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CAMPUS EDITION

DeBerardinis elected to the National Academy of Medicine

By Katie Regan

Dr. Ralph DeBerardinis, a Professor at the Children's Medical Center Research Institute at UT Southwestern (CRI), has been elected to the National Academy of Medicine (NAM), one of the highest honors in the fields of health and medicine.

Dr. DeBerardinis, who is also a UT Southwestern Professor of Pediatrics and a Howard Hughes Medical Institute (HHMI) Investigator, is known for his significant discoveries in cancer metabolism and research into childhood conditions known as inborn errors of metabolism. He is among 100 new members of NAM announced in October. With his election, UT Southwestern now has 17 NAM members among its faculty. Dr. DeBerardinis is also the second member of CRI to be elected to NAM, along with Dr. Sean Morrison, Director of CRI.

NAM recognizes individuals who have demon-



strated outstanding professional achievement and a commitment to service. Along with the National Academy of Sciences and the National Academy of Engineering, NAM advises the nation and the international community on critical issues in health, medicine, and related policies.

"I'm so grateful to the academy for recognizing our work and for the people in my lab whose creativity and perseverance are responsible for the discoveries that led to this honor," said Dr. DeBerardinis, who is also Chief of

the Division of Pediatric Genetics and Metabolism at UT Southwestern and an attending physician at Children's Health. "I am fortunate to be in an environment at UT Southwestern and Children's Health that values mechanistic, disease-focused research and cultivates the collaborative environment at CRI that has made our research possible. Thanks also to my family for their patience and support, and to all the patients who have participated in our studies over many years."

Dr. DeBerardinis' achievements include help-

ing to pioneer a new way to study altered metabolism directly in cancer patients. This has allowed his team to uncover the mechanisms by which tumors use nutrients to produce energy and to identify metabolic pathways that allow tumors to grow and spread. The approach provides researchers with insights impossible to obtain in the laboratory and is now being used to study metabolism in nearly a dozen forms of human cancer.

Recently, the DeBerardinis laboratory discovered that lactate is metabolized by human tumors growing in the lung, a finding that challenges a nearly century-old observation known as the Warburg effect that considered lactate to be a waste product of tumor metabolism. The finding opens new avenues for the study of potential therapeutics as well as new imaging techniques in lung cancer – the world's leading cause of cancer deaths.

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Schoggins receives prestigious NIH Director's Pioneer Award

Microbiologist will use funding to study how genetic immunity protects animals from deadly viruses they carry



By Carol Marie Cropper

Associate Professor of Microbiology Dr. John Schoggins, who studies how the body's innate immune system responds to coronaviruses, is one of 10 recipients of the coveted NIH Director's Pioneer Award from the National Institutes of Health.

As a result of the award, Dr. Schoggins will receive \$3.5 million over the next five years to examine whether animals that carry viruses, such as Ebola and SARS-CoV-2, possess antiviral genes that allow them to survive. The research

may lead to information that could help researchers develop treatments for humans who contract diseases like COVID-19.

Dr. Schoggins submitted his grant proposal to study the animal vectors that increasingly spread disease to humans in October 2019, months before the world became aware of COVID-19 – a disease thought to have originated in bats. He said he was "surprised" and "elated" to learn his proposal had won.

"Given that we're now in the middle of a pandemic, it probably helped that

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Finding the Achilles' heel of a killer parasite

Studies in Science examine the basic biology of schistosomes to uncover vulnerabilities that could lead to new treatments

By Christen Brownlee

Two studies being led by UT Southwestern researchers shed light on the biology and potential vulnerabilities of schistosomes – parasitic flatworms that cause the little-known tropical disease schistosomiasis. The findings, published recently in *Science*, could change the course of this disease that kills up to 250,000 people a year.

About 240 million people around the world have schistosomiasis – mostly children in Africa, Asia, and South America in populations that represent "the poorest of the poor," said study leader Dr. James J. Collins III, Associate Professor of Pharmacology.

Most of those infected survive, but those who die often suffer

organ failure or parasite-induced cancer. Symptoms can be serious enough to keep people from living productive lives, Dr. Collins said.

The parasite that causes this disease has a complicated life cycle that involves stages in both freshwater snails and mammals. Dwelling in mammalian hosts' circulatory systems, schistosomes feed on blood and lay copious numbers of eggs, all while causing an array of symptoms including abdominal pain, diarrhea, bloody stool, or blood in the urine. Larval worms are released from snails into water, where the flatworms then may infect humans by penetrating the skin. Schistosomiasis may become a chronic disease that affects the person for years.

Only one drug, praziquantel, is available to treat this condition.



Scanning electron micrograph of an adult male and female schistosome worm pair. Credit: Dr. James Collins and Ana Vieira

However, Dr. Collins explained, it is of limited use – it doesn't kill all intramammalian stages of the schistosome life cycle, and it has a variable cure rate in some endemic settings. There's been little interest by pharmaceutical companies in developing new drugs for this disease, he added.

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UT Southwestern honored with INSIGHT into Diversity Award

By Lori Sundeen Soderbergh

UT Southwestern has received the 2020 Health Professions Higher Education Excellence in Diversity (HEED) Award from *INSIGHT Into Diversity* magazine, the oldest and largest diversity-focused publication in higher education. This is the third consecutive year the University has received the national honor.

The Health Professions HEED Award recognizes U.S. medical, dental, pharmacy, osteopathic, nursing, veterinary, allied health, and other health schools and centers that demonstrate an outstanding commitment to diversity and inclusion.

"It is only through a diversity of experiences, backgrounds, and an inclusion of differing perspectives that

we can truly flourish as an institution," said Dr. Marc Nivet, Executive Vice President for Institutional Advancement. "In receiving the award, we validate the emphasis that our leadership continues to place on making UT Southwestern a place where all members of the campus community are treated with dignity and respect. It's critical to our abilities to successfully educate the next generation, achieve scientific success, and deliver quality patient care."

UT Southwestern's commitment to improving diversity in medicine spans all facets of the institution including student recruitment and retention, addressing multicultural and women's health issues in the curriculum, and leading community health outreach.

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WNBA draftee joins Medical School Class of 2024



Rice University graduate Erica Ogwumike passed up a WNBA draft pick opportunity to attend UT Southwestern Medical School.

By Nyshicka Jordan

In March, Erica Ogwumike, then a senior at Rice University, had an important decision to make about her future.

Erica, who was a star basketball player at the university and named Conference USA Player of the Year twice, had been accepted at eight medical schools. UT Southwestern was one of her top choices – not only because of its strong academic reputation, but because the admissions committee made her feel like her background as a student athlete was an asset, she said.

"I took that into account because it shows the diversity that the school wants and I felt very welcomed

because of it," she said.

Then, in April, her career planning process grew more complicated with some unexpected but exciting news. She was drafted into the WNBA by the New York Liberty, before being traded to the Minnesota Lynx the same day.

"I was planning my life as if basketball was going to be done," she said. "I was applying to medical school and interviewing all throughout my basketball season. So when I got drafted in April, it was surprising."

Erica was surrounded by her parents and three older sisters as her name was called on TV. The draft announcement was made all the more special because her two oldest

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STEPPING OUT

UTSW employee Thelma Morgan completes more than 100,000 steps in one day to win the Steps Challenge.

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PROVIDING OPPORTUNITY

As part of a new program to increase racial diversity among Graduate School faculty, the first PROVIDES scholars are named.

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TRANSPLANT SUCCESS

UT Southwestern's Transplant Program celebrates a significant milestone with completion of its 3,000th organ transplant.

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Steps Challenge winner smashes 100K steps target

By Courtney Borchert

UT Southwestern's reigning cardio queen is burning through fitness trackers as she breaks steps challenge records.

Thelma Morgan, a Medical Transcriptionist for Clinical Laboratory Services, secured her second, back-to-back, UTSW Steps Challenge win after amassing a jaw-dropping 105,745 steps in just 24 hours. Her family jokes that even the market's most popular wearable trackers are no match for Ms. Morgan's tenacity after her last one fizzled out in the weeks leading up to the annual challenge.

The walking event was moved to a new date this year to coincide with the American Heart Association's Dallas Heart Walk, which united walkers virtually on Sept. 12 in response to the coronavirus pandemic. UTSW had 1,725 total walkers participate in the Heart Walk, including 82 UTSW teams that raised \$36,320.

More than 300 members of the campus community took part in UTSW's Steps Challenge and collectively walked about 4 million steps. Notable steppers who logged more than 50,000 steps include Sangeeta Patel, May Dela Cruz, Alvaro Noriega Ramirez, Jaquana Ards, and Laura Thielemann.

In the wake of COVID-19, Ms. Morgan believes staying physically



Thelma Morgan, a Medical Transcriptionist for Clinical Laboratory Services, secured her second, back-to-back, UTSW Steps Challenge victory.

active is as important as ever. Many people have watched their daily movement decline since spring, compared to pre-pandemic conditions. These lifestyle shifts have resulted in more sedentary routines in a lot of cases.

"Setting goals is the first step to becoming a champion of your health," she said. "You owe it to yourself and your heart to stay healthy and be the best you can be, inside and out." Ms. Morgan sets a personal goal to walk at least 15,000 steps each day.

Dr. John Warner, Executive Vice President for Health System Affairs, crushed his own goal of surpassing

40,000 steps during the September challenge.

