

At the

epicenter

of trauma

MCGOVERN MEDICAL SCHOOL  
YEAR IN REVIEW

TABLE OF CONTENTS

1  
Message from the Dean

2  
News of Note

10  
Medical Education Beyond the  
Classroom

14  
At the Epicenter of Trauma

24  
Department Profiles

36  
Faculty Accolades

46  
Philanthropy

50  
By the Numbers

52  
Lives Remembered

Credits

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## Message from the Dean

One of the most important responsibilities of any medical school is to educate the next generation of physicians — MDs ready to provide the highest quality care for patients and families and to make an impact on the communities they serve. Ensuring that our graduates have a strong foundation and are prepared for the ever-changing landscape of medicine and healthcare is the challenge of our educational program.

Three years ago, McGovern Medical School launched an extensively revised medical education curriculum — one that weaves the basic sciences with the human biological systems and integrates science and medicine from the early days of medical school.

Just as medicine evolves, so does our curriculum. McGovern Medical School is on the forefront of offering an innovative and relevant curriculum beyond the walls of our school to give our students an education that will best serve them no matter how they serve others. I invite you to read how our creative initiatives offer transformational experiences to our students.

The fourth-largest city in the nation, Houston is home to the busiest Level 1 trauma center in the United States in Memorial Hermann-Texas Medical Center and the busiest Level 3 trauma center in LBJ General Hospital. Our faculty, staff, residents, and students care for and train at these sites, where they offer the latest treatments to those who need it the most.

In this year's annual report we also highlight several innovative programs, including our Texas Therapeutics Institute, our epilepsy program, our new PTSD Center, and two of our beloved faculty who are ensuring the future of the Division of Rheumatology looks bright for research and patient care.

I am so proud to be a part of McGovern Medical School.

Barbara J. Stoll, MD

Dean, McGovern Medical School  
H. Wayne Hightower Distinguished Professor

# PTSD center opens to serve patients, families

A first-of-its-kind center dedicated to treating the behavioral health needs of military veterans and their families, the UTHealth Center on Trauma and Resilience, has opened its doors in Houston.

As part of its mission to care for veterans and their family members, the center received \$4 million in state funds to study integrated care for veterans with post-traumatic stress disorder (PTSD). Legislation authored by state Rep. Senfronia Thompson of Houston established the study in coordination with the Texas Health and Human Services Commission to research the most effective models of treatment.

"I have many veterans in my district who are suffering from PTSD and are looking for the right treatments," Rep. Thompson said. "This new UTHealth center will look at the right solutions for these heroes. Just as important, they will look at solutions that include the veterans' family and friends as part of that treatment. PTSD does not impact the patient in a vacuum, it also impacts those loved ones around that patient."

An estimated 200,000 of the state's 1.4 million veterans live in Harris County. Approximately 20 percent of those who experience trauma, civilian and military, will develop PTSD, which is characterized by nightmares, becoming withdrawn, avoiding situations, substance abuse, and depression.

"Texas Rep. Senfronia Thompson had a clear vision for helping our veterans, and we are so grateful for her hard work in passing the legislation to help establish the new center," said Jair Soares, MD, PhD, professor and Pat R. Rutherford, Jr. Chair in Psychiatry in the Department of Psychiatry and Behavioral Sciences. "What is so unique about this center is that it treats not only the veterans, but their spouses and children who have also been affected by the trauma."

A team approach to the center's compassionate, evidence-based care is possible because of UTHealth's experienced faculty and staff. They are skilled in treating trauma-related mental health needs as well as other psychological and health consequences related to military service. The treatment team includes adult and pediatric

psychiatrists, psychologists, therapists, nurses, and addiction specialists as well as social workers and patient case managers.

In addition to direct services for veterans and their families, the center trains psychology interns, psychiatry residents, medical students, junior faculty, and will expand to other professionals, including nurses. The center also conducts cutting-edge research on PTSD and veteran populations. A critical piece of the puzzle includes clinical research around the causes as well as biological vulnerability of PTSD.

