

# CENTER TIMES

OCTOBER/NOVEMBER 2022

A PUBLICATION OF THE UNIVERSITY OF TEXAS SOUTHWESTERN MEDICAL CENTER

CAMPUS EDITION

## UT Southwestern welcomes first patients to new RedBird location in Dallas County

By Carol Marie Cropper

UT Southwestern Medical Center at RedBird opened its doors in late August to bring UTSW's medical care to patients in southwestern Dallas County. The facility is the newest regional outpatient medical center operated by UTSW.

It is part of Reimagine RedBird, the comprehensive redevelopment at the site of the former RedBird Mall. Located just off U.S. Highway 67 south of downtown Dallas, it offers a more convenient location for those who live or work in the Oak Cliff, DeSoto, Duncanville, Cedar Hill, Lancaster, and surrounding areas who want access to UT Southwestern physicians and its technology without driving to the main campus, according to John Warner, M.D., Executive Vice President for Health System Affairs and CEO of the UT Southwestern Health System.

"Southern Dallas residents have had a shortage of health care treatment options nearby, and UT Southwestern is proud to help fill that void," Dr. Warner said. "UT Southwestern is expanding our service area to this new region and offering patients there the highest level of care, which is always our goal for the patients we serve."

In July, *U.S. News & World Report* ranked UT Southwestern the No. 1 hospital in Dallas-Fort Worth for the sixth consecutive year. Several of the specialties that will be available at RedBird – such as cardiology, cancer, and neurology – are ranked near the top nationally by *U.S. News*.



The two-story, 150,000-square-foot center is UT Southwestern's sixth regional outpatient medical center and features an airy interior with a glass-enclosed open-air atrium planted with small trees and ferns.

Humza Siddiqi, M.D., a Clinical Assistant Professor of Family and Community Medicine, described opening day as "awesome" and said the facility was "beautiful ... It's very spacious. Everything has state-of-the-art equipment."

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## UTSW sleep researcher's two-continent investigations into the mysteries of sleep win Breakthrough Prize

*Masashi Yanagisawa receives award for discovering the role of the protein orexin in narcolepsy*



Masashi Yanagisawa, M.D., Ph.D.  
Photo courtesy of the University of Tsukuba in Japan.

By Deborah Wormser

UT Southwestern sleep researcher Masashi Yanagisawa, M.D., Ph.D., has won the Breakthrough Prize in Life Sciences for his discovery of the cause of narcolepsy in work that has led to new treatments for this condition that results in dangerous daytime sleepiness.

Dr. Yanagisawa was honored along with Emmanuel Mignot, M.D., Ph.D., of Stanford University, who made the same discovery independently. The five \$3 million Breakthrough Prizes announced for 2023 are the world's most prestigious science awards. Dr. Yanagisawa is now a part-time Professor of Molecular Genetics at UTSW, where he worked as a full-time faculty member for nearly a quarter century and conducted the prize-winning work. He also is a

Please see BREAKTHROUGH on page 11

## Nesbitt selected as inaugural Vice President and Chief Diversity, Equity, and Inclusion Officer



Shawna Nesbitt, M.D.

From Staff Reports

After an extensive national search, UT Southwestern has selected Shawna Nesbitt, M.D., a national advocate for inclusiveness, as its inaugural Vice President and Chief Diversity, Equity, and Inclusion Officer to lead strategic expansion and coordination of diversity and equity initiatives across the University.

In her newly created role, Dr. Nesbitt will lead existing diversity programs, work with the UTSW community to identify and remove

Please see NESBITT on page 8

## Children's Health funds pediatric unit at state psychiatric hospital

From Staff Reports

Children's Health, the leading pediatric health care system in North Texas, has donated funds to the Texas Health and Human Services Commission (HHSC) to support the design and planning for a 100-bed inpatient unit for children and adolescents in the new state psychiatric hospital.

Last year, the Texas Legislature appropriated more than \$282 million to plan and construct a state psychiatric hospital in North Texas. As part of the interagency agreement with the HHSC, UT Southwestern is responsible for planning, designing, building, and operating the new facility.

Please see PEDIATRIC UNIT on page 5

## UTSW designated one of 12 Nutrition Obesity Research Centers in the United States



Phlipp Scherer, Ph.D., Director of the Touchstone Diabetes Center at UTSW, speaks at a President's Lecture in 2017 on the links between fat cells and disease.

From Staff Reports

UT Southwestern has been selected as one of 12 NIH Nutrition Obesity Research Centers in the nation – and the first in Texas – to investigate the causes of and prevention and treatment options for obesity, a chronic disease affecting more than 40% of Americans with medical costs nearing \$175 billion.

More than 150 UTSW scientists in fields ranging from metabolism to genetics will be part of the elite interdisciplinary research center funded by the National Institutes of Health. UT Southwestern will receive \$6.15 million in grant funding over five years from the NIH National

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UT Southwestern employees demonstrate their creativity with entries for 21st annual On My Own Time art show.

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# NCI renews \$11.5 million program of excellence award in kidney cancer

From Staff Reports

The National Cancer Institute (NCI) has renewed UT Southwestern's Harold C. Simmons Comprehensive Cancer Center Kidney Cancer Program (KCP) Specialized Program of Research Excellence (SPORE) award. First awarded in 2016, the KCP SPORE is focused on translating discoveries at UT Southwestern into advances in patient care.

Kidney cancer is the eighth most common cancer and is particularly prevalent in Texas. Approximately 2% of men and 1% of women are diagnosed with kidney cancer in the U.S. during their lifetimes.

With the purpose of accelerating the translation of discoveries to the clinic, the NCI SPORE program funds approximately 50 programs of research excellence across cancer types. There are two SPOREs in kidney cancer nationwide: one at UT Southwestern and the second at the Dana-Farber/Harvard Cancer Center.

Led by James Brugarolas, M.D., Ph.D., Director of the UT Southwestern Kidney Cancer Program, and Payal Kapur, M.D., Group Leader of UT Southwestern Genitourinary Pathology and KCP Co-Leader of Pathology, the KCP SPORE encompasses three main projects and was ranked by NCI in the uppermost tier, in the "exceptional" category.

"These projects delve into the most promising therapeutic areas – immunotherapy, targeted therapy, and metabolism," said Dr. Brugarolas, Professor of Internal Medicine "Together, they speak to the breadth of kidney cancer research and expertise at UT Southwestern."



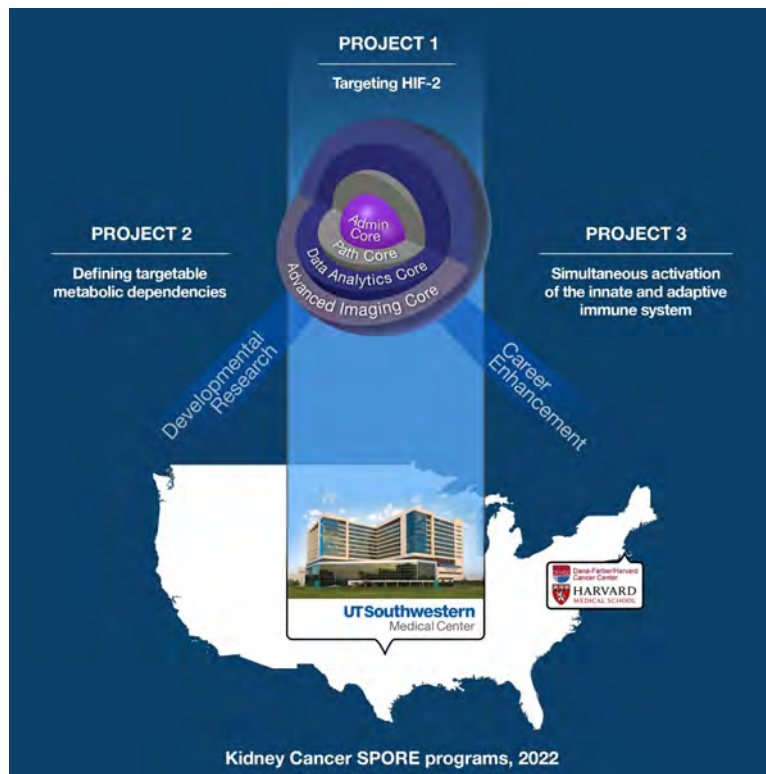
James Brugarolas, M.D., Ph.D.

"Discoveries by the SPORE team have been paradigm-setting and practice-changing," said Carlos L. Arteaga, M.D., Director of the Simmons Cancer Center. "With this renewal, some of the most urgent questions in kidney cancer will be addressed."

## Project 1: Targeting HIF-2

Project 1, led by Dr. Brugarolas, builds upon the success of the previous SPORE award, which culminated in the development and eventual approval of belzutifan. Belzutifan is a first-in-class drug that inactivates HIF-2 (hypoxia-inducible factor 2-alpha), arguably the most important driver of kidney cancer. HIF-2 was discovered at UT Southwestern, where a vulnerability in its structure was identified and exploited to develop a drug. Belzutifan was approved by the Food and Drug Administration in 2021, providing for the first time a medication for patients with familial kidney cancer.

Project 1 investigators are collaborating with Arrowhead Pharmaceuticals in the development of an RNA-based HIF-2 inhibitor. Accompanying the drug is a novel radiology test to monitor HIF-2 in patients, which is being developed in collaboration with Xiankai Sun, Ph.D., Director of



the Cyclotron and Radiochemistry Program and the project Co-Leader.

## Project 2: Defining Metabolic Dependencies

Also a continuation of the previous SPORE, Project 2 builds upon the Metabolism Lab, an innovative platform to characterize how kidney tumors are nourished, identify nutrient dependencies, and develop metabolism-targeting drugs. The approach builds upon an unprecedented characterization of kidney cancer metabolism using labeled nutrients infused in patients, and the development of laboratory models, including possibly

the largest patient tumor transplant program into mice. The project is led by Ralph DeBerardinis, M.D., Ph.D., KCP Co-Leader of Metabolism, and Kevin Courtney, M.D., Ph.D., Associate Professor of Internal Medicine.

## Project 3: Maximizing Anti-Tumor Activity

Project 3 builds upon Breakthrough Prize discoveries by Zhijian "James" Chen, Ph.D., Professor of Molecular Biology, leading to the development of a new immunotherapy called IMSA101 now in clinical trials. IMSA101 activates STING, a master regulator of the so-called "innate"

arm of the immune system. IMSA101 will be combined with radiation and an immune checkpoint inhibitor to simultaneously activate the two arms of the immune system. Leading this project are Raquibul Hannan, M.D., Ph.D., Chief of Genitourinary Radiation Oncology Service and Professor of Radiation Oncology, Immunology, and Urology; and Hans Hammers, M.D., Ph.D., Professor of Internal Medicine; along with Dr. Chen.

Dr. Arteaga holds The Lisa K. Simmons Distinguished Chair in Comprehensive Oncology.

Dr. Brugarolas holds the Sherry Wigley Crow Cancer Research Endowed Chair in Honor of Robert Lewis Kirby, M.D.

Dr. Chen holds the George L. MacGregor Distinguished Chair in Biomedical Science.

Dr. DeBerardinis holds the Joel B. Steinberg, M.D. Distinguished Chair in Pediatrics.

Dr. Hammers is a Eugene P. Frenkel, M.D. Scholar in Clinical Medicine.

Dr. Kapur holds the Jan and Bob Pickens Distinguished Professorship in Medical Science, in Memory of Jerry Knight Rymer and Annette Brannon Rymer, and Mr. and Mrs. W. L. Pickens.

Dr. Sun holds the Dr. Jack Krohmer Professorship in Radiation Physics.

**More online:** Read the full story in the newsroom at [utsouthwestern.edu/newsroom](https://utsouthwestern.edu/newsroom).

## Study links gene mutation to learning deficits in "Clueless" mice

By Erica Boehm

A single mutation in a gene, *Kcnc3*, which encodes a potassium channel in neurons, causes learning deficits in mice, UT Southwestern researchers report in *Proceedings of the National Academy of Sciences (PNAS)*. The novel mutation decreases the activity of neurons in the hippocampus, the area of the brain important for learning and memory, and highlights a new role for potassium channels.

"Learning and memory are very complex at the genetic level. Unbiased searches for genes underlying learning and memory have not been successfully conducted in mice before," said



Joseph Takahashi, Ph.D.

Joseph Takahashi, Ph.D., Chair of Neuroscience and a Howard Hughes Medical Institute Investigator.

The discovery of the *Kcnc3* mutation came out of an extraordinary effort by Dr. Takahashi and colleagues to conduct a large-scale mutagenesis screen in mice. Using a highly potent mutagen called ENU, the researchers induced random mutations in the mouse genome. The progeny of ENU-treated mice were then screened for neural and behavioral traits that could be mapped to specific genes to identify the causal mutation. This approach to unbiased gene discovery is called forward genetics.

From the mutagenesis screen, Dr. Takahashi and his team isolated a mutant mouse with spatial learning defects, which they named *Clueless*.

In fear-conditioning tests, the mutants exhibited reduced freezing (a natural fear response in mice) as well as defects in long-term and short-term memory. The defects in *Clueless* mice mapped to a mutation in the *Kcnc3* gene, which encodes a subunit of a special type of potassium channel called a voltage-gated potassium channel.