For the challenge, Ms. Morgan wanted to raise the bar by walking the most she ever has in a single day. With a comfortable pair of shoes and a portable charger to keep her phone's step tracker powered all day, she knew she would be unstoppable.

"I always look for reasons to smile," she said. "I saw these events as a means to embrace something positive amid the pandemic and a way to care for my health. My father died from a massive heart attack four years ago, and this is how I keep his memory alive. I was on a mission to reach 100,000 steps, and

I'm happy to say that I scored another win for my dad."

She previously walked 85,637 steps during an earlier challenge in February as part of American Heart Month. She has worked hard to build up her high-steps reputation over the last four years of the Steps Challenge. Year after year, she has climbed up the ranks, and now she is standing at the top.

"You do not focus on the hurdle; you look to the finish line," she said.

Upon learning the news of her big win, Ms. Morgan was elated. She immediately took a few victory laps around her home. She said she could



Dr. John Warner, EVP for Health System Affairs, beat his goal of 40,000 steps.

feel her dad smiling down from above.

The 65-year-old aims to leave behind a strong legacy at work and in life. When she does retire, she said Steps Challenge participants will have some big shoes to fill, but she knows the UT Southwestern community will gladly step up to the challenge.

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.

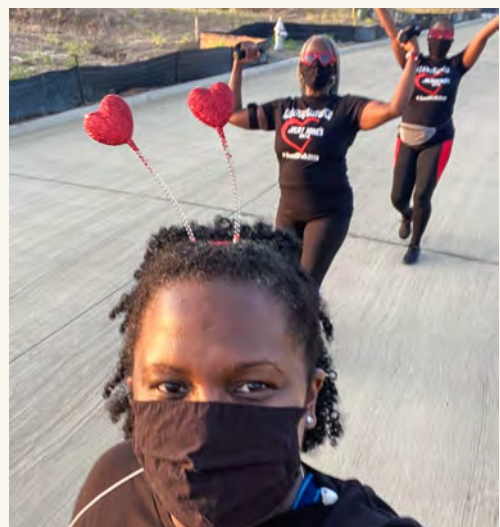
Walking into victory: Steps Challenge

Members of the UT Southwestern community took to the streets on Sept. 12 for the American Heart Association's Dallas Heart Walk. To keep supporters safe during the COVID-19 pandemic, participants could walk anywhere in their community. The twist on the annual walk raising awareness to fight cardiovascular diseases was captured on social media.

UT Southwestern had the highest number of teams and walkers in the Hospital, Healthcare,

and Wellness category for the event. Donations to the AHA on behalf of UTSW came in at more than \$36,000.

The Heart Walk, which started in Dallas in 1994, is the largest AHA walk in the country. The event raises money to assist heart disease and stroke patients, fund research at UT Southwestern and other leading research centers, and promote wellness initiatives. The majority of the funds raised stay in North Texas.



More online: Did we catch you stepping out? Check out all the photos from this year's Heart Walk in our *Center Times Plus* photo gallery at utsouthwestern.edu/ctplus.

Simmons Cancer Center investigators receive more than \$5 million in CPRIT funding

By Patrick McGee

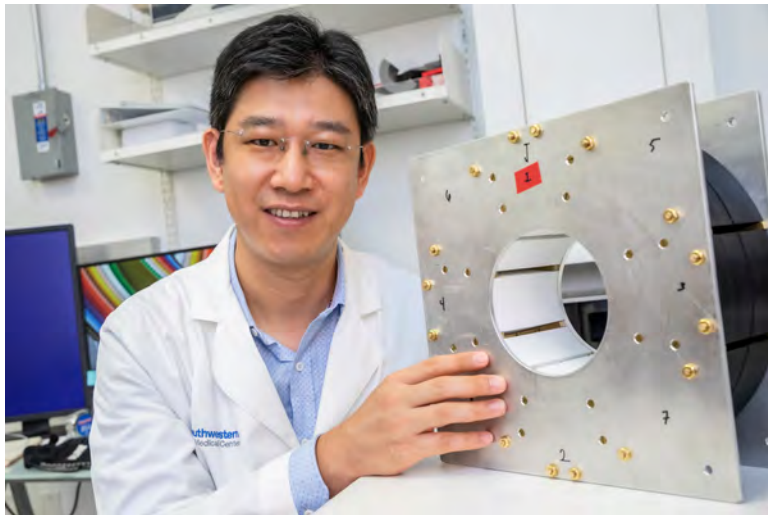
The Harold C. Simmons Comprehensive Cancer Center at UT Southwestern received more than \$5 million in research funding in the latest round of grants awarded by the Cancer Prevention and Research Institute of Texas (CPRIT).

"Texas voters strongly reaffirmed their support for CPRIT in last year's election, with nearly two-thirds of them approving another \$3 billion in bonds to fund cancer research and prevention. The research work continues apace with new funding that will advance the Simmons Cancer Center's work in immunotherapy, radiation oncology, and the development of new blood tests," said Dr. Carlos L. Arteaga, Director of the Simmons Cancer Center.

Liver cancer screening

Screening for liver cancer is the focus of Dr. Amit Singal, Professor of Internal Medicine and Population and Data Sciences, Medical Director of the Liver Tumor Program, and Clinical Chief of Hepatology at UT Southwestern. He received a \$2.5 million CPRIT grant that builds on previous funding from CPRIT and the National Cancer Institute.

His work seeks to improve screenings for liver cancer. Current screening methods, including ultrasounds and a serum biomarker, miss more than a third of early detections even though the ultrasounds are conducted as frequently as every six months for patients at higher risk because of cirrhosis. Patients with late-stage detection of liver cancer have a median survival of less than a year, so early diagnosis is critical.



Dr. Xun Jia

The CPRIT funding will allow Dr. Singal to further test a new blood biomarker that shows promise in detecting liver cancer and is expected to be superior to a serum biomarker currently in use. Dr. Singal will also use artificial intelligence to analyze medical records of patients with cirrhosis and stratify them based on risk.

Immunotherapy for liver cancer

Dr. David Hsieh, Assistant Professor of Internal Medicine, is studying immunotherapy for liver cancer. He received nearly \$1.5 million to investigate whether a drug may enhance the effectiveness of existing immunotherapies for liver cancer. The drug, a type of sulfonamide called E7820, was previously tested in patients as an anti-cancer drug but was not found to be broadly effective.

Dr. Hsieh's proposal that E7820 might be able to kick-start immunotherapy and his work on the next

steps is an example of collaboration across labs at UT Southwestern. The precise mechanism of E7820 was discovered by Dr. Deepak Nijhawan, Associate Professor of Internal Medicine and Biochemistry, and Dr. Hsieh joined his lab as a fellow in 2018. In the Nijhawan lab, Dr. Hsieh worked with colleagues to develop biomarker tests to determine whether E7820 may kill blood cancers. However, because E7820 induces alternative splicing, this drug may also be used to make cancer cells more recognizable to the immune system. Unmasking cancer so the immune system can see it is a crucial step in getting immunotherapy to unleash its cancer-killing potential.

Dr. Hsieh collaborated with Dr. Hao Zhu, Associate Professor at the Children's Medical Center Research Institute at UT Southwestern and of Internal Medicine and Pediatrics, to test the drug combined with immunotherapy in animals. He said his CPRIT grant will complete the

animal trials and start clinical trials in patients with liver cancer.

Immunotherapy for lung cancer

Dr. Kathryn O'Donnell, Associate Professor of Molecular Biology, received a \$900,000 CPRIT grant to study immunotherapy for lung cancer that is working well, but only for some patients. Her laboratory performed a genome-wide screen to identify new genes that regulate Programmed Death Ligand 1, or PD-L1, a protein on the surface of cancer cells that shuts off the immune system's ability to see it. They found that activation of the integrated stress response pathway, or ISR, which cells use to deal with stress conditions such as low oxygen or nutrient starvation, triggered lung cancer cells to make more PD-L1 protein.

Dr. O'Donnell's CPRIT grant will study the mechanisms by which the ISR regulates immune checkpoints and determine whether this pathway can be modulated to trigger immune responses – and get immunotherapy to work – in more patients. She anticipates that CPRIT funding will provide new opportunities to harness the immune system to treat lung cancer patients.

MRI scanner for radiation

Dr. Xun Jia, a Professor of Radiation Oncology, in collaboration with Dr. Anke Henning, Professor of Radiology and Director of the Advanced Imaging Research Center, received a \$250,000 grant to develop a new MRI scanner that will help keep radiation focus on tumors in radiotherapy. Instead of using MRI imaging conducted days or weeks ago, the MRI Dr. Jia is developing will attach to radiotherapy equipment and show

MRI images immediately before or during radiation treatment. This will help see the tumor and target the radiation. The current state-of-the-art radiotherapy uses cone-beam computed tomography attached to radiotherapy equipment to guide radiation delivery. The new MRI scanner will enable better tumor visualizations without the concern of X-ray exposure in computed tomography.

"We need to see where the tumor is at the moment of treatment before we can fire the radiation to kill the cancer. The new scanner will allow us to see the tumor," Dr. Jia said.

The MRI's real-time imaging allows radiation oncologists to account for slight tumor movement and help to keep radiation on the tumor to spare healthy tissue. Drs. Jia and Henning expect the device's development to take about two years, and they will seek a patent. Dr. Jia said it could be a significant contribution to the fight against cancer because more than half of cancer patients receive radiation treatment.