"The advantage is that we are able to assemble a unique team of people focused on a single area," said Bobby Nix, MD, assistant professor and vice-chair for clinical affairs in the Department of Psychiatry and Behavioral Sciences. "Having collaboration

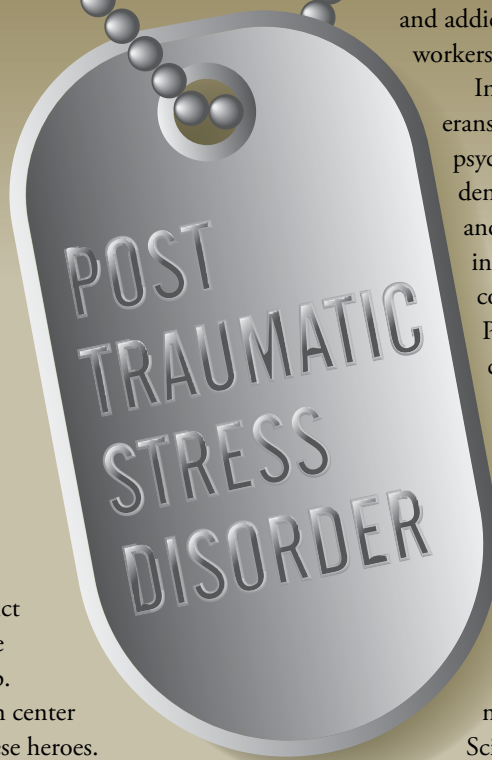
among people with different specialties allows for better treatment, more innovation, and more training opportunities."

The Texas Health and Human Services Commission will be a partner organization with UTHealth.

"We look forward to working with UTHealth on new and effective approaches to treating our military veterans and their loved ones," said Charles Smith, executive commissioner for the Texas Health and Human Services system. "I am very interested to see the preliminary results of this collaboration and how our work can inform other efforts."

The focus on family members fills a gap in standard treatment for veterans experiencing PTSD. While their treatment might be covered under the Veterans Administration or medical insurance, behavioral health treatment for family members usually is not.

"Services for the children and spouses of veterans are even more variable and less reliably accessible," said Elizabeth Newlin, MD, associate professor and vice-chair for child and adolescent psychiatry. "In this new program, we recognize our desire and obligation to support not only the veteran, but also his or her immediate family. To be most effective, we have to acknowledge that our veterans' experiences in the service impact their support system – most often their spouse and children."







Dr. Mark Chassay '92, left, and Dr. Frank J. Domino, '88, proudly display their awards.

## Alumni awards go to Chassay, Domino

This year's Distinguished Alumni Awards were bestowed on Mark Chassay, MD, '92, and Frank J. Domino, MD, '88.

Dr. Chassay, the senior vice provost and chief clinical officer at the University of North Texas Health Science Center, recently served as an assistant professor of orthopedic surgery and family and community medicine, associate dean for Alumni Relations and Continuing Medical Education, and assistant dean for Admissions and Student Affairs at McGovern Medical School.

"I'm humbled to be recognized as a distinguished alumnus," Dr. Chassay said. "It means a lot to me to be honored by my school, which has given me such a solid foundation and enabled me to accomplish so many things in life. For that I am eternally grateful."

A graduate of The University of Texas, Dr. Chassay received a master's of education in sports management from UT and an EMBA in health care from UT Dallas. He was the deputy executive commissioner for the Texas Health and Human Services Commission and served as medical director for the University of Houston athletic program and as a team physician at The University of Texas.

Dr. Domino is an attending physician in the UMass Memorial Medical Center and a professor and director of predoctoral education in the Department of Family Medicine and Community Health at the University of Massachusetts Medical School, where he was awarded the annual "Outstanding Medical Educator" 13 times since 2001. After graduating from McGovern Medical School, he completed a family practice residency at Hunterdon Medical Center in Flemington, N.J., serving as a chief resident; spent two years as a clinical instructor at the Mid-Hudson Family Medicine program in Poughkeepsie, N.Y.; and established and served as president of a private group there.

Dr. Domino served as an associate editor for "Up to Date" when it began publishing in 2000 and five years later he became the editor in chief of the "5-Minute Clinical Consult" textbook. He is the co-founder and CEO of RxPalm, Inc., which specializes in medical content development, and was a technology consultant for PILS, Inc.