This is the first study to implicate *Kcnc3* in learning, explained Dr. Takahashi, an investigator in UTSW's Peter O'Donnell Jr. Brain Institute. The full *Kcnc3* knockout mouse model shows only mild gait issues with no defects in learning and memory, which could be due to developmental compensation or functional

redundancy with other voltage-gated potassium channel subunits. Future research will help to answer some of these outstanding questions.

Dr. Takahashi said the findings underscore the power of applying forward genetics to gene discovery and could lead to potential new targets for therapy in learning and memory as well as other disease areas.

Dr. Takahashi holds the Loyd B. Sands Distinguished Chair in Neuroscience.

## Geneticists identify new mechanism for nonalcoholic fatty liver disease

From Staff Reports

Using a genetic screening platform developed by a UT Southwestern Nobel Laureate, scientists with the Center for the Genetics of Host Defense have identified genetic mutations that contribute to nonalcoholic fatty liver disease (NAFLD), providing a potential future target for therapeutic interventions.

While obesity and diabetes are well-known risk factors for fatty liver disease, the researchers identified a new cause of the disease absent obesity – a reduction in the level of Predicted gene 4951 (*Gm4951*), which in turn leads to NAFLD.

An estimated one-quarter of adults in the United States have NAFLD, an excess of fat in liver cells that can cause chronic inflammation and liver damage, increasing the risk of liver cancer, liver failure, and need for transplant. Since there are no approved treatments for the disease, new discoveries are critical.

"We identified a rare nonobese mouse model of NAFLD caused by deficiency of the protein GM4951. This study lays the groundwork for the future development of approaches to activate the human *Gm4951* homolog to combat NAFLD," said lead author Zhao Zhang, Ph.D., Assistant Professor in the Center and in the Division of Endocrinology in Internal Medicine. The findings appear in *Nature Communications*.

The Center is directed by Bruce Beutler, M.D., who received the 2011 Nobel Prize in Physiology or Medicine for discovering a family of receptors that allows mammals to sense infections when they occur, triggering an inflammatory response.



Bruce Beutler, M.D.



Zhao Zhang, Ph.D.

Dr. Beutler also developed the largest mouse mutagenesis program in the world, along with a forward genetic screen platform that allows researchers in the Center to screen for more than half

of all genes in the mouse genome. Along with a means of instantly identifying mutations responsible for both quantitative and qualitative phenotypes, the program allows for rapid discovery of many new components of the immune system.

Among their findings, the researchers found that loss of GM4951 causes NAFLD without obesity, that GM4951 promotes lipid oxidation to prevent lipid from accumulation in the liver, and that GM4951 functions as a GTPase enzyme

to translocate the NAFLD-associated protein HSD17B13 to lipid droplets. This study defined the role of GM4951 as a GTPase involved in lipid oxidation, said Dr. Zhang. The GM4951-deficient mice developed nonalcoholic fatty liver disease on a high-fat diet with no changes in body weight or glucose metabolism, the researchers noted.

Dr. Zhang's lab is investigating more than 20 genes in which mutations affect liver triglyceride with no change in body weight to identify new mechanisms of NAFLD.

Dr. Beutler, a Regental Professor, holds the Raymond and Ellen Willie Distinguished Chair in Cancer Research, in Honor of Laverne and Raymond Willie, Sr.

**More online:** Read the full story in the newsroom at [utsouthwestern.edu/newsroom](https://utsouthwestern.edu/newsroom).

CENTERTIMES

Center Times is published by the Office of Communications, Marketing, and Public Affairs at UT Southwestern Medical Center. UT Southwestern is an Affirmative Action/Equal Opportunity Employer. Women, minorities, veterans, and individuals with disabilities are encouraged to apply.

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# Machine learning used to determine structure of protein complex

*Research holds promise for development of drugs to slow antibiotic resistance*

By Catherine Gara

With antibiotic-resistant bacteria on the rise, scientists have been searching for ways to shut down the Type IV secretion system (T4SS), a protein complex on the outer envelope of bacterial cells that helps them to exchange DNA with neighboring bacteria and resist antibiotics.

Now a collaboration between UT Southwestern computational biologist Qian Cong, Ph.D., and molecular biologists at the University of London has elucidated the structure of the T4SS complex, providing a blueprint that could help researchers design drugs that slow development of antibiotic resistance. Their findings were published in *Nature*.

"For the first time, we determined the 3D structure of the entire T4SS complex," said Dr. Cong, Assistant Professor of Biophysics and in the Eugene McDermott Center for Human Growth and Development.

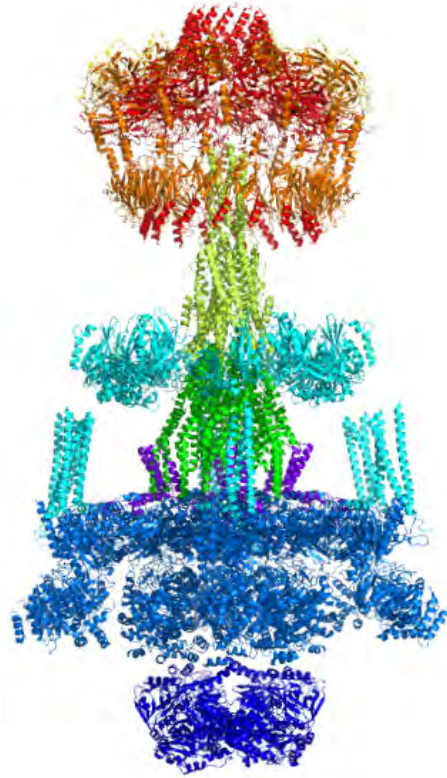
The team in London was led by Gabriel Waksman, Ph.D., whose lab has been working for more than two decades to understand T4SS, especially



Qian Cong, Ph.D.

how it forms a thin, hollow structure called a pilus, which connects to nearby bacteria to share genes. His team used cryo-electron microscopy (cryo-EM) – a process that freezes proteins and uses beams of electrons to obtain high-resolution microscopic images – to elucidate the structure of T4SS. This was no small feat, since the T4SS complex is larger than 99.6% of all those included in the worldwide library of protein structures.

Dr. Cong then applied her background in statistics and machine learning to analyze T4SS protein



The 3D structure of T4SS

sequences from several bacteria to generate structural predictions, comparing them to the cryo-EM data. Her computational analysis supported the cryo-EM data and suggested a hypothesis about the function of T4SS. While it was already known that T4SS is involved in pilus assembly, she predicted how it occurs. With that prediction in hand, Dr. Waksman's team was able to make specific mutations within the relevant pieces of the complex and validate Dr. Cong's hypothesis in live bacteria.

"In addition to the contribution we have made toward the development of drugs to slow the spread of antibiotic resistance genes, this study showcases the power of modern computational methods to validate experimental results and suggest functional insights beyond available experimental data," said Dr. Cong.

*Dr. Cong is a Southwestern Medical Foundation Scholar in Biomedical Research.*

The following faculty promotions took effect Sept. 1 at UT Southwestern. (Where more than one department is listed, the first is the primary appointment.)

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**CARDIOVASCULAR AND THORACIC SURGERY**  
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# Q&A with Jeremy Falke, new VP and Chief Human Resources Officer

By Carol Marie Cropper

In August, Jeremy Falke, M.B.A., a senior human resources executive with more than two decades of experience in human resources, financial, and business operations for companies in dozens of locations across the U.S., joined UT Southwestern as Vice President and Chief Human Resources Officer.

Mr. Falke oversees human resources operations, talent acquisition, employee relations, organizational development and training, and payroll, reporting to Holly G. Crawford, M.B.A., Executive Vice President for Business Affairs. His responsibilities include oversight of all human resource programs, developing strategic initiatives, and enacting short- and long-range planning affecting staff across the institution.

He comes to UT Southwestern from Sonida Senior Living, a Dallas-based company that operates 75 facilities in 19 states. Prior to that, he worked at Tenet Healthcare for six years, rising from Senior Director of Strategic Operations, Analytics, and

Reporting, to Vice President of Talent, Culture, and Performance Systems. Mr. Falke also spent nearly a decade as the Chief Human Resources Officer at Creighton University Medical Center in Omaha, Nebraska.

He recently answered questions for *Center Times* about his goals at UT Southwestern and his philosophy on human resources practices.

## What is your philosophy and approach to human resources management?

The human resources function is all about supporting the people of the organization. I believe that great HR service and support help people do great work. That's how I think human resources makes the biggest impact, ensuring that as much as we can and as often as we can, we're interacting and engaging to help the people of UT Southwestern do great work.

We want to approach everything with a desire to "collaborate radically" with our partners and provide them with great service. Sometimes HR can be seen as simply good at saying "no." So I believe it's really incumbent on us to always try hard to get to "yes"



Jeremy Falke, M.B.A.

helping solve business situations or work that needs to be done through innovative ideas and true partnership.

Radical collaboration and service is a mindset that ensures we will always approach each task with a goal to find a solution within the policies, processes, or even laws relative to the situation. I believe this focused approach in always trying to find the best potential solution in each situation builds true partnership and ongoing trust with the leaders and our colleagues across the organization.

## What changes and trends have you seen in HR?

In the short term, based on the current macro landscape, we will continue to battle for the top talent in ways never seen before. In the longer term, we will need to solve for the continued mass exodus of employees in the baby boomer generation. The impact of this largest generation in U.S. history reaching peak retirement has only begun to be experienced – and thoughtful planning, reinvented work, and innovative approaches to productivity will play a big part in winning overall in the next five to 10 years.

We have employees who want different things today. Technology and the life we're living have something to do with it. The employee has so many options and desires for true flexibility and customized needs from their employer today.

I believe that both the pandemic and the emergence of the "gig" economy have grown a desire for individual flexibility in employees that is both challenging for the current workplace and also a huge opportu-

nity for organizations that continue to actively listen to their employees and then innovate to find the space where both employee and employer are engaged, productive, and happy.

## What appealed to you about UT Southwestern?

First, UT Southwestern is a world-renowned and highly distinguished organization, so to have the opportunity to serve here was immediately interesting to me. I truly enjoy working in an academic setting where so many diverse and brilliant minds come together, focused on such a powerful mission to serve others.

One of the things that I love the most about the academic environment is the fact that you have great diversity. You have people coming from all over the world, focused on a singular and really incredible mission – to teach and research and care for others. I love being a part of that.

UT Southwestern is an incredibly special place, and I'm very proud to say I'm now a part of that community.

UT Southwestern  
**Town Hall**  
State of the Campus Address  
Hosted by  
**President Daniel K. Podolsky, M.D.**  
Virtual Event

## President's State of the Campus Address

On Sept. 13, UT Southwestern President Daniel K. Podolsky, M.D., held a State of the Campus virtual Town Hall to discuss priorities the institution faces over the next fiscal year and achievements in FY22.

View the recorded event (VPN required) at:  
[utsouthwestern.edu/about-us/office-of-the-president/messages/](https://utsouthwestern.edu/about-us/office-of-the-president/messages/)



## Center Continued from page 1

Institute of Diabetes and Digestive and Kidney Diseases for the effort. Among the Center's faculty will be three Nobel Laureates, 11 members of the National Academy of Sciences, seven members of the National Academy of Medicine, and seven Howard Hughes Medical Institute (HHMI) Investigators.

"The newly established UT Southwestern Nutrition Obesity Research Center provides an important mechanism to accelerate translation of basic scientific discoveries into clinically relevant interventions to improve public health," said Jay Horton, M.D., Director of both the new Center and the Center for Human Nutrition.

Over the last 20 years, the prevalence of U.S. obesity has risen from 30% to 42%, with the incidence of severe obesity nearly doubling to 9.2%, according to the National Health and Nutrition Examination Survey from the Centers for Disease Control and Prevention (CDC). Obesity takes a greater toll on people of color – reported in nearly 50% of Non-Hispanic Black adults, more than 45% of Hispanic adults, 41% of non-Hispanic white adults, and 16% of non-Hispanic Asian adults. Medical costs for obese adults are at least \$1,800 higher annually than for those with healthy weight.

Obesity-related conditions include heart disease, stroke, Type 2 diabetes, nonalcoholic fatty liver disease, and several types of cancer, all among the leading causes of preventable, premature death, according to the CDC.

"Ultimately, our goal is to enhance the innovative nutrition and obesity research these investigators are currently engaged in and facilitate the translation of basic

scientific discoveries into new therapeutic strategies for the prevention and treatment of obesity and the metabolic syndrome," said Philipp Scherer, Ph.D., Director of the Touchstone Diabetes Center and Associate Director of the new Center.

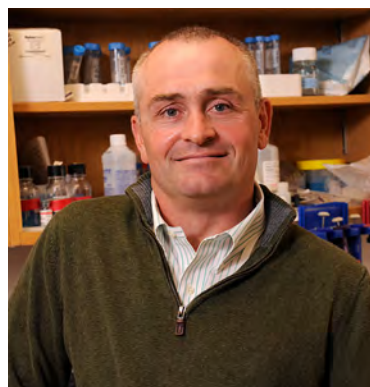
The Obesity Center's research base consists of 158 investigators from 27 different departments, along with members of UT Southwestern's Peter O'Donnell Jr. Brain Institute, Harold C. Simmons Comprehensive Cancer Center, Center for Human Nutrition, Peter O'Donnell Jr. School of Public Health, and UT Southwestern School of Health Professions. Collectively, these researchers have 230 nutrition- and obesity-related research grants and research support totaling more than \$74 million a year, including funding from the NIH, Department of Defense, HHMI, American Diabetes Association, National Cancer Institute, and the Cancer Prevention and Research Institute of Texas.