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

Dr. Henning holds the Terry and Robert B. Rowling Chair.

Dr. Singal holds the David Bruton, Jr. Professorship in Clinical Cancer Research and is a Dedman Family Scholar in Clinical Care.

Dr. Zhu holds the Kern Wildenthal, M.D., Ph.D. Distinguished Professorship in Pediatric Research.

More online: Read the full story on *Center Times Plus* at utsouthwestern.edu/ctplus.

Corbitt aspires to advance health in rare dual role as pediatric surgeon-scientist

By Nyshicka Jordan

Dr. Natasha Corbitt describes her dual role as surgeon and scientist as a privilege. "As a pediatric surgeon, I have the opportunity to have a long-term impact on someone's life because I'm treating patients as children. When I am operating on neonatal or premature babies, I feel lucky to be able to give them a fighting chance," she said. "And then I can take that information into the lab and think about how I can make the life of the next patient better."

In September, Dr. Corbitt joined UT Southwestern as Assistant Professor of Surgery and as a pediatric surgeon at Children's Medical Center Dallas. When she completed her pediatric surgery fellowship at the University of Michigan in July, she became the first Black female pediatric surgeon in the United States to hold a Ph.D. Hers is in cellular and molecular pathology.



Dr. Natasha Corbitt

"I have always been conscious of the rarity of Black women in academic surgery. It's very easy to recognize that I'm the only one who looks like I do in a lot of different spaces, but I never set out to be the first of anything," she said.

Early on, Dr. Corbitt learned to tackle the unfamiliar. She became the first in her family to graduate from college after completing high school at age 16 and entering Howard University on a full academic scholarship. She grew up in Atlantic County, New Jersey, and her family members primarily worked in the casino business. As a preteen, she watched her brother survive a severe illness, which influenced her to become a doctor.

"My family spent so much time at the hospital and that's what really inspired me to want to be a doctor – watching the team of people that took care of my brother," she said. "So after that, even though I hadn't come from this legacy of doctors, I just focused on what steps I needed to take to get where I wanted to go."

Although Dr. Corbitt entered college focused on becoming a physician, a research internship



Dr. Corbitt studies hepatobiliary diseases and complex pediatric wounds in the Zhu lab at the Children's Medical Center Research Institute at UT Southwestern.

after her freshman year opened her eyes to a career as a surgeon-scientist. She said research provides a different way to use her mind.

"Medicine is a lot of memorization, but in research there is a lot of innovation and creativity," she said.

Impactful work

As a student, Dr. Corbitt faced many critics who questioned her ability to successfully pursue such a challenging path, but a research fellowship focused on vaccines she completed at the University of Pennsylvania solidified her passion to become a physician-scientist. Today, she said her clinical and research sides are never not working together. She routinely performs surgeries for congenital pediatric disorders. The smallest child that Dr. Corbitt has operated on weighed just 500 grams at 24 weeks old, while the oldest have been patients in their 20s.

At UTSW, Dr. Corbitt conducts research in the lab of Dr. Hao Zhu at the Children's Medical Center Research Institute at UT Southwestern, studying hepatobiliary diseases and complex pediatric wounds.

"My main research goal is to understand why kids get biliary atresia, which is the No. 1 reason that kids end up needing a liver transplant. And that isn't ideal because of how long the liver then needs to last when transplanted at a young age," Dr. Corbitt said.

Biliary atresia (BA) occurs in neonates and

infants when the bile duct outside of the liver becomes scarred and blocked, leading to a buildup of bile in the liver that damages the organ. Approximately two-thirds of BA patients will undergo liver transplantation before reaching adulthood.

"Because I love liver surgery so much, that drew me to wanting to understand biliary atresia better. One of the operations for biliary atresia is a Kasai portoenterostomy, which doesn't always work, and many times children will still need a liver transplant. So it's an operation that leaves me wanting to do more for children and their families," she said.

Dr. Corbitt, who hopes to have her own lab one day, said coming to UTSW affords her access to valuable resources to help her grow as a scientist.

"I think it is important being in a cultivating environment with access to state-of-the-art facilities and some of the brightest minds in the country. So I couldn't think of any other place to be," she said. "Coming here is a unique opportunity, to be able to bridge the research bench to the bedside and to really do impactful work that I think is difficult to do in some other places."

A better path for others

The surgeon-scientist said she also made a conscious decision to work at an academic medical center because of the exposure to students and trainees. Although she has bene-



Dr. Corbitt routinely performs surgeries for congenital pediatric disorders.

fited from mentors of varying backgrounds, she said there is value for minority students and trainees to see doctors and scientists who look like them.

Dr. Corbitt is in a unique class in surgery, as only 16 Black women have become pediatric surgeons in the U.S., according to a list from the Society of Black Academic Surgeons and the American Pediatric Surgical Association.

"Along every step of the way, I rarely saw anyone who looked like me who did the job I wanted to do. Initially I found that discouraging. But later it motivated me because I felt I owed it to kids to show them that someone who looks like them could do this work," she said.

"I do feel an obligation to help aspiring doctors get to wherever they want to go. My goal is to make it less painful to go through this process if this is what they choose for their future and to be a resource and support system for underrepresented minority students and residents," Dr. Corbitt added.

Dr. Zhu, Associate Professor of Internal Medicine and Pediatrics, holds the Kern Wildenthal, M.D., Ph.D. Distinguished Professorship of Pediatric Research.

More online: Read the full story on *Center Times Plus* at utsouthwestern.edu/ctplus.

FOCUS: COVID-19 CRISIS

Overweight and obese younger people at greater risk for severe COVID-19

Those under age 50 are more likely to be hospitalized, need a ventilator, and die from COVID-19 if they're severely obese

By Carol Marie Cropper

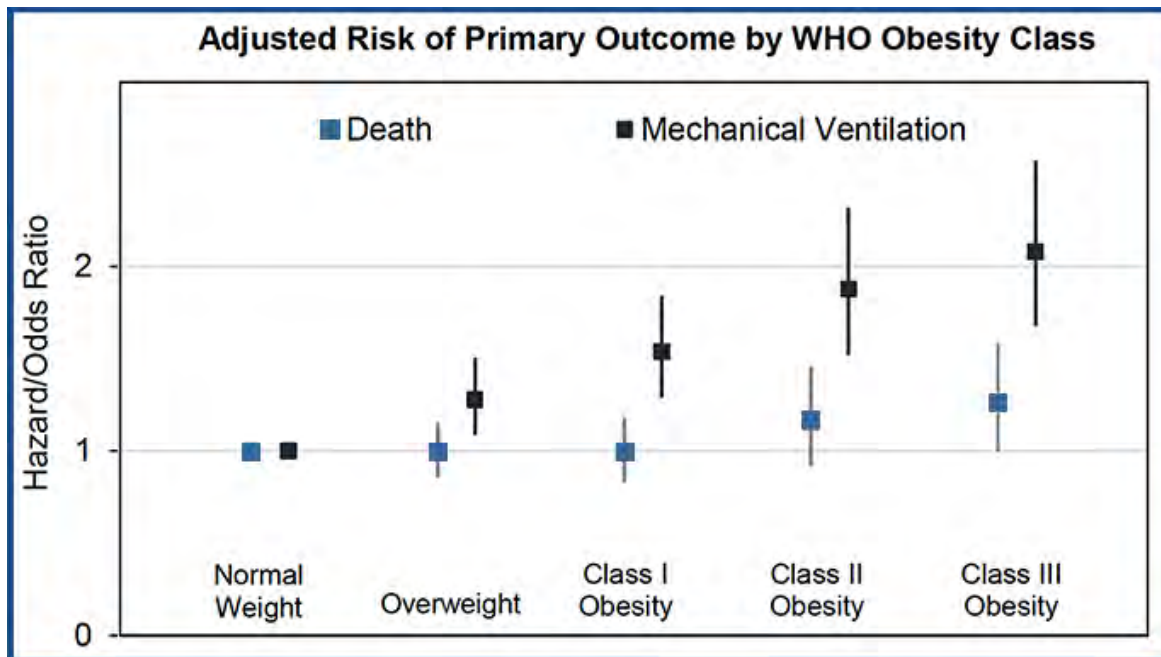
Being younger doesn't protect against the dangers of COVID-19 if you are overweight, according to a new study from UT Southwestern. While all adults who are overweight or obese are at greater risk for serious complications from the disease, the link is strongest for those age 50 and under.

More than 42 percent of American adults are now obese, according to the Centers for Disease Control and Prevention, and another 30 percent or so are overweight. Being overweight is defined as having a BMI (Body Mass Index) of 25-29, while those with a BMI of 30 or above are said to be obese.

"If you're young and obese, you're still at high risk despite your age," said Dr. Justin Grodin, M.D., Assistant Professor of Internal Medicine and senior author of the study published recently in *Circulation*. (In the study, young is defined as age 50 or younger.)

"In general, obese individuals are more likely to be hospitalized with COVID-19 than normal weight individuals," added Dr. Nicholas Hendren, UTSW chief cardiology fellow and first author of the study. "In the hospital, obese individuals are at higher risk for death or the need for mechanical ventilation to help them breathe, even if they are young."

