-scientist at Baylor College of Medicine and the Jan and Dan Duncan Neurological Research Institute (Duncan NRI) at Texas Children's Hospital, has been selected to receive

the 2022 postdoctoral fellowship award from Autism Speaks to test gene therapy for a rare disorder, MeCP2 Duplication Syndrome, a condition related to the over-expression of a gene MeCP2 linked to autism.

Dr. Mirjana Maletic-Savatic announced as SFARI 2022 Pilot awardee (Sept 15, 2022)

Dr. Mirjana Maletic-Savatic, Duncan NRI investigator and associate professor at Baylor College of Medicine, is among the 16 investigators from the US and all over the world to be selected by The Simons Foundation Autism Research Initiative (SFARI) for the 2022 Pilot Awards. She received this grant award to support her project titled, "16p11.2 copy number variant effects on the gene-metabolome coupling."

Let's Talk About Alzheimer's Research: A Community Event (Aug 31, 2022)

Baylor College of Medicine, Houston Methodist Hospital, and the Alzheimer's Association have partnered to provide the community information about ongoing research on Alzheimer's Disease and related causes of dementia (loss of memory and thinking).

Researchers identify an Achilles' heel in neuroblastoma (Baylor College of Medicine - August 16, 2022)

Dr. Gerarda Cappuccio selected as the co-recipient of the 2022 John M. Opitz Young Investigator Award (Aug 16, 2022)

Dr. Gerarda Cappuccio, a physician-scientist at Baylor College of Medicine and the Jan and Dan Duncan Neurological Research Institute (Duncan NRI) at Texas Children's Hospital, has been selected as the co-recipient of the prestigious 2022 John M. Opitz Young Investigator Award by the American Journal of Medical Genetics, a leading source of original research on genetic disorders that has a worldwide following among physicians, geneticists, and associated research and medical professionals.

The 2022 HADDS Conference featured in the Houston Chronicle (Aug 2, 2022)

The second 2022 HADDS Family Conference that took place at the Jan and Dan Duncan Neurological Research Institute between July 21- 23 was featured in an article by the Houston Chronicle titled,"Kids with a rare neurological disorder converged in Houston to meet others from around the world". Read the article here.

Dr. David Nelson announced as the recipient of the 2022 Victor A. McKusick Leadership Award (Aug 2, 2022)

Dr. David L. Nelson, professor at Baylor College of Medicine, co-director of BCM Michigan Emory Fragile X Center, associate director of Baylor's Intellectual and Developmental Disabilities Research Center, and investigator at the Jan and Dan Duncan Neurological Research Institute (Duncan NRI) at Texas Children's Hospital is the recipient of the 2022 Victor A. McKusick Leadership Award from the American Society of Human Genetics (ASHG). This award is bestowed upon an

individual who has exhibited exemplary leadership and vision in advancing the Society's mission through the promotion and successful assimilation of genetics and genomics knowledge into the broader scientific community in areas ranging from science, medicine, public policy, and/or health.

Researchers discover novel light-gated potassium channel (Jul 20, 2022)
Researchers at the University of Texas Health Science Center at Houston McGovern Medical School, Baylor College of Medicine, Texas Children's Hospital, Rice University and the University of Guelph, Ontario, Canada, have reported a new class of light-gated channels that promise to pave the way for rapid and efficient optical neuronal silencing.

Disruptions in brain sphingolipid metabolism reveal new insights into cause of Gaucher disease (Jul 14, 2022)
A study by researchers at Baylor College of Medicine, the Jan and Dan Duncan Neurological Research Institute at Texas Children's Hospital and collaborating institutions is the first to associate neuronal activity to the levels of sphingolipids, a type of fat, in brain cells. Furthermore, disruption of sphingolipid metabolism led to significant neuronal damage and neurodegeneration in animal models, revealing a new molecular perspective to the cause of Gaucher's disease. Published in *Science Advances*, the work offers novel opportunities to develop therapies for this and other neurodegenerative disorders.