UT Southwestern has continued to strengthen its expertise in the field with assistance from the state, which provided \$8 million per year for obesity-related research from 2009 to 2011 and \$6.5 million in subsequent years (2011-19).

"We have assembled a highly interactive and collaborative interdisciplinary team of investigators with a goal of defining the behavioral, metabolic, genetic, and molecular mechanisms contributing to obesity and obesity-induced disease," said Dr. Horton, who is a Professor of Internal Medicine in the Division of Digestive and Liver Diseases, with a secondary appointment in Molecular Genetics in addition to his role as Center Director.



Jay Horton, M.D., will lead the new Nutrition Obesity Research Center.



Joel Elmquist, D.V.M., Ph.D.



Philipp Scherer, Ph.D.

To facilitate interdisciplinary research and the exchange of ideas, the new Center has created four thematically related teams: Central Regulation of Energy Metabolism; Adipocyte Biology and Energy Metabolism; Obesity-Induced Peripheral Organ Disease; and Nutrition, Obesity, and Cancer.

A Pilot and Feasibility Program, directed by Joel Elmquist, D.V.M., Ph.D., and Associate Director of the new Center, and Joyce Repa, Ph.D.,

Associate Professor of Physiology and Internal Medicine, will support early-stage projects of four new investigators per year. An Enrichment Program, led by Jeffrey Zigman, M.D., Ph.D., Professor of Internal Medicine and a Principal Investigator in the Center for Hypothalamic Research, will provide enhanced educational opportunities for graduate students, postdoctoral fellows, and faculty interested in performing basic and translational research related

to nutrition, obesity, and obesity-related diseases.

Four cores and a clinical element also have been established under the new Center: Animal Phenotyping/Metabolism Core; Lipid Mass Spectrometry Core; Quantitative Metabolism and Imaging Core; and Genetics, Single Cell Sequencing and RNA Sequencing Core.



*Dr. Elmquist holds the Maclin Family Distinguished Professorship in Medical Science, in Honor of Dr. Roy A. Brinkley; and the Carl H. Westcott Distinguished Chair in Medical Research.*

*Dr. Horton holds the Center for Human Nutrition Director's Endowed Chair, the Scott Grundy Director's Chair, The Dr. Robert C. and Veronica Atkins Chair in Obesity & Diabetes Research, and the Distinguished University Chair in Human Nutrition.*

*Dr. Scherer holds the Gifford O. Touchstone, Jr. and Randolph G. Touchstone Distinguished Chair in Diabetes Research, and the Touchstone/West Distinguished Chair in Diabetes Research.*

*Dr. Zigman holds the Kent and Jodi Foster Distinguished Chair in Endocrinology, in Honor of Daniel Foster, M.D., The Diana and Richard C. Strauss Professorship in Biomedical Research, and the Mr. and Mrs. Bruce G. Brookshire Professorship in Medicine.*

**More online:** Read the full story in the newsroom at [utsouthwestern.edu/newsroom](https://utsouthwestern.edu/newsroom).

# Liver disease specialist Bezerra named new Chair of Pediatrics

By Kristen Holland Shear

Jorge A. Bezerra, M.D., a nationally recognized leader in pediatric hepatology, has been named Chair of the Department of Pediatrics at UT Southwestern and Pediatrician-in-Chief at Children's Medical Center Dallas.

A pediatric gastroenterologist, Dr. Bezerra joined UT Southwestern on Oct. 1 from Cincinnati Children's Hospital Medical Center (CCHMC), where he most recently served as Professor of Pediatrics, Director of the Division of Pediatric Gastroenterology, Hepatology, and Nutrition, and Medical Director of the Pediatric Liver Care Center. He also served as Director of the Cincinnati Digestive Health Center, a Research Core Center funded by the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) to advance digestive disease research at the University of Cincinnati College of Medicine.

Dr. Bezerra said he is greatly honored and humbled to join UT Southwestern and Children's

Health as the organizations align their strategic priorities via the Joint Pediatric Enterprise (JPE) to meet the rapidly growing needs of the North Texas pediatric community. Formed in 2019, the JPE builds upon a 60-year affiliation between the two institutions and is structured to facilitate shared decision-making and operational alignment.

"I'm excited and energized to transition to your culture of excellence, to learn about your aspirations, and together pursue the tripartite mission – to educate, discover, and heal," said Dr. Bezerra, Professor of Pediatrics. "I look forward to collaborating with each of our faculty members, investigators, clinical team members, trainees, and staff to pursue truly aspirational goals, to pursue transformative projects, and to use science to improve child health."

W. P. Andrew Lee, M.D., Executive Vice President for Academic Affairs, Provost, and Dean of the Medical School said, "Dr. Bezerra's expertise as a clinician and researcher and



Jorge A. Bezerra, M.D.

his proven leadership will further elevate UT Southwestern and Children's Health as a national hub for excellence in pediatric discovery and clinical care."

After earning his medical degree from the Federal University of Rio Grande do Norte School of Medicine in Brazil, Dr. Bezerra completed his pediatrics residency at the University

of Arizona Health Sciences Center. He subsequently completed clinical and research fellowships in pediatric gastroenterology, hepatology, and nutrition at CCHMC.

Throughout his 28-year career at Cincinnati Children's, Dr. Bezerra maintained a busy clinical practice and well-funded research lab focused on preclinical and translational research on biliary atresia, the most common cause of chronic liver disease in children. More than 100 scientific journal articles bear his name.

His scientific achievements include the discovery of a key immunologic signature in the liver of children with biliary atresia. Using predictive analytics, the Bezerra lab identified matrix metalloproteinase-7 (MMP-7) as a diagnostic biomarker of biliary atresia. The discovery led to a test now transitioning to clinical use to facilitate diagnostic algorithms and shorten the time to surgical treatment.

Dr. Bezerra is an elected member of the American Society for Clinical Investigation and the Association

of American Physicians. He is also a Fellow of the American Gastroenterological Association and served as the 71st President of the American Association for the Study of Liver Diseases in 2020. He currently serves as Chairman of the Board of Scientific Counselors of the Intramural Research Program of the NIDDK.

Dr. Bezerra succeeds Stephen X. Skapek, M.D., who has served as Interim Chair of Pediatrics since September 2020 and is Chief of the Division of Pediatric Hematology and Oncology and Professor of Pediatrics at the Harold C. Simmons Comprehensive Cancer Center.

Dr. Bezerra holds the Robert L. Moore Chair in Pediatrics.

Dr. Lee holds the Atticus James Gill, M.D. Chair in Medical Science.

Dr. Skapek holds the Distinguished Chair in Pediatric Oncology Research.

# UTSW team leads change to safer respiratory support for infants

Reduced use of mechanical ventilation in favor of less invasive CPAP approach decreases risks

By Jan Jarvis

A UT Southwestern team of neonatologists, nurses, and respiratory therapists is sharing its strategy for reducing the use of mechanical ventilation in preterm infants with health care professionals nationwide.

During a workshop at the Pediatric Academic Societies meeting in April, the team taught more than 60 health care professionals ways to optimize noninvasive respiratory support for newborns. The workshop gave participants a hands-on experience that they can take back to their medical centers, said Venkatakrishna Kakkilaya, M.D., Associate Professor of Pediatrics in the Division of Neonatal-Perinatal Medicine. The approach was detailed in 2019 and 2021 studies in *Pediatrics* that Dr. Kakkilaya authored.

"We hope that this strategy will be adopted across the country," said Dr. Kakkilaya, also a neonatologist at Children's Health. "Our reports showing improved outcomes after decreasing exposure to mechanical ventilation are now being noticed around the world. This is a moment of pride for our Division, UT Southwestern, and Parkland Memorial Hospital."

UTSW was selected to present the workshop at the largest gathering of pediatricians worldwide. The UT Southwestern team collaborated with Cohen Children's Medical Center in New York to provide participants with the tools needed to implement the strategy and stop using mechanical ventilation on newborns.

Premature babies who are born with immature lungs and are surfactant-deficient can develop respiratory distress syndrome, requiring mechanical ventilation and surfactant therapy. Mechanical ventilation involves attaching a breathing tube in the windpipe of a premature baby. Despite the lifesaving benefits of mechanical ventilation, premature infants are vulnerable to its harmful effects. Even brief exposure to mechanical ventilation, Dr. Kakkilaya said, can



Sharmistha Saha, M.D., a clinical fellow in Neonatal-Perinatal Medicine at UT Southwestern (right), demonstrates less invasive surfactant administration (LISA) to health care professionals during a workshop at the Pediatric Academic Societies meeting in April.

lead to bronchopulmonary dysplasia, a form of chronic lung disease.

Instead, with early use of continuous positive airway pressure, or CPAP, the risks from mechanical ventilation decrease, he said. Nationwide,

80% of premature infants receive mechanical ventilation during their neonatal intensive care unit (NICU) stay, Dr. Kakkilaya said.

"We can reduce the need for mechanical ventilation at birth and in the NICU," he said. "If

other centers start following our strategy, it could have a huge impact across the country. Our 2019 study showed that effective face-mask breaths can help decrease the need for mechanical ventilation at birth and instead transition to CPAP, which is provided via nasal prongs."

In 2015, respiratory support for nearly 60% of premature babies involved mechanical ventilation in the delivery room. "Since we implemented steps to improve a noninvasive respiratory support strategy in the delivery room, the need for mechanical ventilation dropped to less than 30%," Dr. Kakkilaya said.

Surfactant therapy is a well-established lifesaving treatment for preterm infants with respiratory distress syndrome. Traditionally, surfactant was administered via the breathing tube in conjunction with mechanical ventilation. Over the last decade, use of a less invasive surfactant administration method (LISA) involving a thin catheter decreased the need for mechanical ventilation and improved outcomes of infants who were admitted to a NICU on CPAP.

The LISA method is widely adopted in NICUs in Europe. A survey co-authored by Dr. Kakkilaya in the *Journal of Perinatology* showed that U.S. neonatologists are mainly using breathing tubes for surfactant administration. After conducting research reported also in the *Journal of Perinatology* and presenting the results to UTSW faculty, a multidisciplinary team including Dr. Kakkilaya developed the guidelines in 2018 for incorporating LISA with CPAP.

After adopting the change, the need for mechanical ventilation at Parkland dramatically decreased from 45% to 11%, Dr. Kakkilaya said.

UT Southwestern is the first major academic center in the U.S. to use the LISA/CPAP approach as its standard of care, he added.

## Pediatric Unit Continued from page 1

The pediatric unit is in addition to the 200 adult beds already planned for the hospital, which is currently scheduled to open in fall 2025. The pediatric unit will open the following year.

"Our goal is to build a state-of-the-art facility that meets the needs of the communities we serve," said Hicham Ibrahim, M.D., Professor of Psychiatry and Associate Vice President and Chief Medical Officer, Ambulatory Services at UT Southwestern. "The donation by Children's Health to the HHSC gives us the opportunity to better address the mental health crisis affecting pediatric patients in our region and provide them with the specialized care they deserve."



Hicham Ibrahim, M.D.

The announcement builds on the existing partnership between Children's Health and UTSW. Children's Medical Center, part of Children's Health, is the primary teaching hospital for UT Southwestern, and UTSW pediatric faculty comprise the hospital's medical staff. In 2019, UTSW and Children's Health signed an agreement to create a Joint Pediatric Enterprise to enhance pediatric care in North Texas.

"This donation is a key part of our comprehensive strategy and ongoing commitment to expand access to pediatric and adolescent behavioral health services in North Texas," said Lindsey Tyra, Executive Vice President and Chief Strategy Officer at Children's Health. "We know that addressing

this growing pediatric mental health crisis requires a concerted, coordinated response from resources and experts across our community. In collaboration with UT Southwestern through our Joint Pediatric Enterprise, we are building a sweeping and forward-looking approach to this escalating problem that will also be part of a larger statewide system."

According to the Children's Health 2021 *Beyond ABC Report*, an estimated 133,375 North Texas children suffer from an emotional disturbance or addictive disorder, and in 2020 alone, there was a 24% increase in mental health-related Emergency Room visits for children ages 5 to 11. By supporting the expansion of inpatient pediatric

psychiatric services at the new state hospital, more North Texas children and adolescents through age 17 with complex mental health needs will have access to behavioral health services when they need it most.

"This hospital will save lives, and with this donation, that'll include the lives of children as well," said Scott Schalchlin, Deputy Executive Commissioner for the HHSC Health and Specialty Care System. "By expanding access to children and adolescents, we're helping to address a truly critical need in our communities: taking care of the mental and physical health of our young people."

# Thousands from UTSW community turn out for Dallas Heart Walk

By Camille Bowers

UT Southwestern staff, family, and friends stepped out for a cause at this year's Heart Walk to honor loved ones who have passed from heart disease and stroke and to show their commitment to the American Heart Association's (AHA) mission to fund research to fight these cardiovascular diseases.

Next to the federal government, the AHA has become the largest not-for-profit organization funding research on cardiovascular disease since its founding in 1924. As the AHA's flagship event to raise money for its lifesaving research, the Heart Walk attracts thousands of people to raise awareness.

UT Southwestern boasts one of the largest participation numbers among the organizations participating in Dallas' walk – and this year was no exception. Over 2,200 people from UTSW across 138 teams participated in the Sept. 24 walk, pledging more than \$37,000 to support the AHA and its mission.