"He is clearly achieving rock star status, and in all sincerity, Domino's success reflects beautifully on our medical school," wrote one nominator.

Established in 1987, the purpose of the award is to recognize outstanding contributions of alumni in the areas of medical science and education, or the prevention and treatment of diseases, as well as continued interests in McGovern Medical School and its students.



Alumni Award video:  
<http://go.uth.edu/da18>

# Faculty group supports women

In an effort to promote and support women in science and medicine, McGovern Medical School has established the Women Faculty Forum (WFF).

The forum was spearheaded by two very engaged faculty members, Vasanthi Jayaraman, PhD, and Gurur Biliciler-Denktaş, MD, who brought the idea to life in 2015 under the leadership of Kevin Morano, PhD, associate dean for Faculty Affairs.

“The intent was to establish a formal group dedicated to addressing the professional needs and life-work balance issues of women faculty at McGovern Medical School,” explained Dr. Biliciler-Denktaş, associate professor of pediatrics.

Women comprise 70 percent of the employees of McGovern Medical School, including 80 percent of staff, 41 percent of faculty, 46 percent of residents and fellows, and half of the medical students.

According to 2015 AAMC data,

14 percent of U.S. medical school department chairs are women, and 18 percent of women held the role of vice dean. By comparison, three of our medical school’s 23 department chairs are women (13 percent), and 14 of our deans are women (41 percent).

“While women were once a great rarity in academic medicine, they have been entering the medical professions in high numbers for close to 30 years,” said Danielle Garsin, PhD, past WFF co-chair and professor of microbiology and molecular genetics. “Based on current data, the climate for advancement of women is improving—but does not yet fully foster equal growth opportunities for men and women professionals in medicine and science. We can and should do better.”

The Women Faculty Forum was established to provide advocacy on behalf of women faculty at McGovern Medical School and to provide

networking and professional development opportunities. The organization has recognized and supported women through awards, career development, and educational events.

“We had heard from several women faculty at the Medical School who had expressed the need for promoting advocacy and professional development of women faculty,” said founding WFF co-chair Dr. Jayaraman, professor of biochemistry and molecular biology. “It was critical to have a smaller group centered in the medical school in order to be effective and to specifically address the issues related to medical school women faculty.”

“Ultimately, our mission through advocacy, networking, and professional development is to help McGovern women faculty overcome and overturn barriers and achieve their professional goals,” said WFF co-chair Deepa Iyengar, MD, professor of family and community medicine.

“I am proud that we have a Women Faculty Forum to promote a conversation around issues that are important to our women faculty,” said Dean Barbara J. Stoll, MD, the H. Wayne Hightower Distinguished Professor. “Women are making an impact every day in medicine, and the WFF helps us to recognize and support their efforts.”



Dr. Joan Bennett, from Rutgers University, keynotes a special address celebrating the International Day of Women & Girls in Science.



# Research to benefit from latest microscopes

To do any job correctly requires the right tools. In today's innovative research environment, the tools are increasingly more powerful and specialized, allowing scientists unparalleled access and productivity.

McGovern Medical School's research enterprise recently elevated its capabilities by adding a Titan Krios Cryo-electron microscope to its arsenal and becoming a Nikon Center of Excellence, which ensures the latest in microscopy available to researchers and labs.

The Nikon Center of Excellence, the first such center established in Texas, features two new super-resolution Nikon microscopes and upgraded confocal microscopes that provide investigators access to the latest optical systems to advance their research.

"We've seen a steady increase in National Institutes of Health-funded research by our faculty," says Michael Blackburn, PhD, executive vice president and chief academic officer at UTHealth. "Access to these high-end research microscopes will allow UTHealth researchers to improve the quality of our data, science, and publications and be more competitive for NIH and other external grants, which is the currency of the research

industry. This new center is an important investment in our faculty and students."

Structural biologists harness the power of the new Titan Krios microscope to visualize high-resolution structures of individual molecules and their assemblies to cellular organelles and even whole cells for clues to the causes of chronic diseases such as diabetes, neurodegenerative diseases, and cancer.