The study's findings should alert people who are overweight or obese – including those age 50 and under who may feel safe because of their age – that they are at greater risk from COVID-19, said Dr. Grodin. Those in the most



Above diagram illustrates the hazard and odds ratios for in-hospital death and mechanical ventilation, respectively, by World Health Organization Obesity Class. Class III obesity (BMI ≥ 30 kg/m²) was associated with a significantly higher risk of in-hospital death. Overweight and Classes I-III obesity were associated with a significantly higher risk of mechanical ventilation.

severe category of obesity, called Class III and defined as having a BMI of 40 or higher, should be considered high risk and may warrant prioritization for a COVID-19 vaccine when it becomes available, Dr. Grodin added. About 7 percent of the adult population falls into this category, according to the study.

While the numbers don't explain why obesity worsens outcomes for COVID-19 patients, the study suggests several possibilities.

First, obesity is associated with diseases that have been linked to

worse outcomes for COVID-19, such as hypertension and diabetes, according to the study. Secondly, the SARS-CoV-2 virus uses an enzyme called ACE2 to enter and infect human cells, and that enzyme is abundant in fat tissue. In addition, simply having more weight on the chest may make it harder for COVID-19 patients to breathe, Dr. Grodin said.

Also, negative effects tied to obesity may be especially apparent in younger patients because older COVID-19 patients have so many

other risk factors, he added.

The *Circulation* study analyzed data from more than 7,600 patients at 88 U.S. hospitals who were enrolled in the American Heart Association's COVID-19 Cardiovascular Disease Registry. Dr. James de Lemos, Professor of Internal Medicine, helped create the registry along with volunteers and AHA staff. The *Circulation* study team adjusted its findings of risk to take into account patients' age, sex, race, and prior health problems.

Looking at patients age 50 and

under hospitalized for COVID-19, the researchers found that the vast majority – 85 percent – were either overweight or obese. That compares with 54 percent of patients over age 70, making weight more of a risk marker for the younger group. Among patients 50 and under, those with severe obesity had a 36 percent greater risk of dying, compared with normal weight individuals, the study found. Overall, adult patients with severe obesity had a 26 percent higher risk of dying.

Evaluating all adult patients, the risk of being sick enough to require a ventilator rose in lock-step as weight increased from overweight to Class III obesity, according to the study. The risk of death also rose for those who had Class III obesity.

"There is a greater proportion of obese people among those hospitalized for COVID-19," Dr. Grodin said, "and obese patients are at higher risk for complications."

In addition to greater risk for death and the need for ventilation, higher BMI also was linked to the need for kidney dialysis and the development of blood clots in deep veins and the lungs, according to the study.

Dr. de Lemos holds the Sweetheart Ball-Kern Wildenthal, M.D., Ph.D. Distinguished Chair in Cardiology.

More online: Read the full story on *Center Times Plus* at utsouthwestern.edu/ctplus.

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the introductory paragraph of my grant proposal talked about pandemic viruses," Dr. Schoggins said. "We hope to make a big impact. With this kind of funding, you basically have the freedom to really take risks and do experiments that you probably couldn't afford otherwise."

Dr. Schoggins said he will use the money to buy equipment and add more researchers to his lab.

"All the animals in the world get

viruses just like we do," Dr. Schoggins said. "The question is: Why do bats or rodents, for example, control viruses that we seem to not be able to control as well? We think there may be important evolutionary differences in the immunity genes between, say, humans and bats, cats, or dogs, or cows, or pigs – whatever it is."

The viruses that Dr. Schoggins will study are zoonotic, meaning they can move from their normal

animal reservoirs into humans. Humans continue to put themselves at risk for exposure to these viruses by encroaching on new wilderness areas or taking these animals out of their environments and bringing them into human-dense settings, Dr. Schoggins said. "Add air travel to the mix, and you get a recipe for a pandemic that can quickly spread across the globe," he said.

Dr. Schoggins has already produced COVID-19-related research, showing how the *LY6E* gene that inhibits infection from coronaviruses such as

SARS and MERS has a similar effect on SARS-CoV-2, the virus that causes COVID-19. Working with Dr. Hesham Sadek, Professor of Internal Medicine, Biophysics, and Molecular biology, Dr. Schoggins identified several Food and Drug Administration-approved drugs that could affect the coronavirus's main protease and stop its replication.

In related research, Dr. Schoggins is looking into *IFI6* as an antiviral gene capable of targeting flaviviruses that cause West Nile disease and Zika syndrome, the latter of which can cause severe brain deformities in babies born to infected women.

Dissecting viral genetics

Dr. Schoggins, whose love for research started in college with a job washing laboratory dishes and refilling pipette tip boxes, was born in West Texas, then grew up in Corpus Christi.

After earning his Ph.D. from Cornell University Medical College (now Weill Cornell Medicine), he entered a postdoctoral fellowship at The Rockefeller University, where he studied under the respected virologist Dr. Charles M. Rice, who was awarded the Nobel Prize in Physiology or Medicine in October for his research contributing to the discovery of hepatitis C.

While at The Rockefeller University, Dr. Schoggins developed a

system to quickly screen hundreds of different human genes to test their ability to limit the growth of a given virus. The system involves marking cells expressing the genes with a red fluorescent protein and marking cells infected by the virus with a green fluorescent protein. Cells with an antiviral gene resist the virus and remain red, while cells lacking an antiviral gene are overrun by the virus and turn green. The cells can then be fed through a flow cytometer, where a laser beam can be used to analyze hundreds of red- and green-colored cells per second, Dr. Schoggins said.

His first-author report describing the new screening system was published in *Nature* in 2011. "People have now used this screening technique to do lots of different things," Dr. Schoggins said. "Using older techniques, such screens would take forever."

This is not the first time Dr. Schoggins has been recognized by the NIH's High-Risk, High-Reward Research program. In 2014, he received the NIH's New Innovator Award, designed to support "unusually innovative research from early career investigators." That award came with a \$300,000 annual grant over five years. Dr. Schoggins has also won the Burroughs Wellcome Fund's Investigators in Pathogenesis of Infectious Disease award and was named a Rita Allen Foundation Scholar.

Dr. Schoggins is the second UT Southwestern researcher to win an NIH Director's Pioneer Award (grant #DP1AI158124). Dr. Steven L. McKnight, Professor of Biochemistry, received a Pioneer Award in 2004, the first year it was awarded.

Dr. McKnight holds the Distinguished Chair in Basic Biomedical Research.

Dr. Sadek holds the J. Fred Schoellkopf, Jr. Chair in Cardiology.

Dr. Schoggins is a Nancy Cain and Jeffrey A. Marcus Scholar in Medical Research, in Honor of Dr. Bill S. Vowell.



Research this year by Dr. Schoggins and his lab colleagues showed that the *LY6E* gene inhibits infection from a variety of coronaviruses, including SARS-CoV-2.



FOCUS: COVID-19 CRISIS

COVID-19 clinical trials expand for hospitalized patients and outpatients

By Patrick Wascovich

UT Southwestern continues to expand the number of clinical trials testing new treatments for COVID-19, including some newer investigations now offered to outpatients.

As of late September, UT Southwestern had enrolled approximately 280 patients in 11 clinical trials – mostly studies involving medical centers nationwide. By mid-November, another seven investigations had been opened at UTSW. The local efforts feed incremental results into nationwide databases that advance scientific knowledge and strategies in the fight against SARS-CoV-2, the virus that causes COVID-19.

For example, initial national data released in mid-September from the **Adaptive COVID-19 Treatment Trial (ACTT-2)** has shown that baricitinib – normally used to treat rheumatoid arthritis – plus remdesivir reduces recovery time for hospitalized patients. In all, approximately

100 sites enrolled more than 1,000 patients – including 28 enrolled by Dr. Mamta Jain's team at UT Southwestern – that took part in the National Institute of Allergy and Infectious Diseases (NIAID)-sponsored investigation that launched in May.

Based on the ACTT-2 data, Eli Lilly and Co. plans to discuss the potential for emergency use authorization with the Food and Drug Administration (FDA) and to explore similar measures with other regulatory agencies for baricitinib as a treatment of hospitalized patients with COVID-19. ACTT-2 built upon an earlier remdesivir-specific trial UTSW participated in that helped hospitalized patients here and elsewhere recover more quickly versus supportive standard care – 11 days on aggregate average compared with 15 – suggesting the drug could become the first effective treatment. On May 1, the FDA authorized emergency use of the drug for COVID-19 patients.

“Although remdesivir was the starting point for COVID-19 treat-

ment, as our understanding of the pathophysiology of COVID-19 increases it has helped shape new therapies to further improve outcomes,” said Dr. Jain, a Professor of Internal Medicine. “Baricitinib is an immunomodulator, which is thought to work on the inflammatory component of the disease.”

Dr. Trushil Shah, an Assistant Professor of Internal Medicine, is leading a study to assess the safety, tolerability, and efficacy of two anti-spike monoclonal antibodies to treat COVID-19 patients. **Regeneron's first clinical trial of REGN-COV2**, its investigational dual antibody cocktail for the prevention and treatment of COVID-19, will ultimately consist of four separate study populations: hospitalized COVID-19 patients, nonhospitalized symptomatic COVID-19 patients, uninfected people at high risk of exposure, and uninfected people with close exposure to a COVID-19 patient (such as the patient's housemate). UTSW has participants enrolled both in hospitalized and nonhospitalized groups.