"We walk together to celebrate survivors, learn how to improve our own heart health, and support the AHA to raise funds that ultimately



UT Southwestern staff, family, and friends form a sea of blue while getting their group picture taken before the American Heart Association's Heart Walk.

save lives," said Amit Khera, M.D., Professor of Internal Medicine and Director of the Preventive Cardiology Program at UT Southwestern. "Through a series of grants and awards, these funds have benefited our faculty's research as we continue to investigate how to improve cardiovascular health."

Before the walk, UT Southwestern employees and their friends and family were able to talk to UTSW leadership, take pictures, grab event swag, and eat a last-minute snack to fuel them through the course. Walkers powered through a 1- or 3-mile walk through downtown Dallas, and cheers from volunteers and a live band greeted walkers at the finish line.

■  
Dr. Khera holds the Dallas Heart Ball Chair in Hypertension and Heart Disease.

**More online:** View more photos from the event and a video on *Center Times Plus* at [utsouthwestern.edu/ctplus](https://utsouthwestern.edu/ctplus).

## Warner receives American Heart Association's top volunteer award

By Carol Marie Cropper

John Warner, M.D., Executive Vice President for Health System Affairs and Health System Chief Executive Officer, received the American Heart Association's Gold Heart Award – its highest honor given a volunteer – at the group's National Volunteer Awards event in Dallas this summer.

Dr. Warner, a cardiologist and Professor of Internal Medicine, has served on the AHA's national board since 2014 and as President in 2017-18. Over the years, he also worked as an AHA volunteer to advocate for a

smoking ban in Dallas public places, joined with hospitals and emergency services employees to create a program to speed treatment of heart attack patients, and helped spearhead the "Don't Die of Doubt" multimedia campaign to encourage those with heart attack symptoms to immediately call 911.

"John is a leader in every way and in the best of ways," AHA CEO Nancy Brown said in a statement. "We are a better organization because of him."

Dr. Warner said he was proud to receive the honor and found it especially meaningful because the other



John Warner, M.D.

recipient of a Gold Heart Award that night was a team of three doctors involved in the "Get With The Guidelines" program, an evidence-based quality-improvement initiative created by AHA and the American Stroke Association to improve the care of patients with cardiac diseases and stroke.

Dr. Warner came to UT Southwestern in 2003 after graduating from Vanderbilt University School of Medicine and completing a fellowship in cardiovascular disease and interventional cardiology at Duke University School of Medicine. He also received an M.B.A. from the

University of Tennessee's Physician Executive Program.

■  
Dr. Warner holds the Jim and Norma Smith Distinguished Chair for Interventional Cardiology, and the Nancy and Jeremy Halbreich, Susan and Theodore Strauss Professorship in Cardiology.

**More online:** Read the full story on *Center Times Plus* at [utsouthwestern.edu/ctplus](https://utsouthwestern.edu/ctplus).

## UTSW team wins grand prize in American Heart Association Data Challenge

By Margaret Rockwood

A team led by cardiologist Ambarish Pandey, M.D., was awarded the grand prize in the American Heart Association Heart Failure Data Challenge hosted by the American Heart Association (AHA) and the Association of Black Cardiologists.

The six-month data challenge asked researchers to test the relationships between heart failure and health disparities, social determinants of health, and structural determinants of health.

Dr. Pandey's team included UTSW colleagues Shreya Rao, M.D., M.P.H.,



Ambarish Pandey, M.D.

and Sandeep Das, M.D., M.P.H., M.B.A. Their project, "Impact of Social and Structural Determinants of Health on Hospital Length of Stay Among Heart Failure Patients According to Race," focused on correlations between hospital length of stay for patients with heart failure and ZIP codes, using data from the American Heart Association's Get With The Guidelines® – Heart Failure registry to examine Black versus non-Black populations and geographic areas across the country.

"Black individuals have a disproportionately higher burden of heart failure and worse access to care outside of the hospital, and social determi-

nants of health are important drivers of these disparities," said Dr. Pandey, Assistant Professor of Internal Medicine. "In this study, we focused on how neighborhood-level factors impacted length of stay for heart failure hospitalization among these patients."

The social determinants of health included neighborhood-level measures of income, education, housing stability, social support, access to transportation, rural vs. urban location, and proportion of individuals who were foreign-born with limited English proficiency in the community. The team used the AHA's Precision Medicine Platform to investigate

questions around socioeconomic disparities and heart failure outcomes. The platform is a research interface that allows researchers to collaborate from anywhere in the world in a secure, cloud-based environment.

Dr. Pandey pointed to the need to invest in improving access to care in socioeconomically disadvantaged neighborhoods as a strategy to alleviate the existing disparities.

**More online:** Read the full story in the newsroom at [utsouthwestern.edu/newsroom](https://utsouthwestern.edu/newsroom).

### Sweetenham elected Chair of cancer network organization

John Sweetenham, M.D., Associate Director for Clinical Affairs at the Harold C. Simmons Comprehensive Cancer Center, has been elected Chair of the Board of Directors of the National Comprehensive Cancer Network (NCCN).



John Sweetenham, M.D.

The NCCN is an alliance of 31 preeminent cancer centers in the U.S. devoted to patient care, research, and education, including those at Harvard, Yale, Stanford, and the Mayo Clinic,

and its Board includes representatives from those institutions.

"I'm excited and highly honored to be elected Chair of the NCCN Board of Directors. NCCN's mission is to improve and facilitate quality, effective, equitable, and accessible cancer care so all patients can live better lives," said Dr. Sweetenham, a Professor of Internal Medicine who is internationally recognized for his clinical research on lymphoma and stem cell transplantation. "It is the nation's and the world's foremost organization in establishing guidelines for investigation and treatment of cancers and has had an enormous impact on the quality of cancer care."

Dr. Sweetenham has been a Principal Investigator on national and international clinical trials in lymphoma. Most recently, he was co-leader of an international trial that established a new standard of care for patients with Hodgkin lymphoma at high risk of relapse following stem cell transplantation.

He also has served the NCCN in numerous capacities, most recently as a member of the NCCN Advisory Committee on COVID-19 Vaccination and Pre-Exposure Prophylaxis.

### Debose-Boyd wins ASBMB's Avanti Award in Lipids

Russell Debose-Boyd, Ph.D., Professor of Molecular Genetics, has been recog-

nized by the American Society for Biochemistry and Molecular Biology (ASBMB) with the Avanti Award in



Russell Debose-Boyd, Ph.D.

Lipids for his outstanding research contributions in the area of lipids.

"My receipt of this award is a testament to the talent and work ethic of former and current members of my laboratory. I am truly honored and humbled to be included among the group of eminent scientists who have previously received the Avanti Award in Lipids," he said.

Dr. Debose-Boyd's research seeks to understand, in molecular detail, the mechanisms for feedback regulation of HMG-CoA reductase, the rate-limiting enzyme in cholesterol synthesis. His lab discovered the pathway by which sterol and nonsterol isoprenoids combine to regulate the degradation of HMG-CoA reductase. Understanding these basic mechanisms will inform new approaches to prevention and treatment of heart disease.

With over 11,000 members comprising students, researchers, educators, and industry professionals, the ASBMB is one of the largest molecular life science societies in the world. The Avanti Award in Lipids includes a plaque, \$3,000, and expenses and transportation to present a lecture at the ASBMB Annual Meeting.

■  
Dr. Debose-Boyd holds the Beatrice and Miguel Elias Distinguished Chair in Biomedical Science.

# UTSW first academic medical center in nation selected as American Chemical Society Bridge Site

*Program aims to increase the number of underrepresented minorities earning doctorates in chemistry*

By Jan Jarvis

UT Southwestern has been named the first academic medical center in the nation to serve as a Bridge Site under the American Chemical Society (ACS) Bridge Program, which was created to increase the number of Black, Latino, and Indigenous students earning doctorates in chemistry.

As a Bridge Site, UT Southwestern will receive funding, mentoring, and other support services from ACS to enable students from underrepresented minority groups to successfully complete their doctorate degrees in chemistry. The American Chemical Society is a nonprofit organization that was founded in 1876 to advance the broader chemistry enterprise. It has more than 151,000 members in 140 countries.

Since the launch of the Bridge Program in 2018, 11 Bridge Sites have been established at academic institutions nationwide – but none at academic medical centers. UTSW is now the 12th site.

UT Southwestern was also the only academic site named this year, which is a great honor, said

Uttam Tambar, Ph.D., Professor of Biochemistry, Director of Diversity for Biochemistry, and Chair of the Organic Chemistry Ph.D. Program in the UT Southwestern Graduate School of Biomedical Sciences. Being named as a Bridge Site further strengthens the commitment UT Southwestern has made to supporting students from diverse backgrounds, Dr. Tambar said.

“This is a unique opportunity for us to support postbaccalaureate students,” he said. “Our hope is that having a program like this will serve as a pipeline for the future.”

For students who might not have considered pursuing graduate school and/or did not have the opportunity to engage in research as undergraduates, this program offers a bridge to graduate education, said Arnaldo Díaz Vázquez, Ph.D., Assistant Dean for Diversity and Inclusion in the Graduate School and Assistant Professor of Pharmacology.

“This program presents an excellent opportunity for students to boost their skills in preparation to transition into a graduate program. Many students lack research experience due to having to work during their college years, manage



Alyza Roman is pursuing her postbaccalaureate studies in the development of broad-spectrum antiparasitic drugs in the Wetzel lab.

family responsibilities, or due to a lack of awareness of careers in STEM, lack of role models, etc.,” Dr. Díaz Vázquez said. “This program enables participants to fully engage in research for the first time, reinforce their previous experience, or explore new areas of research.”

Historically, underrepresented minorities have faced numerous obstacles in pursuing a graduate-level education. This group makes up one-third of college students, yet only earns about 18% of the baccalaureate degrees, 14% of master’s degrees, and 11% of doctorates, according to the ACS.

The Bridge Project is modeled after the American Physical Society Bridge Program, which matches graduate students with partner institutions that provide individualized mentoring and support, according to the ACS. In the big picture, having more researchers from diverse backgrounds benefits society by providing role models from underrepresented minorities, Dr. Díaz Vázquez said.

Doctoral students not only go on to work at academic institutions where they continue to contribute to research, but they also often

become industrial and government leaders, Dr. Tambar said.

“They bring a diversity of ideas and perspectives to the workforce, which will ultimately translate into advancement of science,” Dr. Díaz Vázquez added.

Seeing more Ph.D.s in the workplace can inspire students of all ages and address persistent disparities by increasing the number of Black, Latino, and Indigenous students earning doctoral degrees in the chemical sciences, Dr. Tambar said. A more diverse population strengthens the economy, and as more graduates move into the workplace, UT Southwestern’s exposure to the country is increased, he added.

In August, two students were selected as the first Bridge Site participants at UT Southwestern. A \$120,000 two-year grant will fund the program.

Dr. Tambar holds the Bonnie Bell Harding Professorship in Biochemistry and is a W.W. Caruth, Jr. Scholar in Biomedical Research.



UT Southwestern’s selection as an American Chemical Society Bridge Site will help attract more graduate students in underrepresented minority groups such as Andres Delarosa, above, who is pursuing his postbaccalaureate studies in organic synthesis in the Tambar lab.

## Postdocs selected for Hanna H. Gray Fellows Program

By Christen Brownlee

Two UT Southwestern postdoctoral fellows – Gabriel Muhire Gihana, Ph.D., and Victor Lopez, Ph.D. – are among 25 early-career scientists in the U.S. selected as 2022 Hanna H. Gray Fellows.



The fellowship program, run by the Howard Hughes Medical Institute (HHMI), aims to increase diversity in the biomedical sciences by recruiting and retaining individuals from underrepresented groups and disadvantaged backgrounds. The fellows receive financial support for up to eight years and participate in professional development, mentorship, and networking with peers and the broader HHMI community.

“We are delighted that Drs. Lopez and Gihana have been selected as Hanna H. Gray Fellows,” said Joan Conaway, Ph.D., Vice Provost and Dean of Basic Research at UT Southwestern. “This prestigious award recognizes their outstanding accomplishments and potential as future leaders in the scientific community.”

Dr. Gihana, who works in the lab of Gaudenz Danuser, Ph.D., Chair of the Lyda Hill Department of Bioinformatics, studies the role of



Gabriel Muhire Gihana, Ph.D.

Photos by Brandon Wade/AP Images for HHMI

cell morphology in regulating the molecular signaling of RAS, a prevalent human oncogene. He seeks to understand how RAS-induced cell morphological changes contribute to RAS causing cancer. Because inhibition of this gene has proved very difficult, studying other cellular parameters that promote RAS-related cancers could lead to novel therapies.

“It is a great honor to receive the HHMI Hanna H. Gray Fellowship, and I am very grateful to



Victor Lopez, Ph.D.

HHMI and to all my mentors who have supported me to this point,” said Dr. Gihana. “The financial support from this fellowship, the exposure, and the participation in the HHMI community will underpin the success of my research, and I could not be happier as a postdoc.”

Dr. Lopez, who works in the labs of Vincent Tagliabracci, Ph.D., Associate Professor of Molecular Biology, and Joshua Mendell, M.D., Ph.D., Professor of Molecular Biology, uses a combina-

tion of bioinformatics and biochemistry to identify and characterize new members of a family of proteins known as ATP-grasp that are responsible for many essential biological reactions. Characterizing their biochemical functions, Dr. Lopez said, will help scientists understand their roles in health and disease. Drs. Tagliabracci and Mendell are both HHMI Investigators.