Adding the Titan Krios microscope to the cryo-EM facility established within the Structural Biology Imaging Center at McGovern Medical School provides researchers across the Houston area with a suite of state-of-the-art microscopy and analysis tools, accelerating new insights into human health and disease.

For nearly three decades, Houston has been a hub for cutting-edge research in cryo-electron microscopy, with UTHealth emerging as a prominent site for cryo-EM of membrane proteins and electron cryo-tomography *in situ*.

"This investment ensures that McGovern Medical School will remain at the forefront of the cryo-EM structural biology revolution for many years to come," says Rodney Kellems, PhD, professor and chair of the Department of Biochemistry and Molecular Biology.





Dr. Bryant Boutwell autographs copies of his Dr. Red Duke biography.

## Red Duke biography highlights a UT icon

**D**r. James H. “Red” Duke, Jr. was a medical giant to all he touched – from students and trainees at the Medical School since 1972 to patients throughout his long surgical career. Dr. Duke influenced millions of others through the common sense medical advice he offered on his nationally syndicated television program, Texas Health Reports, and as the father of the helicopter ambulance Life Flight®.

Now his life story is remembered in the biography, “I’m Dr. Red Duke,” which was his nightly sign-off from his legendary television segment. Written by Bryant Boutwell, DrPH, former John P. McGovern, MD, Professor of Oslerian Medicine, the book is published by Texas A&M University Press.

Dr. Boutwell spent more than three years studying the history of Dr. Duke and interviewing colleagues, family, and friends.

“I traveled to Hillsboro, Texas, to visit with his sister, went to Cedar Park, Texas, a few times to interview his first wife, Betty Duke Kent. And I had lots of visits with Red, just about every Saturday of the last year of his life in his daughter Sara’s home,” Dr. Boutwell said. “He opened up his memory and let me record the interviews.”

A storage unit unearthed a treasure trove. “Red’s mother had saved all of his letters,” he said. “Letters to Santa, letters from when he lived in Afghanistan, letters from Germany during the Cold War, where he was an

Army tank commander. I also had the letters from when he was dating Betty – they were married 31 years. Those letters gave insights from when he was in the seminary and from his medical school days.”

Dr. Boutwell met Dr. Duke in 1993 when they worked at McGovern Medical School together. Dr. Duke joined the faculty in 1972 as a professor and trauma surgeon. “But I could never corner him until he was convalescing at the end of his life,” he said. “I was able to just sit and watch TV with him and really get to know him and share stories.”

Through those many days of listening to stories, Dr. Boutwell said he was most surprised by Dr. Duke’s childhood.

“His father could be difficult. He was a Baptist deacon and salesman who had been raised by an angry stepfather. Red had to overcome his father’s anger. He learned how to work hard, starting a newspaper route, joining the Boy Scouts, and deal with anger, help others, and be industrious.

“His parents didn’t support him in going to medical school and wanted him to be a preacher. Red met his wife in the seminary, and Betty encouraged him to follow his dream of being a doctor,” he recalled.

“I’m Dr. Red Duke” may be purchased wherever books are sold. Half of the book royalties will go directly to UTHealth and the Red Duke student scholarship fund at McGovern Medical School.



# **Lowe** **named** **outstanding** **NFL** **team** **physician**



Dr. Walter Lowe, chair of the Department of Orthopaedic Surgery

The Professional Football Athletic Trainers Society (PFATS) honored Walter Lowe, MD, professor and Edward T. Smith, MD Chair in Orthopaedic Surgery and head team physician for the Houston Texans, as this year's most outstanding NFL team physician with the 2018 Jerry "Hawk" Rhea Award.

Dr. Lowe accepted the award during a ceremony at the NFL Physicians Society's (NFLPS) annual Scientific Meeting and Symposium during the NFL Scouting Combine. The Jerry "Hawk" Rhea Award for Outstanding NFL Team Physician is presented annually by PFATS to a member of the NFLPS. First awarded in 1988, it is named for Jerry Rhea, head athletic trainer for the Atlanta Falcons from 1969 to 1994 and assistant to the president of the Falcons from 1994-2001. In 1998, Jerry Rhea became the first winner of the Fain-Cain Memorial Award for outstanding NFL Athletic Trainer, awarded annually by the NFL team physicians.