The Jan and Dan Duncan Neurological Research Institute at Texas Children's Hospital announces a new Co-Director (Jul 12, 2022)
Dr. Joshua Shulman, Professor at Baylor College of Medicine, has been named the new Co-Director of the Jan and Dan Duncan Neurological Research Institute (Duncan NRI) at Texas Children's Hospital. The Duncan NRI is a premier neurological research institution and a destination for families seeking answers and treatments for rare and undiagnosed neurological conditions, as well as for more common neurodegenerative and neuropsychiatric disorders.

Joo Hyun Kim receives a prestigious fellowship from the American Epilepsy Society (Jun 27, 2022)
Dr. Joo Hyun Kim, a postdoctoral fellow in the laboratory of Dr. Mingshan Xue who is a researcher at the Jan and Dan Duncan Neurological Research Institute research at Texas Children's Hospital, and an assistant professor at Baylor College of Medicine, has received an early career grant and a postdoctoral fellowship award from the American Epilepsy Society (AES) to support her research and professional development activities.

Zoghbi receives International Prize for Translational Neuroscience (June 20, 2022)
Drs. Huda Zoghbi and Adrian Bird were awarded the International Prize for Translational Neuroscience by the Gertrud Reemtsma Foundation for their pioneering discoveries on the causes of Rett syndrome.

Texas Children's Hospital elevates national ranking to second among best children's hospitals by U.S. News & World Report. (June 14, 2022)
Texas Children's Hospital is proud to consistently be recognized as a leader in pediatric care by U.S. News & World Report, placing second nationally in its new 2022-2023 Best Children's Hospitals rankings. The hospital rose from a No. 3 ranking on this annual report in 2021-2022.

The McNair Medical Institute names Dr. Kara Marshall as a new McNair Scholar (June 7, 2022)
Dr. Kara Marshall, assistant professor of neuroscience at Baylor College of Medicine and faculty member at the Jan and Dan Duncan Neurological Research Institute at Texas Children's Hospital, has been named the newest McNair Scholar.

A faster, less expensive approach identifies highly specific anti-cancer compounds (June 7, 2022)

Dr. Huda Zoghbi named the 2022 Kavli Prize Laureate in neuroscience (June 1, 2022)
Dr. Huda Zoghbi, pioneering neurologist at Baylor College of Medicine and Texas Children's Hospital, has been awarded the prestigious 2022 Kavli Prize in the field of neuroscience. She is being recognized for two discoveries – first, of the gene responsible for spinocerebellar ataxia 1 (SCA1), a progressive and often deadly disease in which neurons in the cerebellum and brain stem degenerate, causing loss of balance and coordination as well as swallowing difficulties. Second, for her discoveryof the MECP2 gene responsible for Rett syndrome, a developmental disorder that strikes children, mostly girls, causing regression and disability. She is the first Kavli prize winner for Baylor and Texas Children's.

Cross-disciplinary Alzheimer's Disease Research Symposium (May 25, 2022)
The Center for Alzheimer's and Neurodegenerative Diseases (CAND) will host a cross-disciplinary Alzheimer's disease research symposium on June 13th, 2022 from 12:00 - 4:30 PM at the conference center and auditorium located in the Jan and Dan Duncan Neurological Research Institute (Duncan NRI) at Texas Children's Hospital. Dr. Huda Zoghbi, director of Duncan NRI, will present the keynote address at the symposium. Further details about this symposium can be found here.

Molecular profiling identifies new high-risk subtype of pediatric liver cancer (May 24, 2022)

2022 EBF3 HADDS International Conference (May 17, 2022)
The EBF3-HADDS Foundation was created to promote awareness, research, and support for a rare genetic syndrome discovered in 2016. The foundation will host the annual international conference at the Duncan NRI auditorium on July 21-23, 2022.

Finding the right diagnosis for one child can help millions more (May 16, 2022)
Read the story of how breakthrough research by Duncan NRI researchers solved a patient's medical mystery and brought hope to many other patients and families.