“Becoming a Hanna Gray Fellow is an incredible opportunity, and I am both honored and humbled to receive such a prestigious award,” said Dr. Lopez. “I am grateful to HHMI, my mentors, colleagues, friends, and family who have motivated and encouraged me to pursue my scientific career.”

With the selection of Drs. Gihana and Lopez, UTSW has had four scientists named as Hanna H. Gray Fellows since the program launched in 2017.

Dr. Conaway holds the Cecil H. Green Distinguished Chair in Cellular and Molecular Biology.

Dr. Danuser holds the Patrick E. Haggerty Distinguished Chair in Basic Biomedical Science.

Dr. Mendell holds the Charles Cameron Sprague, M.D., Chair in Medical Science.

Dr. Tagliabracci is a Michael L. Rosenberg Scholar in Medical Research.

**More online:** Read the full story in the newsroom at [utsouthwestern.edu/newsroom](https://utsouthwestern.edu/newsroom).

# Advanced microscopy reveals how cholesterol crystallizes into a more dangerous form

By Deborah Wormser

UTSW researchers may have solved the long-standing mystery of the genesis of crystallized cholesterol, a form considered more likely to clog the arteries in humans. Their study, published recently in the *Journal of Cell Biology*, points to a novel therapeutic target that could eventually lead to new ways to treat or delay the development of cardiovascular diseases.

Using advanced microscopy, the researchers observed lipid droplets in yeast cells undergoing phase transitions, transforming from disordered molecules to a lipid-crystalline lattice state in response to glucose starvation.

Atherosclerosis, a buildup of fatty plaque in the artery walls, increases the risk of heart attack, stroke, and congestive heart failure. "Crystallized cholesterol deposits had been observed for decades, but how they formed in cells was poorly understood," said Mike Henne, Ph.D., Associate Professor of Cell Biology and Biophysics. "Because yeast is a model organism for mammalian cells, the same crystallization process likely occurs in humans."

He added that working to understand this change of state is an emerging field of study.

"Although scientists have observed cholesterol crystallizing in cells when large amounts of cholesterol are added to a lab dish, our study is the first to our knowledge to thoroughly determine the trigger and mechanism for that change, and to do so in cells. Glucose starvation is the trigger, and the breakdown of triglyceride to free fatty acids that the cell can use as a backup energy source appears to be the mechanism driving crystallization," Dr. Henne said.

Strikingly, the crystallization process appears to change the population of proteins that rest on the surface of lipid droplets, very likely affecting the way these organelles interact and function within the

cell – a finding that generates new questions for future studies, the researchers said.

Dr. Henne is a corresponding author of the study along with Daniela Nicastro, Ph.D., Professor

of Cell Biology and an expert in the cryo-electron tomography (cryo-ET) technology that made it possible to view the cells in a life-like state.

Cryo-ET is a cryo-electron microscopy (cryo-EM) method that provides three-dimensional images of life-like preserved cells, featuring subcellular structures at molecular resolution. Powerful computers then reconstruct 3D-cellular structures. To preserve their native structures during imaging, the biological samples are flash-frozen and imaged at cryogenic temperatures (at about -196 degrees Celsius).

Dr. Nicastro, who was instrumental in setting up UT Southwestern's cryo-EM center, is advancing a technique called cryo-FIB (cryo-focused ion beam milling) that was key in this study. "One challenge we faced was that budding yeast cells are 50 times thicker than what can be imaged directly by cryo-EM," she said. "Therefore, after rapidly freezing the yeast cells, we had to 'section' them. We used a very finely focused beam of gallium ions to mill away material from the top and bottom of each cell, leaving behind a thin lamella, or section, that was suitable for imaging."

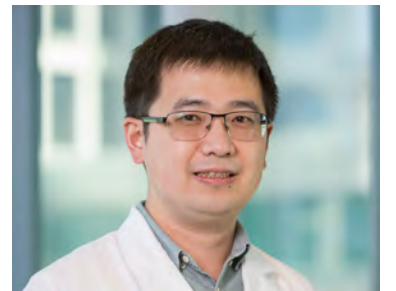
Dr. Henne said next steps in the investigation include screening for drug candidates and investigating whether the same phenomenon happens in human cells.

Lead authors were Sean Rogers, Ph.D., a former Henne lab graduate student now at Washington University in St. Louis, and Long Gui, Ph.D., a Research Scientist in the Nicastro lab. Researchers at the Sorbonne/University of Paris, and the University of Fribourg in Switzerland also participated.

The study received support from the National Institutes of Health, The Welch Foundation, the Ara



The expertise of cryo-ET specialist Daniela Nicastro, Ph.D., was instrumental in the study.

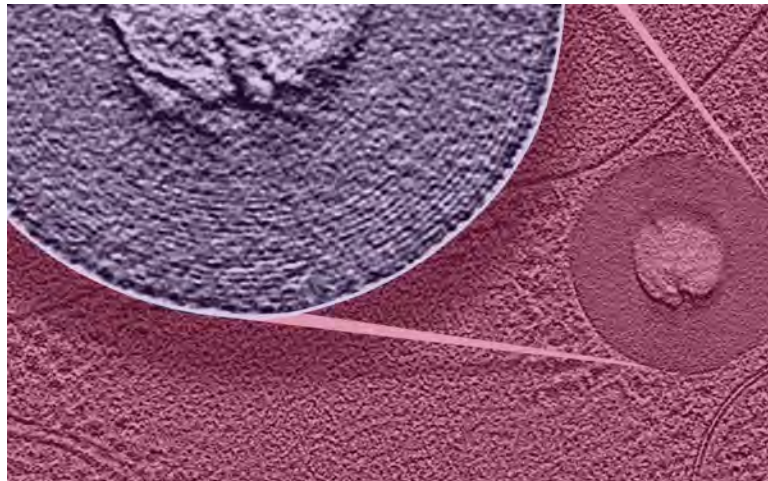


Nicastro lab researcher and co-lead author Long Gui, Ph.D.

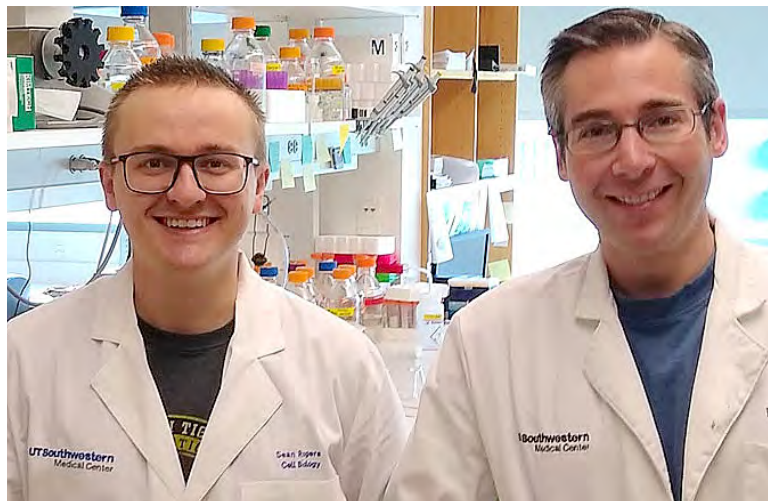
Parseghian Medical Research Fund, the UT Southwestern Endowed Scholars Program in Medical Science, the Cancer Prevention and Research Institute of Texas, supporting UTSW's Cryo-EM Microscopy Facility. The Swiss National Science Foundation, the Swiss National Supercomputing Center, and the French National Research Agency also provided support.

More information on this research, including the full list of authors, can be found in the study.

Dr. Henne is a W.W. Caruth, Jr. Scholar in Biomedical Research.



Cryo-EM imaging of yeast cell interior with enlarged view (left) of a lipid droplet (right) showing the crystalline lattices that form in response to glucose starvation and triglyceride breakdown.



Former UTSW graduate student Sean Rogers, Ph.D., (left) and Mike Henne, Ph.D., researched cholesterol crystallization, an emerging field with implications for treatment of cardiovascular diseases.

## Nesbitt Continued from page 1

barriers that limit opportunities for historically underrepresented groups on campus, and coordinate the broad scope of diversity, equity, and inclusion (DEI) efforts throughout UT Southwestern, including oversight of the Offices of Institutional Equity and Access, Faculty Diversity and Development, and Student Diversity and Inclusion.

"The expansion of our DEI efforts is directly correlated to the growth of UT Southwestern," said Dr. Nesbitt, Professor of Internal Medicine in the Division of Cardiology and Medical Director of Parkland Health's Hypertension Clinic, who began her role Oct. 1. "In leading a cohesive campuswide DEI strategy, I look forward to partnering with leaders across campus to build greater collaboration and synergy that will ensure UTSW leverages its vast strengths and successes for the greatest impact with an emphasis on excellence, innovation, teamwork, and compassion."

### Building UTSW's foundation for diversity

For more than a decade, Dr. Nesbitt has spearheaded student diversity efforts at UT Southwestern as Associate Dean of Student Affairs in the Office of Student Diversity and Inclusion, while contributing to international initiatives, such as serving as past President and current Trustee of the International Society on Hypertension in Blacks and Chair of the Health Equity Committee of the American Heart Association's SouthWest Affiliate. She has served as a community health equity advocate on a variety of boards and national studies and frequently speaks on the topics of hypertension, DEI, and health equity.

"Dr. Nesbitt's decades of work in the areas of health inequity and hypertension, as well as the progress she helped the institution achieve in further diversifying our student population in her role as Associate Dean of Student Affairs, have prepared her for this important leadership

position," said Daniel K. Podolsky, M.D., President of UT Southwestern. "I look forward to the progress she and her team will help UT Southwestern make as an institution committed to the values of diversity and inclusion, ensuring we are equitable as a workplace and in the ways we advance our mission."

Dr. Nesbitt serves as a member of the President's Council on Diversity & Inclusion, which Dr. Podolsky launched in 2016 to engage faculty, staff, and the student body through education and training to ensure that they develop the cultural awareness competency required to effectively serve the mission of UT Southwestern across research, clinical, education, and training activities.

"Dr. Podolsky came in with a strategic goal to enhance diversity and inclusion on the campus, and he's been very vigilant about creating opportunity and support for doing that," she said. "The results have been very strong."

### A resume of accomplishment

Under Dr. Nesbitt's leadership, recruitment strategies to develop a more diverse student body were expanded across UT Southwestern Medical School, Graduate School of Biomedical Sciences, and School of Health Professions. She grew underrepresented minority student populations to historic levels, helping to create a pipeline of physician talent that more appropriately reflects the region's diverse patient population. Most recently, UT Southwestern welcomed its most diverse class of medical students, including a historic majority of first-year female students.

Dr. Nesbitt developed UTSW's cultural competency curriculum to help medical students treat patients who come from different ethnic, economic, and geographic backgrounds, including an elective called *Healthcare Disparities in Underserved Communities* that helps physicians understand how to better diagnose and manage that diverse population of patients.

## Background

- UTSW Professor of Internal Medicine, Division of Cardiology, in the Clinical Heart and Vascular Center
- Associate Dean of Student Affairs in the Office of Student Diversity & Inclusion, 2011-2022
- Medical degree from Hahnemann University College of Medicine (now Drexel University College of Medicine) in Philadelphia
- Master of Science in clinical research design and statistical analysis from the University of Michigan School of Public Health
- Bachelor of Science (cum laude) from Gannon University through its Accelerated Medicine Program
- Hypertension fellowship: University of Michigan Hospitals and Health Centers

She has published scores of scholarly articles, authored and co-authored a number of book chapters, and delivered numerous lectures nationally and internationally. She is funded by the National Institutes of Health to study the relationship of oxidative stress and genetics in the development of hypertension. Her research interests include clinical trials and epidemiology of hypertension and cardiovascular risk,

specializing in hypertension in African Americans, insulin resistance, and hyperlipidemia. Dr. Nesbitt serves as the national coordinator for the TROPHY Study (Trial of Preventing Hypertension), a four-year trial that includes over 71 sites and more than 800 patients.

Her outreach efforts in the community include extensive STEM advocacy, working with organizations such as Jack and Jill of America Inc., whose outreach programs target African American children as young as age 2, and UT Southwestern initiatives such as the Health Professions Recruitment and Exposure Program (HPREP), which focuses on high school students.

A member of the Gold Humanism Honor Society at UT Southwestern, Dr. Nesbitt has been recognized, among others, by the Dallas Chapter of The Links Inc. with a 2019 Women Who STEAM Award, honoring her efforts to introduce young girls to science careers; was nominated for the AHA's 2016 Louis B. Russell Jr. Memorial Award, given for service addressing health care disparities and/or service to minority and underserved communities, and was named a 2014 Visionary in Diversity in Medicine by *INSIGHT Into Diversity* magazine.

"UT Southwestern's missions for research, care, and training are dependent upon and ultimately fueled by achieving and expanding the diversity of UTSW faculty, staff, and learners, uncovering and educating ourselves and the community about unconscious and conscious bias, and leveraging that knowledge to address disparities in order to deliver the best possible care to every patient and every community," Dr. Nesbitt said.

Dr. Podolsky holds the Philip O'Bryan Montgomery, Jr., M.D. Distinguished Presidential Chair in Academic Administration, and the Doris and Bryan Wildenthal Distinguished Chair in Medical Science.