REGN-COV2 made the news in October, as Regeneron confirmed that President Donald Trump received the cocktail under a “compassionate use” request by the President's physicians at Walter Reed National Military Medical Center after he was diagnosed with COVID-19. Subsequent success in other patients across the country resulted in the cocktail's FDA emergency use approval on Nov. 21.

Another significant clinical trial has been launched based upon UTSW's own research. In midsummer, UT Southwestern launched a **clinical trial to test atovaquone**, a treatment with a long history for treating infectious diseases that affect the lungs. It was selected based on research by Drs. John Schoggins and Hesham Sadek following computational studies to identify FDA-

approved drugs that might stop the replication of SARS-CoV-2.

Dr. Schoggins expeditiously pivoted research on how the protein LY6E inhibited infection from coronaviruses such as SARS (severe acute respiratory syndrome) and MERS (Middle East respiratory syndrome) to confirm that the protein has a similar effect on SARS-CoV-2. Researchers then focused on more than two dozen agents that could affect the coronavirus's main protease, an enzyme involved in replication of the virus, settling on atovaquone as the most promising choice.

Associate Professor of Internal Medicine Dr. Raksha Jain, meanwhile, is the local Principal Investigator for a rapidly expanding **trial sponsored by Genentech** evaluating the safety and efficacy of two investigational drugs, MSTT1041A (anti-ST2) and UTR1147A (IL-22-Fc), for 300 patients nationwide with severe COVID-19 pneumonia. Testing is aimed at targeting the inflammatory pathways involved in COVID-19.

Clinical trials hit home

COVID-19 patients who are now home recovering or whose symptoms never required hospitalization also have opportunities to participate through an outpatient COVID-19 trial unit at the Paul M. Bass Administrative and Clinical Center.

One of those studies is the international **ColCorona trial to evaluate colchicine**, an approved drug to treat gout. The trial is examining if the drug – given in pill form – decreases the incidence of the hyperimmune reaction seen in some COVID-19 patients. UTSW recently became the first institution in Dallas to participate in this study, which is led by Dr. Jessica Meisner, Assistant Professor of Internal Medicine.

Recently diagnosed patients or

individuals who are showing symptoms and have a household member diagnosed with COVID-19 over the age of 40 can enroll in this at-home clinical trial. Once enrolled, the medicine or placebo is delivered directly to participants' homes at no cost, and participants have the support of a dedicated health care team 24/7 for any questions.

The **Regeneron 2067 trial**, meanwhile, provides adult COVID-19 outpatients monoclonal antibodies, similar to those found in plasma from patients who have recovered from COVID-19. Led by Dr. Satish Mocherla, Assistant Professor of Internal Medicine, this randomized trial involves three tracks – administration of the study drug at a lower dose, a higher dose, or a placebo in a single intravenous infusion of the medicine followed by nasal swabs and blood draws over the next two weeks to see if this drug helps clear the virus.

Dr. Raksha Jain is a Dedman Family Scholar in Clinical Care.

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.

Dr. Sadek, a Professor of Internal Medicine, Molecular Biology, and of Biophysics, holds the J. Fred Schoellkopf, Jr. Chair in Cardiology.

Dr. Schoggins, an Associate Professor of Microbiology, is a Nancy Cain and Jeffrey A. Marcus Scholar in Medical Research, in Honor of Dr. Bill S. Vowell.

For more information on these clinical trials, go to utsouthwestern.edu/covid-19/researchers/projects.html.



Health care workers in the COVID-19 unit at William P. Clements Jr. University Hospital discuss cases for the week, including those of patients taking part in UTSW clinical trials.

Virtual reality: Engaging students with an unconventional orientation

By Patrick Wascovich

In February, academic leaders at UT Southwestern began to heed troubling reports about the spread of COVID-19 and its impact. Proactively, they prepped for a seismic shift that resulted in the Medical School Class of 2024 being welcomed through a virtual-reality style of summer orientation.

“Orientation looked and felt a lot different this year,” said Dr. Melanie S. Sulistio, Associate Dean of Student Affairs at the Medical School and Associate Professor of Internal Medicine. “We had to recognize that if everything was going to be virtual, we needed to be innovative.”

Normally, the weeklong August orientation is filled with face-to-face presentations, shared meals, and plenty of in-person downtime for the students to get to know their first-year colleagues, culminating with an overnight immersion camp. This year's orientation, on the other hand, was preemptively pivoted with the COVID-19 pandemic and delivered with as much interaction as virtual learning would allow. Information was integrated with socialization, including fun events like the Battle of the Golden Stethoscope team competition. The single in-person activity focused on the students' entry into the medical profession with a hands-on, fully-cloaked PPE small-group Basic Life Support experience in the Simulation Center.

“Anytime there is a significant change, there are going to be challenges needed to be overcome,” said Dr. Christopher Faulkner, Director of Educational Technology at the Medical School and Assistant Professor of Health Care Sciences and Research. “There were many components of orientation that had to be completely rethought to ensure the incoming students were receiving the information and engagement they needed. Dr. Sulistio emphasized the goal of that week was for it to feel as lively, engaging, and informative as possible.”

Despite the sheer volume of digital material presented to them, incoming students appre-

ciated the scope, detail, and care provided by UTSW faculty, staff, and fellow students.

“The most important aspect of orientation for me was the tone of encouragement, support, and positivity that was established through all the sessions,” said Lillian Carter, an Argyle native and Baylor University graduate who has been elected co-President of the Class of 2024.

First-year student Molly Schlamp of Southlake got an early peek by participating in February's pre-pandemic live MSO welcoming event. The graduate of UT Austin is doubly impressed during orientation.

“Dr. [Shawna] Nesbitt gave a very insightful presentation about the Dallas community, its demographics, the ways that socioeconomic and sociocultural factors impact community members differently, and how these matters will be important to us as future care providers,” Ms. Schlamp said of the Associate Dean for Student Affairs in the Office of Student Diversity and Inclusion.

Mike Bosh, another first-year student and

graduate of Case Western Reserve University, said he appreciated the variety of events that were put together. “So while there was a lot of information given during the orientation week, I felt that it was balanced with breaks and changes of pace in different activities,” said Mr. Bosh, co-President of the Class of 2024.

The students also stressed the importance of hearing from other peers, like Courtney Newman, who is in her second year and on the M.D./M.P.H. track offered through the Medical School and UTHealth School of Public Health. “We really wanted to communicate that the administration and older medical students are all truly here for them,” Ms. Newman said.

Faculty members such as Dr. Blake Barker and Dr. Preston Wiles, meanwhile, were struck by the incoming class's adaptability and enthusiasm, as well as with the success of an orientation cycle forced to go virtual.

“The greatest challenge was creating an experience during which they could get to

know us, and most importantly, get to know each other,” said Dr. Barker, Associate Dean for Student Affairs and Associate Professor of Internal Medicine. “Dr. Sulistio did a fantastic job of creating ways to help them interact with each other, albeit virtually, while also balancing the risk of ‘Zoom fatigue.’”

Dr. Wiles, Assistant Dean for Student and Resident Mental Health and Wellness, said he looks forward to the day when they can be together in person.

“Our need for interpersonal connection is a core aspect of our human existence and can never be thrown out with the bathwater,” noted Dr. Wiles, a Professor of Psychiatry. “When the time comes, this class will be with each other, without masks and closer than 6 feet apart. This moment will be wonderful.”

Dr. Wiles holds the Drs. Anne and George Race Professorship of Student Psychiatry.



Incoming Class of 2024 students involved in orientation kept up the enthusiasm while staying safe.

More online: Read the full story on *Center Times Plus* at utsouthwestern.edu/ctplus.



UTSW faculty and staff assembled welcome boxes for each of the new medical students who arrived on campus at the end of summer.

PROVIDES Program aims to increase faculty diversity

By Nyschicka Jordan

To increase diversity among UT Southwestern's researchers and faculty, leaders in the Graduate School of Biomedical Sciences have instituted a new program that provides mentorship and other resources to early career scientists from minority groups underrepresented in biomedical science.

PROVIDES (Provost's Initiative for Diverse Emerging Scholars) seeks Black/African American, Hispanic/Latinx, and Native American post-doctoral fellows and helps put them on a track to become full-time faculty members at UTSW.

This summer, PROVIDES selected its first two scholars: Dr. Genaro Hernandez, who is Hispanic, and Dr. Keisha Hardeman, who is African American. Both are studying diseases that disproportionately affect Black or Hispanic populations.

"In all of our basic science research departments, we currently have no Native American faculty, only three African American faculty, and the number of Hispanic faculty is in the teens. We want and need to do better," said Dr. Nancy Street, co-Director of PROVIDES and Associate Dean and Diversity and Inclusion Officer in the Graduate School.

Researchers say there are several reasons why a racial diversity gap continues to persist at most academic institutions nationwide in the sciences – including a lack of representation at schools, failure to nurture minority students, poor cultural awareness, and financial barriers. UTSW leaders hope to ease these challenges through the resources from PROVIDES.

Support offered by PROVIDES includes financial backing while providing training in grant writing and assistance with applying for competitive fellowships. Such funding is critically important in helping researchers continue their work because one of the factors institutions consider when hiring a faculty member is whether their research is fundable.