A pioneering study discovers an underlying cause for infantile spasms and points to a novel therapy (May 11, 2022)
A groundbreaking study, conducted in the laboratory of Dr. John Swann, director of the Gordon and Mary Cain Pediatric Neurology Research Foundation labs, investigator at the Jan and Dan Duncan Neurological Research Institute at Texas Children's Hospital and professor at Baylor College of Medicine, has found that the levels of insulin growth factor -1 (IGF-1) and its downstream signaling are reduced in the brains of both IS patients and animal models. Furthermore, they found that the administration of an IGF-1 analog to an IS animal model successfully eliminated spasms and abnormal brain activity. This exciting study, published in the Annals of Neurology, has the potential to transform the treatment landscape for babies with infantile spasms.

Texas Children's Hospital and Baylor College of Medicine study opens the door to improved diagnosis, prognosis and potential therapies for EBF3 and other neurodevelopmental disorders (Apr 20, 2022)
A team of researchers at the Jan and Dan Duncan Neurological Research Institute (Duncan NRI) at Texas Children's Hospital recently completed a study that provides an answer to a puzzling question: why some patients with Early B-Cell Factor 3 (EBF3) gene variants develop symptoms that are significantly more severe than those experienced by other individuals with the EBF3-related autism spectrum and neurodevelopmental disorders.

NCI-COG Pediatric MATCH study shows benefit of genetic screening in refractory tumors (Baylor College of Medicine - April 4, 2022)

Oleic acid, a key to activating the brain's 'fountain of youth' (March 25, 2022)
Many people dread experiencing the cognitive and mood declines that often accompany reaching an advanced age, including memory disorders such as Alzheimer's disease and mood conditions like depression. While searching for new ways to prevent or treat these and other related conditions, a team at Baylor College of Medicine and the Jan and Dan Duncan Neurological Research Institute (Duncan NRI) at Texas Children's Hospital identified a missing piece of the puzzle of how memory and mood are sustained and regulated in the brain.

Fruit fly study uncovers functional significance of gene mutations associated with autism (March 15, 2022)
About 1 in 44 children in the U.S. are diagnosed with autism spectrum disorder (ASD) by the age of 8, according to the 2018 Centers for Disease Control and Prevention surveillance. How a child's DNA contributes to the development of ASD has been more of a mystery. Recently, clinicians and scientists have looked more closely at new, or de novo, DNA changes, meaning they only are present in affected

individuals but not in the parents. Researchers have seen that these changes could be responsible for about 30% of ASD. However, which de novo variants play a role in causing ASD remains unknown. Researchers at Baylor College of Medicine and Texas Children's Hospital have taken a new approach to looking at de novo ASD genetic variants. In this multi-institutional study published in the journal *Cell Reports*, they applied sophisticated genetic strategies in laboratory fruit flies to determine the functional consequences of de novo variants identified in the Simons Simplex Collection (SSC), which includes approximately 2,600 families affected by autism spectrum disorder. Surprisingly, their work also allowed them to uncover a new form of rare disease due to a gene called GLRA2.

Reduced inhibition of hippocampal neurons impairs long-term memory recall in Rett syndrome (March 14, 2022)

An exciting study by researchers in the laboratory of Dr. Huda Zoghbi, distinguished service professor at Baylor College of Medicine and director of the Jan and Dan Duncan Neurological Research Institute (Duncan NRI) at Texas Children's Hospital, have discovered that diminished memory recall in Rett syndrome mice can be restored by activating specific inhibitory cells in the hippocampus. The findings are published in the current edition of Neuron.

RESEARCH FUNDING RECIPIENTS IN THE DEPARTMENT OF PEDIATRICS

The following 281 faculty served as principal investigators (or lead PI on multi-PI grants) in 2022:

PIs/CONTACT PIs	SECTION
ABID, FARIDA	NEUROLOGY
AGRUSA, JENNIFER	HEM-ONC
AHMED, MUBBASHEER	CRITICAL CARE
AHMED, NABIL	HEM-ONC
AHMED, SAEED	BIPAI-INTERNATIONAL
AKCAN ARIKAN, AYSE	CRITICAL CARE
ALGE, JOSEPH	RENAL
ALLEN, CARL	HEM-ONC
ANAGNOSTOU, AIKATERINI	ALLERGY&IMMUNOLOGY
ANDERSON, ANNE	NEUR NRI CAIN
ANTAR, ALLI	NUTRITION
ANVARI, SARA	ALLERGY&IMMUNOLOGY
BACHA, FIDA	NUTRITION
BACHIM, ANGELA	PUBLIC HEALTH
BACINO, CARLOS	RESEARCH RESOURCES OFFICE
BANC-HUSU, ANNA	GASTROENTEROLOGY
BARBIERI, EVELINE	HEM-ONC
BAXTER, PATRICIA	HEM-ONC
BECKNER, LISA	HOSPITAL MEDICINE
BERG, STACEY	HEM-ONC
BERNHARDT, MELANIE	HEM-ONC
BERNINI, JUAN	HEM-ONC
BERTUCH, ALISON	HEM-ONC
BIER, DENNIS	NUTRITION
BLANEY, SUSAN	HEM-ONC
BOMGAARS, LISA	HEM-ONC
BOOM, JULIE	ACADEMIC GENERAL
BOTTAZZI, MARIA	TROPICAL MEDICINE
BOUCHIER-HAYES, LISA	HEM-ONC
BRACKETT, JULIENNE	HEM-ONC
BROWN, AUSTIN	HEM-ONC
BURRIN, DOUGLAS	NUTRITION
BUTLER, ASHLEY	PSYCHOLOGY
CALAME, DANIEL	NEUROLOGY
CAPPUCCIO, GERARDA	NEUROLOGY
CARTER, BETH ANNE	RESEARCH RESOURCE OFFICE
CASTILLO, HEIDI	DEVELOPMENTAL PEDS
CHACKO, SHAJI	NUTRITION
CHAO, HSIAO-TUAN	NEUROLOGY
CHECCHIA, PAUL	CRITICAL CARE
CHEN, MIAO-HSUEH	NUTRITION

CHINN, IVAN	ALLERGY&IMMUNOLOGY
CHINTAGUMPALA, MURALI	HEM-ONC
CHIOU, ERIC	RESEARCH RESOURCE OFFICE
CHUA, ANNABELLE NANCY	RENAL
CHUMPITAZI, CORRIE	EMERGENCY MEDICINE
CLARK, EVA	TROPICAL MEDICINE
CLARK, GARY	NEUROLOGY
COHEN, CLAY	HEM-ONC
CONNEELY, SHANNON	HEM-ONC
CRUZ, ANDREA	EMERGENCY MEDICINE
CUMMINGS, ANGELA	PUBLIC HEALTH
DASGUPTA, ATREYI	HEM-ONC
DAVE, JAYNA	NUTRITION
DAVIES, JONATHAN	NEWBORN
DAVIS, CARLA	ALLERGY&IMMUNOLOGY
DAVIS, TERESA	NUTRITION
DESALVO, DANIEL	ENDO & METABOLISM
DESPOTOVIC, JENNY	HEM-ONC
DICKINSON, KIMBERLY	PULMONARY
DINARDO, ANDREW	GLOBAL HEALTH
DOHERTY, ERIN	HEM-ONC
DUTTA, ANKHI	INFECTIOUS DISEASES
DZAKOVICH, MICHAEL	NUTRITION
EL-MALLAWANY, NADER	HEM-ONC
EMRICK, LISA	NEUROLOGY
ERMIS, PETER	CARDIOLOGY
EUBANKS, JOSHUA	ALLERGY&IMMUNOLOGY
FASIPE, TITILOPE	HEM-ONC
FIELDER, ELAINE	HOUSE STAFF EDUCATION
FIOROTTO, MARTA	NUTRITION
FISHMAN, DOUGLAS	GASTROENTEROLOGY
FLANAGAN, JONATHAN	HEM-ONC
FLOREZ, MARCUS	INFECTIOUS DISEASE
FOSTER, JENNIFER	HEM-ONC
FUKUDA, MAKOTO	NUTRITION
GABER, MOSTAFA	HEM-ONC
GAO, XIA	NUTRITION
GEE, ADRIAN	HEM-ONC
GILL, JASON	NEUROLOGY
GILLISPIE-TAYLOR, MIRIAH	RHEUMATOLOGY
GINNARD, OLIVIA	ENDOCRINOLOGY
GIRONELLA, ANNA CARMELA SAGCAL	RESEARCH RESOURCE OFFICE
GLAZE, DANIEL	NEUROLOGY
GOODELL, MARGARET	HEM-ONC
GORDON, CATHERINE	ADMINISTRATION
GRAMATGES, MARIA	HEM-ONC