# Burroughs Wellcome Fund grants support innovative research

By Jan Jarvis

Two UT Southwestern scientists have received prestigious grants from the Burroughs Wellcome Fund, whose competitive award programs support research innovation, academic discovery, and public service.

Josephine Thinwa, M.D., Ph.D., Instructor of Internal Medicine, received a Career Award for Medical Scientists, making her one of only 14 awardees nationwide this year. The prestigious award, which provides \$700,000 over the next five years, is given to physician-scientists committed to an academic career with funding aimed to help bridge advanced postdoctoral/fellowship training and the early years of faculty service.

For his research on the parasite *Toxoplasma gondii*, Michael Reese, Ph.D., Associate Professor of Pharmacology and Biochemistry, received the Burroughs Wellcome Fund's Investigators in the Pathogenesis of Infectious Disease Award. The award provides \$500,000 over five years to support research on how human and microbial systems are affected by their encounters. Dr. Reese is one of 10 investigators selected for an award from among 118 applicants.

## Thinwa receives prestigious Career Award for Medical Scientists

During her infectious disease training, Dr. Thinwa treated patients with HIV/AIDS prone to severe viral brain infections. Despite receiving the best available treatments, some of these patients died, thus inspiring her to understand more about how our bodies fight viruses.

As a physician-scientist in the Division of Infectious Diseases and Geographic Medicine at UT Southwestern, Dr. Thinwa has developed a research program aimed at characterizing the mechanisms that fight off viral infections.

"It became overwhelmingly clear to me that we don't know how to effectively treat viruses," said Dr. Thinwa. "My idea is that if we can better understand protective mechanisms in cells, we can develop strategies to harness and enhance those mechanisms to boost the immune system and eradicate infection."

"This grant is very critical to me and my research," she said. "It will allow me to advance my career as an independent physician-scientist."

In 2015, Dr. Thinwa earned her combined M.D./Ph.D. degrees, with doctoral studies in microbiology from the UT Health Science Center at San Antonio. She then completed her residency in internal medicine at UT Southwestern, followed by advanced training in infectious diseases as part of the Physician Scientist Training Program at UTSW.



Josephine Thinwa, M.D., Ph.D.

Dr. Thinwa's long-held interest in viruses intensified when she worked in the UTSW lab of Beth Levine, M.D., an international leader in autophagy research and Professor of Internal Medicine and Microbiology who passed away in 2020. Under Dr. Levine's mentorship, Dr. Thinwa began focusing on autophagy, a natural cell-recycling process that helps cells break down and eliminate viruses and other unnecessary components.

"Dr. Levine had previously discovered the critical importance of autophagy as a defense against viruses," Dr. Thinwa said. "My research focuses on identifying the exact proteins in our cells that turn on autophagy during viral infection."

Dr. Thinwa identified the protein cyclin-dependent kinase-like 5 (CDKL5) to be critical for initiating autophagy and providing protection against viruses that infect the brain.

"Her investigations address fundamental questions that link autophagy to the control of viral diseases," said Michael Shiloh, M.D., Ph.D., Associate Professor of Internal Medicine and Microbiology.

"Her cutting-edge work has revealed a new molecular pathway that cells use to target viruses

for destruction and that also protects infected cells from succumbing to viral infection," Dr. Shiloh said. "Her discoveries have the potential to lead to the development of new, sorely needed therapeutics against a wide array of viruses."

Dr. Thinwa is hopeful that her work could eventually lead to more drugs becoming available to treat the next viral outbreak.

## Reese awarded infectious disease grant for parasite research

Dr. Reese investigates the single-celled *Toxoplasma* parasite, which infects 1 in 3 people worldwide. It is a medically important parasite to study because it is not only widespread but is related to the parasites that cause other serious diseases such as malaria and cryptosporidiosis, Dr. Reese said.

"I'd say it is the most successful parasite in the world," he said. "If you have it, you have it forever, and while it's not often that people have



Michael Reese, Ph.D.

a problem with it, when they do it is devastating."

The parasite causes toxoplasmosis, a disease that can lead to blindness and seizures. The parasite is commonly transmitted through consumption of undercooked infected meat or through contact with infected cat feces. The infection resolves on its own in healthy people, but someone with a weakened immune system requires treatment with pyrimethamine.

"It really is the only drug that treats it," Dr. Reese said. "There needs to be more."

The goal of Dr. Reese's research is to understand how properties of individual *Toxoplasma*

molecules enable the parasite to respond to its environment and even to rewire its host cells, changing the cell's metabolism to suit its needs. By viewing these molecules through an evolutionary lens, Dr. Reese's goal is to understand how these signaling molecules are wired together with the hope of revealing new therapeutic targets. In addition, because genetic variation in these molecules can lead to wildly different disease outcomes, his work might help us understand why some people avoid serious disease from a given infection while others are not so lucky, he said.

Dr. Reese's work on the signaling complexes that drive pathogenesis of *Toxoplasma gondii* is certain to impact the study of these pervasive parasites and contribute to the broader understanding of related parasites that cause malaria and cryptosporidiosis, said David Mangelsdorf, Ph.D., Chair of Pharmacology.

"Michael has that rare combination of intellectual and scientific talent that leads to breakthroughs – perfect for Burroughs Wellcome funding," Dr. Mangelsdorf said. "His work on understanding a fundamental signaling pathway in toxoplasmosis is a great example that may very well lead to a novel therapeutic strategy to conquer one of the world's most ubiquitous parasitic diseases."

Dr. Reese, who joined UTSW in 2013, earned a bachelor's degree in molecular biophysics and biochemistry from Yale University in 1998. He then spent two years teaching high school science to gifted students with learning disabilities. He received a Ph.D. in biophysics in 2006 from the University of California, San Francisco.

Dr. Mangelsdorf holds the Alfred G. Gilman Distinguished Chair in Pharmacology and the Raymond and Ellen Willie Distinguished Chair in Molecular Neuropharmacology in Honor of Harold B. Crasilneck, Ph.D.

Dr. Shiloh holds the Professorship in Infectious Diseases, in honor of James P. Luby, M.D.

**More online:** Read the full story in the newsroom at [utsouthwestern.edu/newsroom](https://utsouthwestern.edu/newsroom).

# Two UTSW scientists awarded Haberecht Grants for potential breakthrough research

By Jan Jarvis

Two UT Southwestern researchers – one investigating how cancer cells acquire complex genomes and another exploring how photosynthetic animal cells could pave the way for laboratory-based meat products – have been awarded 2022 Haberecht Wildhare-Idea Research Grants.

Peter Ly, Ph.D., Assistant Professor of Pathology and Cell Biology, will use his grant to investigate the consequences of genomic instability in cancer development. Joshua Gruber, M.D., Ph.D., Assistant Professor of Internal Medicine, said his grant will allow him to continue his research on developing animal products that are grown using energy derived from sunlight.

UT Southwestern's Haberecht Grants support speculative ideas in biomedical research that, if correct, could qualify as breakthroughs. Up to two proposals are selected each year for funding of \$25,000 apiece. The projects from Drs. Gruber and Ly were selected from among 14 submitted.

Dr. Ly said that he hopes his research will increase knowledge about how cancer develops, ultimately leading to new treatments. "It helps our understanding of how cancer evolves," he said of his research. "If we understand that, we can start to decipher how all of these genomic changes happen."

Dr. Gruber said his grant funding supports a lifelong goal of contributing to science and humanity. "I have known since elementary school that I wanted to be a scientist," he said. "Medical school came later in life when a mentor pushed me to do science that is beneficial to humanity."

## Unraveling cancer development puzzles

Dr. Ly aims to increase understanding of cancer development. Although errors that occur during cell



Joshua Gruber, M.D., Ph.D., researches the development of animal products grown using energy from sunlight. Assisting him in the lab is Matteo Ligorio, M.D., Ph.D.



Peter Ly, Ph.D., assisted by graduate student Elizabeth "Lizz" Maurais, studies the consequences of genomic instability in cancer development.

division are mostly rare in normal cells, it remains unknown why cancer cells frequently partition their genetic material incorrectly.

"Cells duplicate and segregate their chromosomes to produce genetically identical daughter cells. However, cancer cells frequently do this erroneously, and they can sometimes have twice the number of chromosomes of normal cells," he said. "In other instances, chromosomes are lost or joined to other chromosomes. Pieces of chromosomes can even be found in the cytoplasm. It is puzzling."

Cancer cells commonly harbor complex genomes characterized by structural variation and DNA copy number alterations. This can disrupt tumor suppressor genes, amplify oncogenes, or drive the formation of gene fusions.

Dr. Ly's team studies factors that shape the chaotic mutational landscape of cancer genomes, including the contributions from cell cycle regulation defects, chromosome segregation errors during cell division, and inaccurate DNA double-strand break repair pathways. With the grant support, Dr. Ly and his team will

investigate how chromosome segregation errors from one cell can affect an adjacent, neighboring cell.

"Dr. Ly's unique research is worthy of recognition," said Diego H. Castrillon, M.D., Ph.D., Professor of Pathology and Obstetrics and Gynecology. "His proposal to study the cell-extrinsic consequences of cell division errors are in some ways an extension of his prior work – but also an off-the-wall and yet provocative idea – very much in the spirit of the Wildhare-Idea Grant."

Dr. Ly earned a bachelor's degree in biology from Baylor University and a Ph.D. in cancer biology from UT Southwestern. He pursued postdoctoral training at the Ludwig Institute for Cancer Research at University of California, San Diego. In 2019, Dr. Ly joined UTSW as a Cancer Prevention and Research Institute of Texas Scholar in Cancer Research. He holds a secondary appointment in Cell Biology and also is a member of the Harold C. Simmons Comprehensive Cancer Center.

## Using sunlight to reduce emissions

Dr. Gruber's research explores ways to reduce the Earth's carbon footprint by improving the efficiency of animal-based products. Raising livestock animals is estimated to contribute to 15% of global warming emissions, greater than the amount generated by all transportation emissions altogether, he said.

Although photosynthesis is classically constrained to plants – algae and microscopic organisms that contain chloroplasts – examples can be found of animals living symbiotically with algae or ingesting chloroplasts to benefit from photosynthesis. However, no methodologies reliably reconstitute photosynthesis in animal cells. The generation of photosynthetic animal cells could lead

to laboratory-based meat products that use the energy from sunlight to support their growth.

"In the big picture, we are looking at how we can diminish our carbon footprint," he said. "We're trying to generate new life forms in a way that is beneficial to the planet."

Dr. Gruber has a true passion for science whose research has significant impact potential, said Matteo Ligorio, M.D., Ph.D., Assistant Professor of Surgery and in the Simmons Cancer Center.

"This project is just an example of his imagination and creativity, two essential attributes of a great scientist," Dr. Ligorio said.

Dr. Gruber earned both his medical degree and doctoral degree in cancer biology and biochemistry at the University of Pennsylvania. At Stanford University, he completed a residency in internal medicine, a fellowship in medical oncology, and a research fellowship in systems biology of cancer epigenetics. The breast cancer specialist, who joined UTSW in 2021, holds a secondary appointment in the Cecil H. and Ida Green Center for Reproductive Biology Sciences and is a member of the Simmons Cancer Center.

His clinical focus is on treating patients with metastatic and triple-negative breast cancer. Dr. Gruber's research interests include the molecular biology of breast cancer initiation and the intersection of tumor immunology with cancer growth pathways.

Dr. Castrillon holds the Vernie A. Stemberge, M.D., Distinguished Chair in Pathology.

## RedBird Continued from page 1



Services currently available at RedBird include primary care, cardiology, and cancer care, with plans to add neurology and culinary medicine later this year.

Dr. Siddiqi, board-certified in both family medicine and gerontology, made news among the staff by the way he welcomed his first patient on opening day, Aug. 29.

Victoria Doby, RN, Clinic Practice Manager for RedBird, said Dr. Siddiqi's patient was in the RedBird parking lot and wrote a note on the patient portal site to him: "I'm here, where are you?" "Dr. Siddiqi went out in the parking lot and got him. I thought that was really sweet," Ms. Doby said.

Ericka Walker Williams, M.D., Clinical Assistant Professor of Internal Medicine and board-certified in both internal medicine and rheumatology, welcomed the first patient of the day at RedBird. "She'd seen me one time before on the main campus and decided to come here to establish her care," Dr. Walker Williams said of the patient. "She lives not very far from here."

Dr. Walker Williams, who lives in the area as well, was also the first physician hired at RedBird. "I had been tracking its development through community meetings for the Reimagine RedBird project before the first brick was even laid. At that time, it was only a concept," she said. "I

am honored to serve and work in the community where I live."

Services currently available at RedBird include primary care, cardiology, and cancer care, with plans to add neurology and culinary medicine later this year. Infusion therapy to treat cancer, sickle cell disease, and other illnesses is available, as is imaging technology for women's diagnostics, such as ultrasound and mammography. UT Southwestern's Peter O'Donnell Jr. Brain Institute will provide neurological care at RedBird, while its Harold C. Simmons Comprehensive Cancer Center offers hematology/oncology care.

A phlebotomy lab for collecting and testing blood and urine samples, a full-service pharmacy, and additional advanced imaging technologies such as MRI, CT scan, ultrasound, and X-ray are also available at RedBird.

Children's Health is expected to become part of the facility in 2024, making this the first UT Southwestern regional outpatient medical center where both adult and pediatric patients can receive care in the same facility.