"I think the science ends up being the easier part, but other parts of the profession are really challenging, including the pressure to get grants

and to publish in certain journals. So the grant mentorship is very important because every level of training gets more competitive," Dr. Hardeman said.

Also important is scientific mentorship. PROVIDES scholars receive career development training that includes their own personal scientific advisory committee composed of UT Southwestern scientists in their field of study to help develop research projects. They also have access to a PROVIDES scientific lecture series that features the voices of successful and experienced minority researchers from around the country and personalized networking opportunities with the visiting lecturers.

Mentors who look like you

Dr. Hernandez said he's grateful for the opportunity to work with mentors who can guide him on his research as well as with those who are educated on the challenges of being a researcher from an underrepresented minority (URM) group.

"Being that the Southwest is heavily populated with Hispanics, it's very interesting to go into a department and not see someone who looks like you. That means there is no one I can seek for guidance on issues related to being an underrepresented minority," Dr. Hernandez said.

Dr. Hardeman empathized with that sentiment. "I didn't have a Black professor until I was out of undergrad and was doing postgraduate work in a clinical science program, which is sad," she said.

"Diversity in science is important because we all have a different level of insight about the science we study. There's been a long history of unethical experimentation on Black people in research, and I think such historical and cultural perspectives still matter in the lab today," Dr. Hardeman added.

Particularly among African Americans, academic institutions nationwide have been afflicted by the same problem – while there has been a steady increase in the percentage of Black students enrolled in graduate school programs in recent years, there is a heavy drop-off when it comes to the percentage of Black postdoctoral



Dr. Keisha Hardeman studies a sample in the Burgess lab. Dr. Hardeman is one of two postdoctoral researchers named scholars for the recently launched PROVIDES Program that aims to increase racial diversity among the Graduate School faculty.



Dr. Genaro Hernandez was selected as another PROVIDES scholar. Here, he studies data in the Tagliabracci lab.

fellows and faculty. Therefore, UTSW is focused on attracting candidates at both levels.

"We have a dire need for Black postdoctoral researchers, as well as people from other diverse groups. Before we ramp up the transition to faculty program, we've got to increase the diversity of the post-doctoral population at UT Southwestern. So, really, our first focus is to increase the number of postdocs from diverse backgrounds so there are candidates to pull from that population to become independent faculty members," said Dr. Russell DeBose-Boyd, PROVIDES co-Director and Professor of Molecular Genetics.

Dr. DeBose-Boyd joined UTSW in 1998 as a postdoctoral fellow before opening his own lab and advancing to Professor. He is currently the only African American full Professor in the Graduate School. His career ascension is used as a model for PROVIDES to help advance its scholars.

Stepping up recruitment

Leaders said the low percentages of students, postdoctoral fellows, and faculty from certain minority groups are a related problem at UTSW and they believe that hiring more minority faculty members will help with the enrollment of URM students and postdoctoral fellows.

As Diversity and Inclusion Officer, Dr. Street has committed the last 21 years to recruiting minority students to help create that pipeline and travels regularly to form relationships with institutions that have large URM populations. She first met Dr. Hernandez in 2009 when she recruited him to participate in the Graduate School's SURF (Summer Undergraduate Research Fellowship) program. Dr. Street credits such networking opportunities for helping increase minority student enrollment.

"I am glad that UT Southwestern is showing it has a grasp of how to improve diversity and is being proactive, which is one of the reasons why I chose to come to UT Southwestern," said Dr. Hernandez, who earned his doctorate in pharmacology at UTSW in 2019.

While there are gains to be made at the student level, current URM levels in the Graduate School are above national averages as reported in a 2018 National Science Foundation survey. At UTSW, Hispanics make up 20.5 percent of the Graduate School enrollment compared with an average of 10.5 percent nationwide; Black student Graduate School enrollment is 8.3 percent compared with 5.3 percent nationally; and Native American enrollment is 0.6 percent compared with 0.4 percent nationally.

Significant growth in URM graduate students has occurred over the past two decades. In 2000, there were 10 URM graduate students at UTSW; in 2020, there are more than 100. In 2019, the Graduate School matriculated 42 U.S. students, including 21 from URM groups. Program directors are hopeful PROVIDES can be a vehicle to help make similar gains among postdoctoral fellows and faculty.

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

More online: Read the full story on *Center Times Plus* at utsouthwestern.edu/ctplus.

UT System fellowship supports fourth-year graduate student's infectious disease work

By Patrick Wascovich

Cody Ruhl, a fourth-year doctoral student in the Biological Chemistry Graduate Program at UT Southwestern, has been selected to receive a Jess Hay Chancellor's Graduate Student Research Fellowship award from the UT System for 2020-2021.

Mr. Ruhl is pursuing his dissertation research in the laboratory of Dr. Michael Shiloh, Associate Professor of Internal Medicine and Microbiology. Dr. Shiloh is an infectious disease specialist who focuses on tuberculosis, which kills about 1.5 million people worldwide each year.

The Hay Research Fellowships are designed to tie graduate education to timely and high-quality research. Two annual \$15,000 fellowships rotate among 12 applicable UT institutions, benefiting both an academic and health institution each year.

"I feel incredibly honored to have received the Jess Hay Fellowship knowing the amount of great research being done throughout the UT system," Mr. Ruhl said. "This support will help continue our lab's research on the transmission biology of airborne infectious diseases, which seems more important than ever during this pandemic."

His research project relates to the cause of cough during tuberculosis infection. He identified a molecule called sulfolipid-1 produced by the bacteria



Cody Ruhl plans to use the fellowship award to further his research into the cause of cough during tuberculosis infection.

that causes tuberculosis, *Mycobacterium tuberculosis*, that triggers coughing and that this mechanism is likely responsible for the very high rate of transmission of *Mycobacterium tuberculosis*. Furthermore, Dr. Shiloh said, the principles uncovered by Mr. Ruhl's work have the potential to affect studies of cough and transmission of other pathogens such as coronavirus, measles, influenza, and whooping cough.

"I am thrilled that Cody is being recognized for his hard work and creativity during his graduate studies.

This award is also a testament to the strength of science at UT Southwestern," Dr. Shiloh said.

The fellowships were established by former Regent Jess Hay, a Dallas financial executive who passed away in 2015. Mr. Hay was an advocate and visionary leader for the UT System, serving from 1977 to 1989 as a member of the Board of Regents and for 2½ years as its Chairman.

Mr. Ruhl spent two years working in an infectious disease drug discovery lab at Texas A&M University, where he majored in biochemistry. His graduate work at UTSW will continue for at least another year, after which he plans to pursue a postdoc position at a drug discovery/drug design lab that has an emphasis on structural biology.

"I have been interested in drug design for a long time now," Mr. Ruhl said. "I truly love the excitement of making new discoveries and being able to help the scientific community better understand the complex systems going on around all of us every day."

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

More online: Read the full story on *Center Times Plus* at utsouthwestern.edu/ctplus.

CLASS NOTES

IN MEMORIAM

MEDICAL SCHOOL

Robert A. "Bob" Dennison Jr., M.D. ('53)
James W. Cottingham, M.D. ('62)
Charles O. Walker, M.D. ('63)
Sandra Jan Drewry, M.D. ('65)
Laurel "Robin" Jones, M.D. ('87)

HOUSESTAFF

Thorbjorg Sigurdson, M.D. (Neurology)

GRADUATE SCHOOL

Class of 2008: Paul W. Denton, Ph.D., who joined the biology faculty at the University of Nebraska at Omaha last year, is currently researching immunotherapies into oncology treatments as a major contributing factor to improved patient outcomes. He also teaches freshman chemistry, biology, and advanced research immunology. Before that, he conducted clinical trials at the Aarhus University Infectious Diseases Department in Aarhus, Denmark. His studies have been focused on understanding the impact of immunotherapies on immunity as well as diseased cell persistence in HIV-positive individuals.

For the latest updates on alumni events and news, visit [engage.utsouthwestern.edu/alumni](https://utsouthwestern.edu/alumni) and follow @utswalumni on Facebook. Please send your Class Notes contributions or address changes to the Office of Development and Alumni Relations, UT Southwestern Medical Center, 5323 Harry Hines Blvd., Dallas, TX 75390-9009, email alumni@utsouthwestern.edu, or call 214-648-4539.

Russell Poole takes reins as new Chief Information Officer

By Courtney Borchert

Russell Poole, who led his former employer's IT organization through rapid transition as COVID-19 spread across the country earlier this year, has joined UT Southwestern as its new Chief Information Officer.

As CIO, his responsibilities include providing strategic leadership over the institution's information technology and computer systems. Additionally, he works in close collaboration with clinical, academic, research, and administrative leadership teams to oversee the design, implementation, and support of the University's information technology strategic planning initiatives and projects.

Mr. Poole, who started at UTSW on Oct. 1, is excited about the opportunity to empower employees while driving business innovation. For the last nine years, he held the position of Associate Vice Chancellor for the Office of Information Technology at the University of Colorado Anschutz Medical Campus. He was responsible for the campus's academic IT infrastructure and coordination of technology services across five affiliate hospitals providing clinical care in Denver and throughout Colorado.

In March, Mr. Poole implemented a nimble IT strategy, which helped the University of Colorado campus forge ahead with digital transformations for an uncertain future.