GREELEY, CHRISTOPHER	PUBLIC HEALTH
GUNTER, SARAH	TROPICAL MEDICINE
GUTHRIE, GREGORY	NUTRITION
HADSELL, DARRYL	NUTRITION
HAIR, AMY	NEWBORN
HAJJAR, JOUD	RESEARCH RESOURCE OFFICE
HAQ, HEATHER	RETROVIROLOGY
HARPAVAT, SANJIV	GASTROENTEROLOGY
HARRISON, GAIL	RESEARCH RESOURCE OFFICE
HECZEY, ANDRAS	HEM-ONC
HELLSTEN, MELODY	PALLIATIVE CARE
HERGENROEDER, ALBERT	ADOL. & SPORTS MED.
HERTEL, PAULA	GASTROENTEROLOGY
HESLOP, HELEN	HEM-ONC CELL & GENE
HIATT, PETER	PULMONARY
HILLIARD, MARISA	PSYCHOLOGY
HIRSCHI, KENDAL	NUTRITION
HIRSCHI, OWEN	HEM-ONC
HOLDER JR, JIMMY	NEUROLOGY
HOLLIER, JOHN	GASTROENTEROLOGY
HORTON, TERZAH	HEM-ONC
HOTEZ, PETER	TROPICAL MEDICINE
HOWARD, TAYLOR	CARDIOLOGY
HUGHES, SHERYL	NUTRITION
HULTEN, KRISTINA	INFECTIOUS DISEASE
HUNTER, R. BRANDON	CRITICAL CARE
HURWITZ, RICHARD	HEM-ONC
IACOBAS, IONELA	HEM-ONC
IHEKWEAZU, FAITH	GASTROENTEROLOGY
JOHN, TAMI	HEM-ONC
JONES, KATHRYN	TROPICAL MEDICINE
JOSEPH, SUJITH	HEM-ONC CELL & GENE
JUSTINO, HENRI	CARDIOLOGY
KAHALLEY, LISA	PSYCHOLOGY
KANG, TAMMY	PALLIATIVE CARE
KAPLAN, SHELDON	INFECTIOUS DISEASES
KARAM, LINA	RESEARCH RESOURCE OFFICE
KAY, ALEXANDER	GLOBAL HEALTH
KAZINY, BRENT	EMERGENCY MEDICINE
KELLERMAYER, RICHARD	GASTROENTEROLOGY
KIM, MARIA	BIPAI-INTERNATIONAL
KING, KATHERINE	INFECTIOUS DISEASE
KOCHEL, ROBIN	PSYCHOLOGY
KOTHARI, KATHRYN	EMERGENCY MEDICINE
KRANCE, ROBERT	HEM-ONC
LAM, FONG	CRITICAL CARE