The two-story, 150,000-square-foot center, located on Camp Wisdom Road, is

UT Southwestern's sixth regional outpatient medical center and features an airy interior with frosted glass windows and a glass-enclosed open-air atrium planted with small trees and ferns.

Debra J. Wilson, one of the first patients on opening day, said she has been a UT Southwestern patient for 25 years – delivering her two sons at the former St. Paul University Hospital before it was replaced by William P. Clements Jr. University Hospital. "I've been a patient with UT Southwestern for many years and I love the doctors. And this is right down the street from home – I didn't have to go through the downtown traffic," said the Postal Service retiree from DeSoto.

"I love it," she added of the new facility. "It just reminds me so much of UT Southwestern downtown."

■  
*Dr. Warner holds the Jim and Norma Smith Distinguished Chair for Interventional Cardiology, and the Nancy and Jeremy Halbreich, Susan and Theodore Strauss Professorship in Cardiology.*



The waiting area looks out into an open-air atrium planted with trees and ferns.



RedBird offers a multitude of services including advanced imaging technologies.



Clinical staff test out medical equipment in advance of RedBird's opening.

## Community-focused HealthFest celebrates RedBird opening



A visitor picks up a bag after checking in for HealthFest, a celebration to introduce UT Southwestern Medical Center at RedBird to southwestern Dallas County communities.



HealthFest visitors check out the Meet-the-Doc booth to learn more about medical services at RedBird.

By Jan Jarvis

Southwestern Dallas County residents, business owners, and regional leaders gathered in September for the official dedication of UT Southwestern Medical Center at RedBird, the largest of UTSW's regional campuses and the first to bring academic medicine to the southern sector of Dallas. The Sept. 17 event, called HealthFest, served as a community-focused celebration and showcase of current and upcoming offerings.

Don Temple, who lives nearby and had been looking forward to the medical center opening, said the facility exceeded his expectations.

"It is just fantastic," Mr. Temple said. "We had nothing and now it's like we got the Taj Mahal."

HealthFest visitors were greeted with music, cooking demos, food trucks offering free brunch, games, and ticket giveaways to Dallas Mavericks games. They walked away with umbrellas, T-shirts, and gift bags filled with a stress ball, water bottle, and brochures.

The estimated 2,000 visitors could gather information at the many booths, attend a health lecture, or tour the facilities. Most were impressed with the convenience of having medical care closer to their homes.

"It means a lot for this to be in the community," said Lula Moss, an



Staff hand out bags for visitors to gather information and giveaways at HealthFest.

area resident. "Now I won't have to go across town to get medical care."

Keith Vinson, Vice President of Operations for YMCA of Metropolitan Dallas, noted that while access is a major part of the project's appeal, UT Southwestern spared no expense in making this the best medical care facility that people in the neighborhood can go to for their health care needs.

"UT Southwestern didn't come here in a corporate way," said Mr. Vinson, who served on the RedBird Community Forum group for the facility. "They came in and said, 'We want to be a part of your family.'"

The facility was built around what people in the community said they wanted, noted Ericka Walker Williams, M.D., the first physician hired for the RedBird facility and Clinical Assistant Professor of Internal Medicine. It was very intentional, she said.

"People are really looking for a change in the community, and they're looking for good doctors to take care of them," Dr. Walker Williams said.

Resident Vickey Curtis was confident she found just that.

"All the people are so great, professional, and courteous," she said. "Everything is just so nice."

# BRG members and partners lauded for commitment to diversity, inclusion

## From Staff Reports

"We believe that when employees feel as though they belong, it directly and positively impacts our ability to advance the tripartite mission of UT Southwestern – to educate, discover, and heal."

Those words were shared by Keneshia Colwell, Senior Diversity and Inclusion Specialist, as she welcomed Business Resource Group (BRG) members and officers, executive leaders, colleagues, and guests to the Office of Institutional Equity & Access' Division of Diversity & Inclusion's inaugural BRG Appreciation Reception and Keystone Award Ceremony.

The July 7 event showcased the contributions of BRG members who devote their time, energy, and talent to foster belonging, inclusion, and wellness at UT Southwestern. Having launched four of the institution's six BRGs in 2017 – adding the Asian-Pacific Islander BRG in 2019 as the fifth and the Women

& Allies BRG in 2020 as the sixth – UT Southwestern's BRGs now have more than 2,500 members, have hosted 200-plus events, and continue to offer their members a positive and inclusive environment with opportunities for personal growth, career advancement, health, and wellness.

The event included a Keystone Award ceremony with honors presented to BRG members and one representative from UT Southwestern's Talent Acquisition Department who showed outstanding commitment to the BRGs.

### BRG Keystone Award Winners

- African-American Employee BRG: Joshua "Josh" Franklin, an Immigration Specialist in the Office of International Affairs and Chair of the Professional Development Subcommittee for the BRG

- Asian-Pacific Islander BRG: Christine Duria, Senior Manager for Digital Marketing in the Office of Communications, Marketing, and Public



Seven UTSW employees were honored at the Keystone Award Ceremony for their commitment and partnership involving Business Resource Group efforts this past year.

- Affairs and co-Chair for Membership of the BRG

- Hispanic-Latino BRG: Judith Ramos, Project Manager in Supply Chain and co-Chair of the BRG

- LGBT & Allies BRG: Jacob Hopgood, Project Specialist-Care Redesign in Quality and Operational Excellence and Communications Subcommittee Lead for the BRG

- Veterans BRG: Kim Evans, Project Manager in Quality and Operation Excellence and Communications, Events, and Community Outreach Subcommittee Lead for the BRG

- Women & Allies BRG: Nelly "Estefanie" Garduno, Clinical Research Project Manager in the Department of Physical Medicine and Rehabilitation and lead for the Women in Art Subcommittee in the BRG

- Partner Keystone Award: Dewotta Gossett, Talent Acquisition Partner and a member of the project between the Division of Diversity & Inclusion and Talent Acquisition to provide the BRGs with culturally competent and curated professional development opportunities

**More online:** Read the full story and learn what the nominators had to say about the winners on *Center Times Plus* at [utsouthwestern.edu/ctplus](https://utsouthwestern.edu/ctplus).

## Breakthrough Continued from page 1

member of the faculty at the University of Tsukuba in Japan.

"I'm deeply honored to get this award, which recognizes not only our work but the field of basic sleep research," said Dr. Yanagisawa, adding that the research atmosphere at UT Southwestern fostered innovation.

According to the Breakthrough Prize Foundation, Drs. Yanagisawa and Mignot showed that central to the disease narcolepsy is the protein orexin, which ordinarily regulates wakefulness. In some animals, such as dogs, narcolepsy is caused by a mutation affecting the neural

receptor that orexin binds to; but in humans, the disease is triggered by the immune system attacking the cells that produce orexin – probably "mistaking" it for a viral particle. Drs. Mignot and Yanagisawa's discoveries have led to treatments shown to relieve the symptoms of narcolepsy, and also enabled the design of sleep-inducing drugs, the Foundation's statement said.

"We heard Masashi give a talk in Madrid when he was 30 years old and were incredibly impressed with him," Dr. Goldstein said. Their recruiting began at dinner that night, and within a year, Dr. Yanagisawa had settled in at UT Southwestern.

### Nobel Laureates realized potential

Dr. Brown and Joseph Goldstein, M.D. – who shared the 1985 Nobel Prize in Physiology or Medicine for their discovery of an LDL receptor that regulates cholesterol – recruited Dr. Yanagisawa to UTSW in 1991 as a tenured Associate Professor of Molecular Genetics and a Howard Hughes Medical Institute Investigator (HHMI). Dr. Goldstein, who runs a joint laboratory

science that I genuinely deem interesting and exciting without worrying too much about funding and position."

### Origins of orexin discovery

Dr. Yanagisawa discovered orexin in 1998 when he was a full-time UTSW faculty member. In 1999, he showed that orexin deficiency causes narcolepsy, leading to new vistas in sleep research and to a better understanding of the brain's sleep/wake switching mechanisms.

More than a decade ago, recognizing that the fundamental mechanism of sleep homeostasis still remained a mystery, Dr. Yanagisawa launched an ambitious two-continent, large-scale forward genetics program to screen for sleep/wake abnormalities in mice, encouraged by discussions with UTSW Neuroscience Chair Joseph Takahashi, Ph.D., also an HHMI Investigator and a specialist in the study of the body's clocks and in forward genetics.

"My many discussions with Joe Takahashi were a major factor for me to launch the high-risk, high-return project of sleep forward genetics in mice. I am deeply grateful to Joe for the scientific discussions that continue to this day," Dr. Yanagisawa said.

That ongoing project has led to the identification of several new genes considered of great importance in the regulation of sleep.

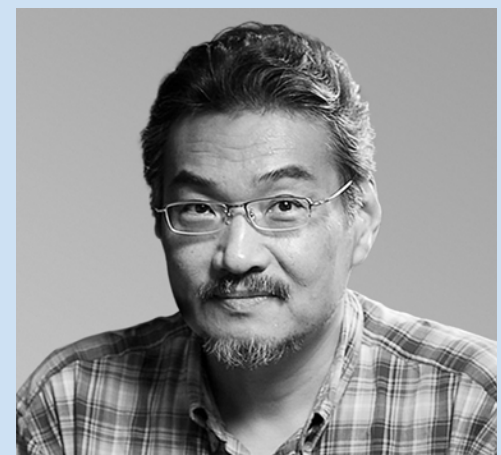
Dr. Brown, a Regental Professor, holds *The W.A. (Monty) Moncrief Distinguished Chair in Cholesterol and Arteriosclerosis Research and the Paul J. Thomas Chair in Medicine*.

Dr. Chen, a member of the Center for the Genetics of Host Defense, holds *the George L. MacGregor Distinguished Chair in Biomedical Science*.

Dr. Goldstein, a Regental Professor, holds *the Julie and Louis A. Beecher, Jr. Distinguished Chair in Biomedical Research and the Paul J. Thomas Chair in Medicine*.

Dr. Hobbs holds *the Philip O'Bryan Montgomery, Jr., M.D. Distinguished Chair in Developmental Biology, The Eugene McDermott Distinguished Chair for the Study of Human Growth and Development, and the 1995 Dallas Heart Ball Chair in Cardiology Research*.

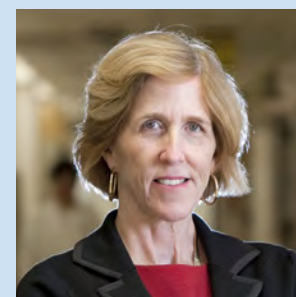
Dr. Podolsky holds *the Philip O'Bryan Montgomery, Jr., M.D. Distinguished Presidential Chair in Academic Administration, and the Doris and Bryan Wildenthal Distinguished Chair in Medical Science*.



Masashi Yanagisawa, M.D., Ph.D.

## Building a legacy of research excellence

Dr. Yanagisawa's Breakthrough Prize continues a legacy of research excellence at UT Southwestern. In addition, the institution's faculty has received six Nobel Prizes and includes 24 members of the National Academy of Sciences, 18 members of the National Academy of Medicine, and 14 Howard Hughes Medical Institute Investigators.



Helen Hobbs, M.D.



Zhijian "James" Chen, Ph.D.

UT Southwestern's first Breakthrough Prize in Life Sciences recipient was geneticist Helen Hobbs, M.D., (2016), Director of the Eugene McDermott Center for Human Growth and Development and Professor of Internal Medicine and Molecular Genetics. She received the award in recognition of transformative genetics research techniques she developed and used to identify key genes involved in lipid metabolism and fatty liver disease.

Biochemist Zhijian "James" Chen, Ph.D., Professor of Molecular Biology and Director of the University's Center for Inflammation Research, received the 2019 Breakthrough Prize in Life Sciences for his discovery of the cGAS enzyme that launches the body's immune defense against infections and cancers. That enzyme patrols the cell's interior and triggers the immune system in response to DNA.

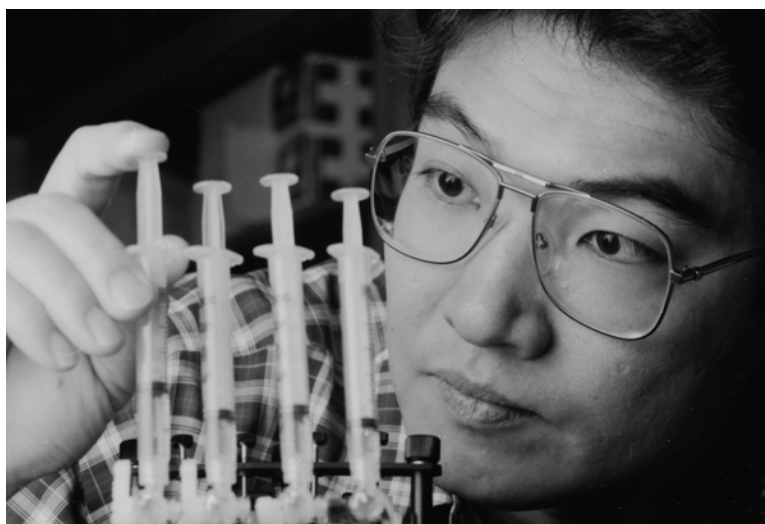
"I always deeply admired the research work of the two previous Breakthrough Prize winners from UT Southwestern, Helen Hobbs and James Chen. So being recognized by the same prize means a lot to me," Dr. Yanagisawa said.

He emphasized that UT Southwestern provides a rare research environment that includes top scientists, where talented researchers can flourish.