Dr. Lowe also serves as chief of Orthopedic Surgery at Memorial Hermann-Texas Medical Center and LBJ General Hospital, and as the medical director of the

Memorial Hermann Ironman Sports Medicine Institute. He is the head team physician for the University of Houston Cougars, Houston Rockets, and several area high schools, including the North Shore Mustangs and B.F. Terry Rangers.

Dr. Lowe earned his medical degree at McGovern Medical School and completed his internship at John Peter Smith Hospital and residency at Tarrant County Affiliated Hospitals in Fort Worth. He completed a fellowship at the renowned Kerlan-Jobe Orthopedic Clinic in Los Angeles and spent a year studying under the famous sports medicine baseball surgeon Frank Jobe, MD.

James Collins, president of PFATS, congratulated Dr. Lowe for his award.

"Dr. Lowe has been a dedicated and loyal team physician for the Houston Texans," Collins said. "He's a respected member of the NFLPS, a great representative for the NFL, and he continues to be an advocate for the members of PFATS."





Texas Therapeutics Institute –

# Drug Discovery Engine of McGovern Medical School

The Food and Drug Administration approved a record-breaking 59 new drugs and biologics in 2018 – nearly double its average of 33 new drugs per year. The U.S. drug-discovery process is a multi-billion dollar industry that despite advancing technology and fast tracks, is a rigorous, regulated process.

Partially funded by the Texas Emerging Technology Fund and The University of Texas System Star Awards, the Texas Therapeutics Institute (TTI), part of the McGovern Medical School, was founded in 2010 to bridge the gap between the world of biomedical research and the pharmaceutical industry and encourage drug discovery.

During the last nine years, TTI has established a network of collaborators from institutions across Texas and the nation with more than 30 active drug discovery projects targeting cancer, metabolic diseases, neurodegenerative diseases, spinal cord injury, fibrosis, acute drug induced liver injury, and viral infections. Five TTI

inventions have been licensed to biotech companies for drug development. These licensing deals resulted in significant upfront payments, potential milestone payments, and royalties.

While TTI focuses on drug discovery and development, the institute's investigators have garnered more than \$30 million from the pharmaceutical and the biotechnology industry, such as Merck and J&J, the National Institutes of Health, the Cancer Prevention and Research Institute of Texas, and the Department of Defense, and have made significant scientific discoveries in the areas of antibody drug resistant mechanisms in cancer, antibody response to viral infection and vaccination in animal models and humans, cancer biology, fungal natural products, linker and conjugation chemistry for antibody-drug conjugates. Some of TTI's research was reported in more than 100 publications in highly reputable scientific journals including "Nature," "PNAS," "Cell Reports," "Neuron," "Nature Com-



munications,” “Clinical Cancer Research,” and “ACS Chemical Biology.”

“Our ultimate goal is to benefit patients’ health with the creation of new drug therapies that can be brought to market by partnering with the pharmaceutical and biotechnology industries,” says Zhiqiang An, PhD, director of TTI and holder of the Robert A. Welch Distinguished University Chair in Chemistry.

Dr. An knows the pharma world – he worked for 15 years in the pharmaceutical industry before being recruited to McGovern Medical School to lead TTI. In addition to Dr. An, three other senior TTI investigators also were recruited from the pharma industry. Qingyun (Jim) Liu, PhD, who holds the Janice D. Gordon Distinguished Professorship in Bowel Cancer Research, previously headed up the drug discovery effort at Lexicon Pharmaceuticals. Gerald F. Bills, PhD, holder of the Kay and Ben Fortson Distinguished Chair in Neurodegenerative Disease Research, is an industry veteran in natural products drug discovery. Ningyan Zhang, PhD, joined TTI after 15 years at Merck Research Labs with experience in cancer antibody drug discovery and development.