LE, DUY	INFECTIOUS DISEASE
LEE, HYUN-KYOUNG	NEUR NRI
LEUNG, DANIEL	GASTROENTEROLOGY
LIU, ZHANDONG	NEUROLOGY
LJUNGBERG, CECILIA	NEUROLOGY
LOFTIS, LAURA	CRITICAL CARE
LOPEZ, JOB	TROPICAL MEDICINE
LOPEZ, KEILA	CARDIOLOGY
LOPEZ, KIMBERLY	PUBLIC HEALTH
LOTZE, TIMOTHY	RESEARCH RESOURCE OFFICE
LUBEGA, JOSEPH	HEM-ONC
LUPO, PHILIP	EPIDEMIOLOGY
LUTWAMA, FREDRICK	HEM-ONC INTERNATIONAL
LYONS-WARREN, ARIEL	NEUROLOGY
MALBARI, FATEMA	NEUROLOGY
MALETIC-SAVATIC, MIRJANA	NEUROLOGY
MAN, TSZ-KWONG	HEM-ONC
MANDALAKAS, ANNA	GLOBAL HEALTH
MCMANEMY, JULIE	EMERGENCY MEDICINE
MCNEIL, JONATHON	INFECTIOUS DISEASE
MEJIA, ROJELIO	TROPICAL MEDICINE
METELITSA, LEONID	HEM-ONC
MICHAEL, MINI	RESEARCH RESOURCE OFFICE
MILOH, TAMIR	GASTROENTEROLOGY
MISRA, SANGHAMITRA	ACADEMIC GENERAL
MIYAKE, CHRISTINA	CARDIOLOGY
MOHAMMAD, MAHMOUD	NUTRITION
MONTEALEGRE, JANE	HEM-ONC
MOORTHY, BHAGAVATULA	NEWBORN
MORAN, NANCY	NUTRITION
MOREIRA, AXEL	CRITICAL CARE
MORENO, JENETTE	NUTRITION
MORRIS, SHAINE	CARDIOLOGY
MOTIL, KATHLEEN	NUTRITION
MOULTON, ELIZABETH	INFECTIOUS DISEASE
MUNOZ-RIVAS, FLOR	RESEARCH RESOURCE OFFICE
MURRAY, KRISTY	TROPICAL MEDICINE
MUSAAD, SALMA	NUTRITION
MYSORE, KRUPA	GASTROENTEROLOGY
NAKATA, PAUL	NUTRITION
NAVAI, SHOBA	HEM-ONC CELL & GENE
NEBOR, DANITZA	HEM-ONC
NELLA, AIKATERINI	ENDOCRINOLOGY
NESS, TARA	GLOBAL HEALTH
O'CONNOR, TERESIA	NUTRITION
OMER, BILAL	HEM-ONC

ONUGHA, ELIZABETH	RENAL
ORBEA, MARISA	INFECTIOUS DISEASE
ORJUELA, ALVARO	RESEARCH RESOURCE OFFICE
OZUAH, NMAZUO	HEM-ONC INTERNATIONAL
PALAZZI, DEBRA	INFECTIOUS DISEASE
PARIHAR, ROBIN	HEM-ONC
PARNES, MERED	NEUROLOGY
PARSONS, DONALD	HEM-ONC
PARTHIBAN, ANITHA	CARDIOLOGY
PATI, DEBANANDA	HEM-ONC
PAUL, MAIMUNA	NEUROLOGY
PAUL, MARY	ALLERGY&IMMUNOLOGY
PEHLIVAN, DAVUT	NEUROLOGY
PENNY, DANIEL	CARDIOLOGY
PHAM, YEN	GASTROENTEROLOGY
PLON, SHARON	HEM-ONC
POLLET, JEROEN	TROPICAL MEDICINE
POMPEII, LISA	EPIDEMIOLOGY
POPLACK, DAVID	HEM-ONC
POTTER, SAMARA	HEM-ONC
POWERS, JACQUELYN	HEM-ONC
PREIDIS, GEOFFREY	GASTROENTEROLOGY
PURI, KRITI	CRITICAL CARE
QUACH, MICHAEL	NEUROLOGY
QURESHI, ATHAR	CARDIOLOGY
RABIN, KAREN	HEM-ONC
RAGHUBAR, KIMBERLY	PSYCHOLOGY
RAMIREZ, ANDREA	RHEUMATOLOGY
RAMSEY, MARGARET	NUTRITION
RAU, RACHEL	HEM-ONC
REDELL, MICHELE	HEM-ONC
REDNAM, SURYA	HEM-ONC
REDONDO, MARIA	ENDO & METABOLISM
REVANA, AMEE	RESEARCH RESOURCE OFFICE
RICHARD, MELISSA	HEM-ONC
RIOS, XAVIER	HEM-ONC
RONCA, SHANNON	TROPICAL MEDICINE
ROONEY, CLIONA	HEM-ONC
ROUCE, RAYNE	HEM-ONC
RUIZ, FADEL	PULMONARY
RUSIN, CRAIG	CARDIOLOGY
SAINI, ARUN	CRITICAL CARE
SANCHEZ VENTURA, LUISANNA	HEM-ONC
SANDWEISS, ALEXANDER	NEUROLOGY
SANYAHUMBI, AMY	CARDIOLOGY
SASA, GHADIR	HEM-ONC