"If you want to test the mettle of your team, have them turn on a dime,

from supporting upwards of 3,000 people remotely at one time to about 32,000 faculty, staff, and students," Mr. Poole said. The sudden, large-scale shift to remote working resulted in many challenges that required infrastructure engineers to work overtime to ensure continuity of operations as the plan was executed in a matter of days. "Believe it or not, it went quite smoothly," he said. "We built the organization to be able to handle this."

His strategy is to build IT organizations based on professional development of people in both management and technology roles.

"I have found that having the appropriate leadership framework and development programs in place that make space for mentoring and formal training help create a positive culture

that drives performance and accountability," said Mr. Poole, who earned both an MBA and Bachelor of Science in mechanical engineering at the University of Florida.

Before working at the University of Colorado, Mr. Poole served as Director of the Technology Services Organization and Facilities in the College of Computing at the Georgia Institute of Technology.

Continuing to advance digital transformation efforts that the pandemic has accelerated is a priority for Mr. Poole as he looks to the future.

"People are going to continue to want their services anytime, anywhere," he said. "And we have to anticipate the needs and desires of our constituents while bringing personalized solutions to bear much quicker."



Russell Poole, UT Southwestern's new Chief Information Officer

Student Continued from page 1

sisters, Nneka and Chiney Ogwumike, are WNBA players for the Los Angeles Sparks.

As the initial excitement settled, Erica now had a unique decision to make – choosing between medical school, which she had been working toward since her sophomore year of college, or joining her sisters as a professional basketball player.

She hadn't committed to any medical school yet, so she had to break the draft news to the admissions committees at the schools she was considering. She said UTSW made doing so easy.

"UT Southwestern was so supportive. They were the first school to congratulate me on getting into the WNBA, encouraged me to consider my options, and they were like, 'We're going to work it out.' So I knew this was the place for me," she said.

Owning a seat at the table

While it was always her intention to go to medical school, after being drafted Erica said she still wanted to know if she could make the Lynx's roster. A typical WNBA season runs from late spring to late summer, so potentially she could have competed for one season before beginning her first year of medical school. But the COVID-19 pandemic delayed training camp and the 2020 season. Essentially, that made the decision of opting out of the WNBA for her.

Now as she trains for a much different professional future, Erica said the years spent training as a basketball player helped affirm her choice. In college, she shadowed doctors at Texas Medical Center and discovered some parallels between sports and medicine.

"I think I just love the multidimensionality of medicine. When I shadowed doctors, I saw how they are involved in policy, education, correcting health disparities, and improving social issues – all these things I want to do. And they all have to work together and with other professionals as a team and have to communi-

cate well. I was like, 'Wow, this is one big basketball team. I've been doing this my whole life.'"

Growing up in Cypress, near Houston, Erica started playing basketball as a preteen alongside her third oldest sister, Olivia, who is now working toward her MBA at Rice. The two youngest Ogwumike daughters were first influenced by big sisters Nneka and Chiney, who started the family tradition in the sport.

Once in high school, Erica said it became important for her to be good at the sport so she could earn a college scholarship as her siblings had done. Nneka and Chiney were teammates at Stanford University, while Erica and Olivia were teammates at Rice.

"Our love of basketball came from us doing it as sisters. I think we felt like our best selves doing it, and we've been able to use it as a platform to become more versatile human beings," Erica said.

As a Black woman and aspiring physician, Erica hopes to use her career to improve racial disparities in health care. She is considering dermatology or sports medicine as a specialty and also wants to earn an MBA through UTSW's M.D./MBA program, a joint effort with UT Dallas' Naveen Jindal School of Management. While at Rice, she interned in the President's office and developed an interest in executive leadership as well.

"I am hoping that an MBA will help me figure out how to incorporate those skills as a doctor," she said. "After everything that's happened this year, I have become super passionate about wanting to become credentialed in many areas and own a



Erica Ogwumike, a star basketball player at Rice University, was named Conference USA Player of the Year twice. Courtesy of Rice Athletics



Erica Ogwumike poses with her family and trophy after winning the 2020 Women's Basketball Championship for Rice University.

seat at the table at organizations that have traditionally left out people who look like me. I also want to help amplify the voices of people who have made it their life's mission to correct racial disparities in medicine and elsewhere."

Olympic dreams

Erica, a self-described extrovert, said she likes to keep busy. As an undergrad she triple-majored in health science, policy studies, and Spanish.

Despite the new challenges of a medical school education, she remains committed to finding a way to balance all her passions, including basketball. Erica has been invited to try out for the Nigerian national team, which will compete in the postponed 2021 Summer Olympics in Tokyo. While she was born in Texas, Erica is eligible to join the team since her parents are natives of Nigeria.

Since starting medical school, she has continued 5 a.m. workouts and trains with a WNBA trainer up to twice a week.

"I've always had a dream to play for the Nigerian national team one day, so the timing of this opportunity worked out well with medical school, which remains my No. 1 priority," she said. "It will be hard to balance both, but I intend to stay in shape and continue my workouts with the goal to compete next summer."

Meanwhile, as she continues her journey toward becoming a doctor, Erica said she hopes her experiences can provide inspiration to others who aspire to take on the challenge of medical school.

"If I am one small example to other athletes who don't know if they can balance school and sports, women or kids who look like me, or maybe as someone who has entered medical school in an unconventional way, that would really be an accomplishment to me."

More online: Read the full story on *Center Times Plus* at utsouthwestern.edu/ctplus.

INSIGHT Continued from page 1

On campus, UT Southwestern offers employee business resource groups for various populations including women and allies, Asian/Pacific

Islander, African American, Hispanic/Latino, veteran, and LGBTQ faculty and staff.

One of UT Southwestern's top initiatives is



the President's Council on Diversity and Inclusion, chaired by Dr. Daniel K. Podolsky, President of UTSW. The Council, composed of senior leadership and executives, supports strategies that foster a diverse and inclusive institutional culture for staff, faculty, and students.

UT Southwestern's Offices of Student Diversity & Inclusion and Faculty Diversity & Development are responsible for recruiting and retaining top students and faculty to campus, while also implementing strategies to promote the growth and presence of women and underrepresented minorities. The Office of Institutional Equity & Access advances a diverse, equitable, and supportive campus culture for staff and visitors.

Supporting these efforts is UTSW's longstanding commitment to invest in the next generation of physicians and scientists through internship programs that provide students hands-on experience. Since 1993, UT Southwestern has been a collaborating partner in the Dr. Emmett J. Conrad Leadership Program, an internship program sponsored by state Sen. Royce West and named in honor of the renowned African American physician and educational advocate from Dallas. The program helps UT Southwestern hire historically underrepresented minority college students each summer to explore careers in the sciences and health professions.

To reach the next generation of health care professionals, UT Southwestern offers a five-week Health Professions Recruitment and Exposure Program (HPREP) that introduces DFW-area high school minority students to careers in science and medicine. Recently, HPREP and another UT Southwestern program, Science Teacher Access to Resources at Southwestern (STARS), were recognized by *INSIGHT Into Diversity* with 2020 Inspiring Programs in STEM Awards. STARS focuses on improving science education in North Texas.

INSIGHT Into Diversity magazine will feature UT Southwestern in its December 2020 issue alongside other Health Professions HEED Award institutions that include The Ohio State University College of Medicine, the Duke University School of Nursing, the Johns Hopkins School of Nursing, the University of California, Riverside School of Medicine, and the Vanderbilt University School of Nursing.

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.

UT Southwestern celebrates 3,000th organ transplant

From Staff Reports

Some milestones just need to be celebrated. This summer, the UT Southwestern Transplant Program surpassed 3,000 transplant surgeries.

The accomplishment occurred 32 years and one day after the program's first heart transplant was performed at then-St. Paul Hospital by Dr. W Steves Ring, Professor of Cardiovascular & Thoracic Surgery. Since then, the UTSW Transplant Program has grown and gained a reputation for innovations and outcomes that are among the best in the country.

"The tremendous success of all these programs has been due to the St. Paul and UT Southwestern physicians, administrators, coordinators, nurses,

and all other support personnel who have collaborated to make these programs the best they can be," said Dr. Ring, who came to UTSW in 1987 as Chair of the Division (now Department) of Thoracic and Cardiovascular Surgery to direct the residency program and develop the UTSW Heart Transplant programs at St. Paul and Children's Medical Center.

Scott Bennett, Associate Vice President, Solid Organ Transplant, reflected on the milestone.

"Three thousand lives were saved or forever changed by these transplants, made possible as a result of the heroic gifts of the donors and their families," Mr. Bennett said. "Let us remember them and the patients who may not have been fortunate enough to receive a transplant."

He added that in the United States, there is still a significant deficit of donor organs for the more than 110,000 patients currently on the United Network for Organ Sharing (UNOS) waitlist, despite nine consecutive years of record-breaking transplant volumes.

"Transplant is a team sport and our multidisciplinary teams have cared for these patients through all phases of the transplant journey to promote not only successful transplants, but exceptional outcomes," Mr. Bennett added. "It truly takes a village to support and maintain each one of these patients."

In early October, members of the Transplant Program team received celebratory T-shirts to mark the occasion that read, "The Gift of Life: Transplant Team."