The institute’s areas of expertise include antibody drug discovery. “Antibodies are a part of our natural immune system, and they fight infectious diseases and cancer. The rapid rise of antibody-based therapies is largely due to their desirable safety profile, target specificity, and efficacy,” Dr. An says.

Antibodies can be engineered to bind to disease targets, including receptors on cell surfaces and circulating proteins. In addition, they can be designed to carry toxins and radioisotopes to kill cancer cells. In fact, antibody-drug conjugates (ADCs) are emerging as a highly desirable drug modality for cancer therapy. Kyoji Tsuchikama, PhD, who is a Scripps-trained synthetic chemist joined TTI three years ago to develop the necessary linker and conjugation chemistry for the ADC construction.

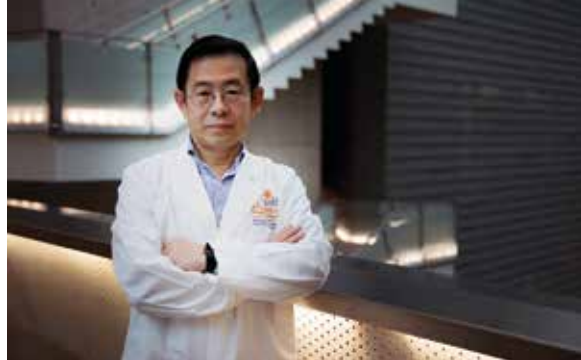
Not limited to the treatment of disease, antibodies also are used to diagnose medical conditions by detecting disease biomarkers in cells, tissues, and in body fluids.

“Antibodies are extremely sensitive and specific to the disease biomarkers,” Dr. An says.

TTI has developed an antibody that targets acute myeloid leukemia (AML). The most common acute leukemia (blood and bone marrow cancer) in adults, it is characterized by the proliferation of abnormal myeloblasts (a type of white blood cell) in the bone marrow. Despite advances in treatment, only about 27 percent of acute myeloid leukemia patients survive 5 years after diagnosis.

“This is the first step to bringing an effective therapy to AML patients,” Dr. An says.

In an effort to expedite the drug-delivery process, in 2017, TTI licensed its cancer immunotherapies and



*“Antibodies are a part of our natural immune system, and they fight infectious diseases and cancer. The rapid rise of antibody-based therapies is largely due to their desirable safety profile, target specificity, and efficacy.”*

– DR. ZHIQIANG AN  
Texas Therapeutics Institute Director

other biotherapeutics to Immune-Onc Therapeutics, a startup in Palo Alto, Calif.

“This is an important step in translating our therapeutic antibody from discovery to development,” Dr. An says.

A new \$6 million grant from the U.S. Department of Defense in collaboration with UT Health San Antonio will help Dr. An develop an innovative antibody-based drug to stem the spread of breast cancer to bone.

The goal of the researchers is to develop a less toxic treatment and reduce deaths tied to the spread of breast cancer to the bone. At the end of the study, the researchers hope to have a drug that can advance to clinical trials.

In addition to the basic and translational research programs, TTI is building two major drug discovery platforms: the Therapeutic Monoclonal Antibody Lead Optimization and Development Platform and the Natural Products and Small Molecular Drug Discovery Platform. The drug discovery platforms not only support TTI projects but also collaborative projects with scientists from across the nation and world.

“We are confident that TTI will continue to grow and play a critical role in advancing the biotech industry in Houston and the state of Texas,” Dr. An notes.

# MEDICAL EDUCATION: BEYOND THE CLASSROOM

What do the movies, a nursing home, a culinary kitchen, and a poverty simulator have in common?

These are the varied educational environments in which McGovern Medical School students pursue their medical instruction.

Outside-the-lecture hall offerings enrich the educational experience with hands-on learning beyond the traditional medical school curriculum.

## GETTING A TASTE OF HEALTHY MEDICINE

In the Culinary Medicine Program, students learn how nutrition impacts part of health through hands-on learning led by Wesley McWhorter, MS, RD, LD, CSCS, trained chef and dietitian and director of culinary nutrition with the Nourish Program of the UTHealth School of Public Health (SPH).