"Although UT Southwestern Medical Center has long been a large, internationally renowned academic medical center, it still retains a 'small-school spirit' in my view. Rather than competing, people cooperate for the benefit of our school," Dr. Yanagisawa explained.

The Breakthrough Prize Foundation's founding sponsors include Sergey Brin, Priscilla Chan and Mark Zuckerberg, Julia and Yuri Milner, and Anne Wojcicki.

### BREAKTHROUGH PRIZE



Dr. Yanagisawa, who was recruited to UTSW by Nobel Laureates Drs. Michael Brown and Joseph Goldstein, discovered orexin in 1998. His research showed that orexin deficiency causes narcolepsy.

receptor that orexin binds to; but in humans, the disease is triggered by the immune system attacking the cells that produce orexin – probably "mistaking" it for a viral particle. Drs. Mignot and Yanagisawa's discoveries have led to treatments shown to relieve the symptoms of narcolepsy, and also enabled the design of sleep-inducing drugs, the Foundation's statement said.

"This research has the potential to help the millions worldwide who suffer from debilitating sleep disorders," said Daniel K. Podolsky, M.D., President of UT Southwestern. "Dr. Yanagisawa arrived at UT Southwestern in 1991 having already identified the potent vasoconstrictor endothelin as a graduate student at the University of Tsukuba. In 1996, he initiated a systematic search for endogenous ligands of 'orphan' G-protein-coupled receptors, resulting in his orexin discovery."

UT Southwestern Nobel Laureate Michael S. Brown, M.D., Professor of Molecular Genetics and Internal Medi-

with Dr. Brown, is Chair of Molecular Genetics and Professor of Internal Medicine. (The University celebrated the 50th anniversary of the Goldstein and Brown scientific partnership in October.)

"We heard Masashi give a talk in Madrid when he was 30 years old and were incredibly impressed with him," Dr. Goldstein said. Their recruiting began at dinner that night, and within a year, Dr. Yanagisawa had settled in at UT Southwestern.

"His research is like a work of art. It's spectacular and innovative while at the same time thorough and rigorous," Dr. Goldstein said.

"I am deeply grateful to them, since my move to UTSW has entirely shaped my career as a scientist," Dr. Yanagisawa said. "I was so fortunate at UT Southwestern that I had very solid and secure research support, having continuous HHMI funding and the encouraging, friendly, but critical mentorship from Drs. Brown and Goldstein. That provided me with true psychological freedom to pursue

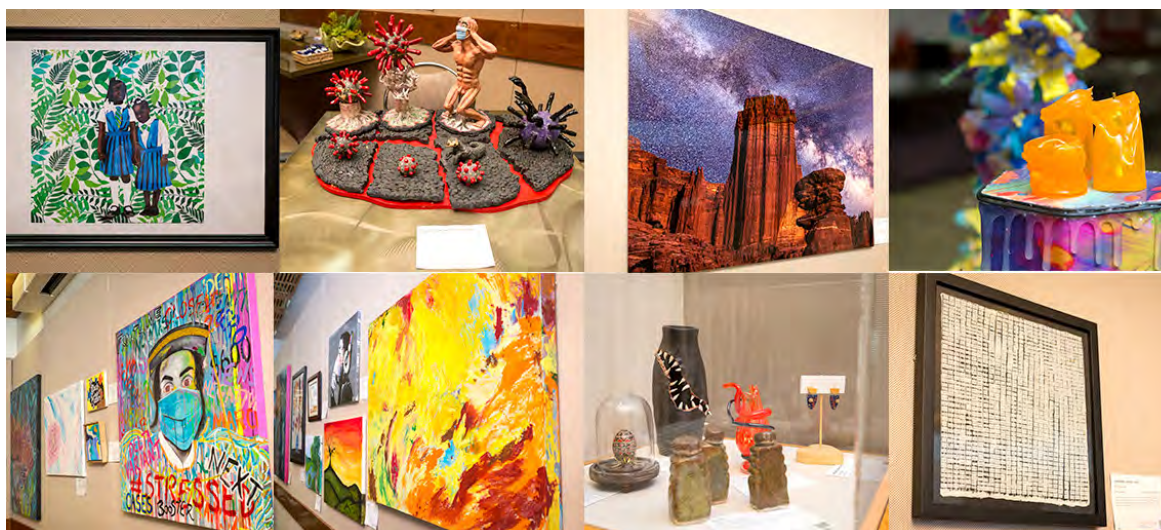
# UTSW community's creative expression celebrated through annual art show

By Jan Jarvis

A variety of artwork, from a sketch of a beloved cat to a photograph of mossy trees, lined the walls of the Faculty Club recently at a reception for the annual On My Own Time (OMOT) art show recognizing the talented UT Southwestern employees who created the cherished works of art.

This year, 82 artists submitted more than 120 entries in visual art categories to the OMOT employee art competition, sponsored by the Business Council for the Arts. The Aug. 31 reception hosted by the University recognized winners and honorable mentions. Judges were assigned by the Business Council for the Arts.

"It was heartening to see so many outstanding entries for this first in-person On My Own Time show since the beginning of the pandemic," said Courtney Crothers, Art Curator at UT Southwestern. "Creative activities offer comfort and respite during challenging times, and it's clear that artists across the UTSW community found joy through drawing, painting,



More than 80 UT Southwestern employees submitted works of art for the annual On My Own Time art show.

sculpting, photography, sewing, and writing over the past two years."

The show, now in its 21st year at UT Southwestern, attracted many first-time entries from artists who said they turned to art as a stress reliever during the COVID-19 pandemic.

Dwayne Bio, an Imaging Technologist who works for the Department of Radiology, had never entered an art

competition before. At the last minute, he submitted a piece titled *Love is Free; Freedom is Not*. The digital artwork tied for Best in Show and won the People's Choice award. Ann Chisholm from Human Resources tied for Best in Show for her mixed media artwork *Redundant Ransom Note*.

First-place winners advanced to the OMOT Regional Art Show in North-Park Center, where their work was displayed through Oct. 3.

#### Best in Show (tie) and People's Choice

While in Sierra Leone last October, Mr. Bio witnessed firsthand the hardships that his family faced in the war-torn African country before they immigrated to the United States.

Inspired by their challenges in Sierra Leone, he began sketching images that illustrated the struggles families there endured. It would take months to finish his artwork featuring two young sisters standing in front of green foliage. The girls are wearing school uniforms in green, white, and blue – the colors of the Sierra Leone flag.

The sisters from West Africa were watching out for each other, said Mr. Bio, who used a photo of the two girls as inspiration. The artwork illustrates the challenges of escaping poverty and the importance of getting an education, he said.

"The only way out of the country is really to get a scholarship," he said. "It's also the only way of getting out of poverty."

Mr. Bio's parents and two brothers left Africa in 1989 and immigrated to Texas. He was born at Parkland Memorial Hospital a year later.

Growing up in Mesquite, Mr. Bio started drawing at age 5 and later doodled anime characters. He never considered showing his art, however, and preferred to use drawing as his refuge from life's stressors.

"It's my quiet zone," he said. "When I want to focus and get away, art is what I go to."

Mr. Bio has found that working in Radiology has enhanced his artwork.

"I take images all day long," he said. "Knowing anatomy has helped me with my artwork."

#### Best in Show (tie)

Twenty years ago, Ms. Chisholm's passion for collages started with words cut from paper and then glued around the edge of a small canvas.

In her latest artwork, she covers an entire surface with rows and rows of a single word. To create *Redundant Ransom Note*, she typed the word "and" hundreds of times on an old typewriter and then glued the words onto a canvas.

"It's a commentary on contemporary society being held ransom by social media," she said.

Ms. Chisholm, who tied for Best of Show, is no newcomer to the OMOT art show. The Human Resources Project Manager has won three times since she came to UT Southwestern five years ago. Creating her collages is tedious work – but it is also thought-provoking.

"While you are gluing little pieces of paper, you have lots of time to think," she said. "It takes a lot of patience."

Ms. Chisholm's interest in art began as a student at the University of Texas.

## On My Own Time literary arts winners announced

Three UT Southwestern employees placed in the literary arts categories of the On My Own Time Competition, sponsored by the Business Council for the Arts.

"Literary arts entries were judged regionally among submissions from companies across North Texas that participated in the On My Own Time competition," said Courtney Crothers, Art Curator at UT Southwestern. "The talent pool was broad, and writers from UTSW are among the best."

The UTSW winners are: Jennifer Wang – first-, second-, and third-place in three separate entries in Open Verse Poetry (Professional); Cheryl Hoppe – third place in Creative Nonfiction (Amateur); and Devika Rao – third place in Fictional Short Story (Professional).

Literary arts winners were asked to read their submissions at a reception hosted by the Business Council for the Arts on Oct. 11 at the AT&T Performing Arts Center.

She was pursuing an art history degree when she began making monoprints for a class. She continued her studies at the University of Florida, where she earned a master's degree in fine art.

She then moved to New York City, where she pursued a career in art before moving to Dallas about six years ago. She continues to sell her work and show it in galleries.

"I like to create art that is aesthetically pleasing and is interesting visually," she said, "But it also has interest as well as meaning."

**More online:** Check out the full list of winners as well as a photo gallery in *Center Times Plus* at [utsouthwestern.edu/ctplus](https://utsouthwestern.edu/ctplus).



Dwayne Bio kneels beside his winning digital artwork piece, *Love is Free; Freedom is Not*.



Ann Chisholm created her winning collage, *Redundant Ransom Note*, as a commentary on society being held ransom by social media.

#### Lega honored with TMA mentoring award

The Texas Medical Association (TMA) Resident and Fellow Section recently honored **Bradley Lega, M.D.**, Associate Professor of Neurological Surgery, Neurology, and Psychiatry, with the 2022 J.T. "Lamar" McNew, MD, Award for his service to physicians-in-training.

Named for Dr. McNew, a retired physician who served in the Brazos Valley region and taught at the Texas A&M Health Science Center, the award celebrates a TMA physician who has provided outstanding mentoring and service to residents and fellows.



Bradley Lega, M.D.

"The medical students and residents at UT Southwestern are among the best in the country," Dr. Lega said. "It's easy to teach people with so much motivation and talent. They make my job easy, and I'm sure many of them will

## NEWS MAKERS

go on to be exceptional teachers for future trainees."

The nomination came from Department residents, emphasizing Dr. Lega's patience with teaching in the operating room and ready availability to staff urgent cases on short notice, even on nights and weekends.

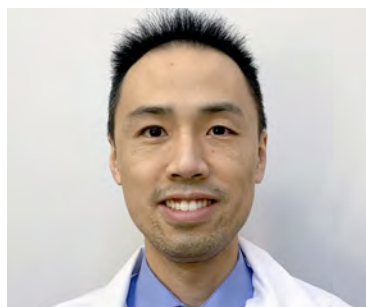
The largest state medical society in the nation, TMA represents nearly 56,000 physician and medical student members.

#### V Foundation awards grant to cancer researcher Chen for pineoblastoma work

Pediatric physician-scientist **Kenneth Chen, M.D.**, has been selected to receive a V Scholar Grant from the V Foundation for Cancer Research to support his research on how a pair of related genes regulate pro-growth signals in pineoblastoma.

Pineoblastoma is a type of cancer that starts in the brain's pineal gland, which is in the center of the brain and produces the hormone melatonin. Cancer can arise when pro-growth signals such as Igf2 are not turned

"off," but scientists do not yet know which signals are most important. The study will examine whether Igf2 is the



Kenneth Chen, M.D.

most important and how the signal gets turned "on."

"Lastly, it will test whether a drug that targets Igf2 will be effective in these cancers," said Dr. Chen, a UT Southwestern Assistant Professor of Pediatrics and with the Children's Medical Center Research Institute at UT Southwestern. He is also a member of UT Southwestern's Harold C. Simmons Comprehensive Cancer Center and

an attending physician at the Pauline Allen Gill Center for Cancer and Blood Disorders at Children's Health.

V Scholar Grants support early tenure-track faculty by funding a range of projects including laboratory-based and bench-to-bedside research. Each two-year grant includes \$200,000.

#### Kowalske elected President of Academic Physiatrists group

**Karen Kowalske, M.D.**, Professor of Physical Medicine and Rehabilitation, has been elected President of the Association of Academic Physiatrists (AAP), an international organization of physiatry professionals dedicated to improving patient care by advancing the specialty through research and education. She will begin her two-year term in February.

Dr. Kowalske's goals include implementing the AAP's new strategic plan, launching a physiatrist fund focused on fundraising for educational initiatives, expanding awareness of physiatry with specialties, working with student groups to increase physiatry exposure during medical school – especially medical schools without a physiatry presence – and expanding educational programming for residents.

"I also want to work with early career physiatrists to better understand their needs and the type of learning opportunities that would decrease burnout and

improve job satisfaction in the first 10 years of practice," she said.

Dr. Kowalske has special expertise in treating patients with complicated cata-



Karen Kowalske, M.D.

strophic injuries, including burns and complex or nonhealing wounds. The Principal Investigator of the renowned North Texas Burn Rehabilitation Model System, she has published more than 110 peer-reviewed articles and abstracts – many related to burn care and outcomes – and delivered 90-plus invited lectures. Her research interests also include wound care, amputations, post-ICU cognitive decline, and patient outcomes.

Dr. Kowalske holds the Charles and Peggy Galvin Professorship in Physical Medicine.