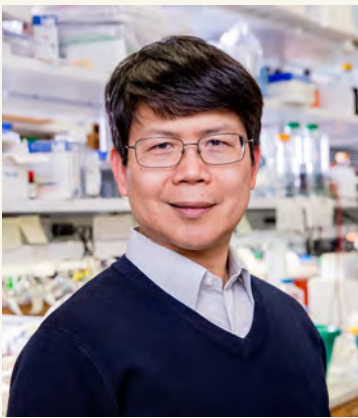
UT Southwestern Transplant Program: By the Numbers

1988	First heart transplant
1990	First lung transplant
2007	First kidney transplant
2007	First liver transplant
2019	First living-donor liver transplant
#1	in North Texas for total transplants in 2020*
#3	in Texas for total transplants in 2020*
#20	in U.S. for total transplants in 2020*
719	Total heart transplants
864	Total lung transplants
10	Total heart/lung transplants
886	Total kidney transplants
3,000	Total transplants as of June 28, 2020
3,102	Total transplants as of Sept. 30, 2020
450	Projected number of transplants in 2020

* As of Aug. 31, 2020

NEWS

MAKER



Dr. Zhijian "James" Chen

Chen honored with 2020 Coley Award

Dr. Zhijian "James" Chen, Professor of Molecular Biology and Director of the Center for Inflammation Research, has been honored with another award for his role in discovering a pathway now being used in the fight against cancer.

Dr. Chen is one of five scientists receiving the Cancer Research Institute's 2020 William B. Coley Award for Distinguished Research in Basic and Tumor Immunology for their individual contributions to the discovery and characterization of the cGAS-STING pathway, an important component of the innate immune system that is now being used in the development of novel immunotherapies against cancer.

"I am humbled to be recognized

by this award in honor of Dr. William Coley, who is widely regarded as the father of cancer immunology. Previous award recipients are giants in immunology," said Dr. Chen, also a member in the Center for the Genetics of Host Defense and a Howard Hughes Medical Institute Investigator. Dr. Chen won the 2019 Breakthrough Prize in Life Sciences for his 2012 discovery of cGAS.

While DNA is best known for its function as the carrier of the genetic code, it also plays a lesser-known role in immunology – triggering immune responses. Present in most pathogens, DNA serves as a sign of infection and is sensed by the immune system, which launches a defense response to infections, Dr. Chen said.

However, the DNA sensor rem-

ained elusive until 2012, when the Chen lab at UTSW discovered the enzyme cGAS and showed that it recognizes DNA and triggers a cascade of immune reactions. Subsequent studies found that cGAS also recognizes tumor DNA and is important for anti-tumor immunity.

"We are continuing to dissect the cGAS-STING pathway at the molecular level, with the goal of harnessing this pathway to improve therapies for human diseases including cancer, autoimmune and infectious diseases," he said.

Established in 1975 in honor of the cancer immunotherapy pioneer, the Coley Award is given to one or more scientists for seminal discoveries in the fields of basic immunology and tumor immunology. Several previous recipients of the Coley Award,

including Dr. Bruce Beutler, Director of the Center for the Genetics of Host Defense and Professor of Immunology, have gone on to receive the Nobel Prize.

The Cancer Research Institute presented the Coley Award at a virtual gala Sept. 29. Dr. Chen's research is supported in part by the Cancer Prevention and Research Institute of Texas.

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

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

Research Continued from page 1

because there is no monetary incentive to do so. Consequently, relatively few studies have been devoted to understanding schistosomes' basic biology, which might reveal inherent weaknesses that could serve as targets for new drugs.

To that end, Dr. Collins and his colleagues embarked upon two separate studies – one at the cellular level and another at the molecular level – to better understand these organisms.

In the first study, the researchers delved into the cell types that make up these flatworms. Although the worms are multicellular organisms composed of a variety of unique tissue types, researchers knew little about the different cell populations in these parasites.

With a goal to create an atlas of cell types in *Schistosoma mansoni* – one of the schistosome species that commonly causes schistosomiasis – Dr. Collins and his team used a technique called single-cell RNA sequencing that distinguishes individual cell types based on their unique gene expression patterns. With this method, they identified 68 molecularly unique clusters of cells, including a population of stem cells that form the gut. When the researchers used a targeted approach called RNA interference (RNAi) to shut down the activation of a key gene in these cells, the resulting worms couldn't digest red blood



Two studies by Dr. Collins and colleagues reveal potential vulnerabilities of a parasitic flatworm, findings that could open the door to development of new treatments for a disease that kills up to 250,000 people a year.

cells – a key to their growth and a pivotal part of the pathology they cause.

In the second study, the researchers used RNAi to sort out the function of about 20 percent of *S. mansoni's* protein coding genes – 2,216 in total. Previously, only a handful of genes in these organisms had been assessed.

By deactivating the genes one by one, Dr. Collins and his colleagues identified more than 250 genes crucial for survival. Using a database of pharmacological compounds, the researchers then searched for drugs that had the potential to act on proteins produced by these genes, identifying several compounds with activity on worms. The team also uncovered two protein kinases – a group of proteins renowned for their ability to be targeted by drugs – that are essential for muscle function. When these kinases were inhibited, the worms became paralyzed and eventually died, suggesting that drugs targeting these proteins could eventually treat people with schistosomiasis. A next step in the research will be to search for inhibitors of these proteins.

Dr. Collins noted that these strides in understanding the basic biology of schistosomes could eventually lead to new treatments to save untold lives in places where schistosomiasis is endemic.

"This is a very important disease that most people have never heard of," he said. "We need to invest and invigorate research on these parasites."

The first study was supported by grants from the National Institutes of Health (R01 R01AI121037, R01 R01AI150715, R21 R21AI133393, and F30 F30AI131509-01A1), The Welch Foundation (I-1948-20180324 and I-1936-20170325), the National Science Foundation (MCB1553334), the Burroughs Wellcome Fund, the Wellcome Trust (107475/Z/15/Z), and the Bill and Melinda Gates Foundation (OPP1171488).

The second study was supported by grants from the National Institutes of Health (R01AI121037), The Welch Foundation (I-1948-20180324), the Burroughs Wellcome Fund, and the Wellcome Trust (107475/Z/15/Z and 206194).

Dr. Collins is a Rita C. and William P. Clements, Jr. Scholar in Biomedical Research.

More online: Read the full story on *Center Times Plus* at utsouthwestern.edu/ctplus.

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"Election to the prestigious National Academy of Medicine recognizes the pioneering contributions which Dr. DeBerardinis has made to science and research in pediatric genetics, oncology, and metabolism," said UT Southwestern President Dr. Daniel K. Podolsky, who is also a NAM member. "This important distinction reflects the quality of research underway at the Children's Medical Research Institute at UT Southwestern and we are grateful for Dr. DeBerardinis' leadership and visionary approach to cancer research."

"Dr. DeBerardinis is a distinguished physician, scientist, and visionary who is most deserving of being elected as a member of the National Academy of Medicine," said Christopher J. Durovich, President and Chief Executive Officer at Children's Health. "Dr. DeBerardinis' recognition as an HHMI investigator and an elected member of the Association of American Physicians as well as his election to NAM exemplify his extraordinary contributions to science and research in pediatric genetics, oncology, and metabolism. We are proud of his commitment to advance knowledge and bring research to the bedside to find cures for our most vulnerable patients."

Dr. DeBerardinis earned his medical and doctorate degrees from the University of Pennsylvania. At the Children's Hospital of Philadelphia (CHOP), he became the first trainee in the combined residency program in pediatrics and medical genetics and received several awards for teaching and clinical care. From 2004 to 2007, Dr. DeBerardinis completed his postdoctoral research in the laboratory of Craig B. Thompson, M.D., in the Penn Cancer Center. Dr. DeBerardinis joined the UT Southwestern faculty in 2008 and the CRI shortly after its founding in 2012. He was elected into the Association of American Physicians in 2020.

At CRI, Dr. DeBerardinis is Director of the Genetic and Metabolic Disease Program (GMDP). He is also affiliated with the Eugene McDermott Center for Human Growth and Development/Center for Human Genetics and the Harold C. Simmons Comprehensive Cancer Center, both at UT Southwestern.



Dr. Ralph DeBerardinis

Current NAM members at UT Southwestern and the year of their induction are: Dr. Morrison, Ph.D. (2018), Joseph Takahashi, Ph.D. (2014), Dr. Podolsky, M.D. (2009), Bruce Beutler, M.D. (2008), Luis Parada, Ph.D. (2007), Ellen Vitetta, Ph.D. (2006), Steven McKnight, Ph.D. (2005), Helen Hobbs, M.D. (2004), Eric Olson, Ph.D. (2001), Norman Gant, M.D. (2001), Kern Wildenthal, M.D., Ph.D. (1999), Carol Tamminga, M.D. (1998), Scott Grundy, M.D., Ph.D. (1995), Jean Wilson, M.D. (1994), Michael Brown, M.D. (1987), and Joseph Goldstein, M.D. (1987).

Dr. DeBerardinis holds the Joel B. Steinberg, M.D. Chair in Pediatrics, and is a Sowell Family Scholar in Medical Research. At CRI, he is the Robert L. Moody, Sr., Faculty Scholar.

Dr. Morrison holds the Kathrynne and Gene Bishop Distinguished Chair in Pediatric Research at Children's Research Institute at UT Southwestern and the Mary McDermott Cook Chair in Pediatric Genetics.

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.