“The message is simple; if the food tastes good, then people will eat it, so we teach students how to make healthy food taste good,” McWhorter says.

In a natural setting, students learn how to use the holistic garden at the SPH to improve patients’ health, learning what can be grown to combat chronic conditions, such as diabetes and obesity.

Dietetic interns guide students through recipes, cooking techniques, and condition-specific diets.

“Everyone eats, but we all have a lot of questions on how to eat healthy,” McWhorter says. “Physicians should lead by example by having a good diet themselves.”

McGovern Medical School student Anamaria Dragan agrees. “A lot of medical professionals overlook the importance of food, and I think everyone needs a general understanding of healthy eating habits,” she says.

Nutritionist Wesley McWhorter leads a course linking nutrition and health.





Students and seniors make heartfelt connections through art.

## THE HEALING POWER OF ART

The joy of art is bringing young and old together in a new blue book elective offered by the McGovern Center for Humanities & Ethics, *Deconstructing Dementia: Mitigating Memory Loss with Art*. Using classic works, first-year medical school students interact with a population that is oftentimes overlooked.

“As a medical student, I went through my whole third year of rotations, and I feel like we were never exposed to this population outside of the clinical context,” said fourth-year medical student and the class’ creator Brina Bui. “Every time I saw them, it was always to do a cognitive test to see what their deficits are, and we so often forgot about how vibrant and spritely a lot of them still are.”

Each class begins with an art history lesson taught by a group of medical students on an artist such as Van

Gogh or Gauguin. Students then pair up with elderly members of Sheltering Arms Senior Services in Houston to participate in an arts and crafts project.

“The best part is when we participate in the art,” says first-year student Sarah Syed. “That’s where you really get to know the people you’re working with.”

Bui says that the goal is to change the way medical students view those with dementia, Alzheimer’s, and elderly people in general. She notes that the response from both sides has been extremely positive, and the students and patients have built close relationships in just a few weeks.

“It’s great how much the patients enjoy this,” says first-year student Vanessa Marino. “It feels like we’re really making a difference.”



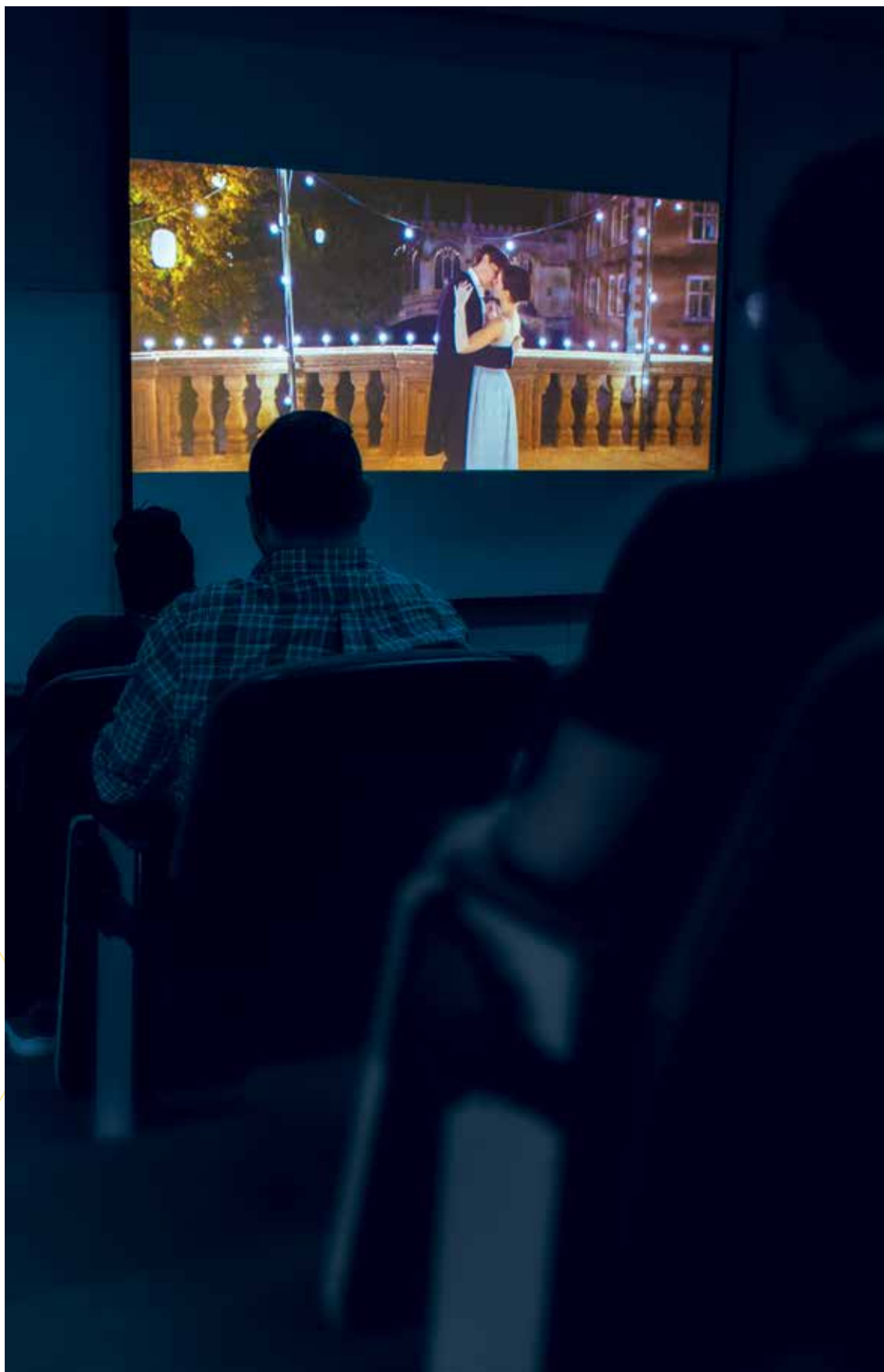
## BRINGING THE CINEMA TO THE CURRICULUM