SATTER, LISA FORBES	ALLERGY&IMMUNOLOGY
SCHAFER, ERIC	HEM-ONC
SCHEURER, MICHAEL	HEM-ONC
SCHRAW, JEREMY	HEM-ONC
SEXSON TEJTEL, SARA	CARDIOLOGY
SHAH, MANISH	EMERGENCY MEDICINE
SHAH, SHWETA	RESEARCH RESOURCES OFFICE
SHEKERDEMIAN, LARA	CRITICAL CARE
SHEN, LANLAN	NUTRITION
SHENOI, ROHIT	EMERGENCY MEDICINE
SHIVANNA, BINOY	NEWBORN
SHNEIDER, BENJAMIN	GASTROENTEROLOGY
SHULMAN, ROBERT	NUTRITION
SILVA CARMONA, MANUEL	PULMONARY
SIMON, KATHERINE	BIPAI
SISLEY, STEPHANIE	NUTRITION
SOLTERO NGWOLO, ERICA	NUTRITION
SPINNER, JOSEPH	CARDIOLOGY
SRIVATHS, POYYAPAKKAM	RENAL
STEVENS, ALEXANDRA	HEM-ONC
STUCKERT, AUSTIN	HEM-ONC
SU, ERIK	CRITICAL CARE
SULLY, KRYSTAL	NEUROLOGY
SUMAZIN, PAVEL	HEM-ONC
SUTER, BERNHARD	NEUROLOGY
SWANN, JOHN	NEUR NRI CAIN
TAKACS, DANIELLE	NEUROLOGY
TANG, JIANRONG	NEUROLOGY
TAYLOR, MICHAEL	HEM-ONC
TESSIER, MARY ELIZABETH	GASTROENTEROLOGY
THOMPSON, DEBORAH	NUTRITION
TONG, QIANG	NUTRITION
TOSUR, MUSTAFA	ENDOCRINOLOGY
TRAN, BRANDON	INFECTIOUS DISEASE
TU, LUCAS	NUTRITION
TUBMAN, VENEE	HEMATOLOGY
TURAGA, DIWAKAR	CRITICAL CARE
VALDES, SANTIAGO	CARDIOLOGY
VAN HORNE, BETHANIE	PUBLIC HEALTH
VENKATRAMANI, RAJKUMAR	HEM-ONC
VOGEL, TIPHANIE	RHEUMATOLOGY
WANG, CHUNMEI	NUTRITION
WATERLAND, ROBERT	NUTRITION
WEATHERHEAD, JILL	TROPICAL MEDICINE
WEIGAND, JUSTIN	CARDIOLOGY
WENDERFER, SCOTT	RESEARCH RESOURCE OFFICE

WHITTLE, SARAH	HEM-ONC
WEIMANN, CONSTANCE	ADOLESCENT MEDICINE
WILLIAMS, LAUREL	RESEARCH RESOURCE OFFICE
WOOD, ALEXIS	NUTRITION
WOOTON-KEE, CLAVIA	NUTRITION
WU, QI	NUTRITION
XU, YONG	NUTRITION
YALAMANCHILI, HARI	ENDOCRINOLOGY
YAN, HANNAH	INFECTIOUS DISEASE
YANG, JIANHUA	HEM-ONC
YEE, ANDREW	HEM-ONC
YI, JOANNA	HEM-ONC
YUSTEIN, JASON	HEM-ONC
ZACHARIAH, JUSTIN	CARDIOLOGY
ZHU, YI	NUTRITION
ZOBECK, MARK	HEM-ONC
ZOGHBI, HUDA	NEUROLOGY