A group of McGovern Medical School students is using the power of film to spur inter-professional discussions about humanities and medicine as an elective blue book course through the McGovern Center for Humanities & Ethics.

“The course provides an opportunity for students to talk about not only ethical issues but patient perspectives on certain medical issues that we may not actually go over in class,” co-organizer Kira Gomez says.

The students select movies based on health conditions and the ethical issues they present to foster discussion. The movies range from the World War II film “Hacksaw Ridge” to the Stephen Hawking biopic, “The Theory of Everything.”

“We can really delve into topics that we don’t really have a chance to cover in other classes,” co-organizer Mary Adeyeye says. “It allows us to see other people’s perspectives and their interpretations while having that emotional response.”





Students take on new roles in a poverty simulation.



## THE VIRTUAL REALITY OF POVERTY

While some may believe poverty is a stand-alone issue, the complexities and challenges of poverty and its effects on health cannot be ignored. The Community Action Poverty Simulation seeks to unmask some of the misconceptions of poverty through a simulation for medical students.

Rebecca Lunstroth, JD, associate director for the McGovern Center for Humanities & Ethics and assistant professor in Family Medicine, brought the program to McGovern Medical School as part of the formal medical school curriculum for student to learn to empathize with noncompliant patients they may see in practice.

“I understand it – they undergo years of training in order to give the best medical advice and treatment, only to have it seemingly dismissed,” Lunstroth says. “But it also became clear to me that, regardless of one’s personal behaviors, no one truly wants to be sick, so there was a disconnect.”

The Community Action Poverty Simulation assigns the role of a member of one of 17 families to each participant who must then procure basic necessities, like food and shelter, by accessing community resources during timed “weeks.” Participants discuss their experi-

ence when the time is up.

Medical student Andrew Bain struggled as a 16-year-old pregnant girl with the dream of obtaining a college education during the simulation.

“However, I spent the ‘four weeks’ cutting class to help pay bills, attempting to care for two younger brothers while both parents were trying to make ends meet,” Bain says. “Even if I wasn’t too believable in my acting performance, the ideas of chaos, stress, and worry felt very real. Only in the last ‘week’ did I remember that as a pregnant girl, I should visit the community health clinic.”

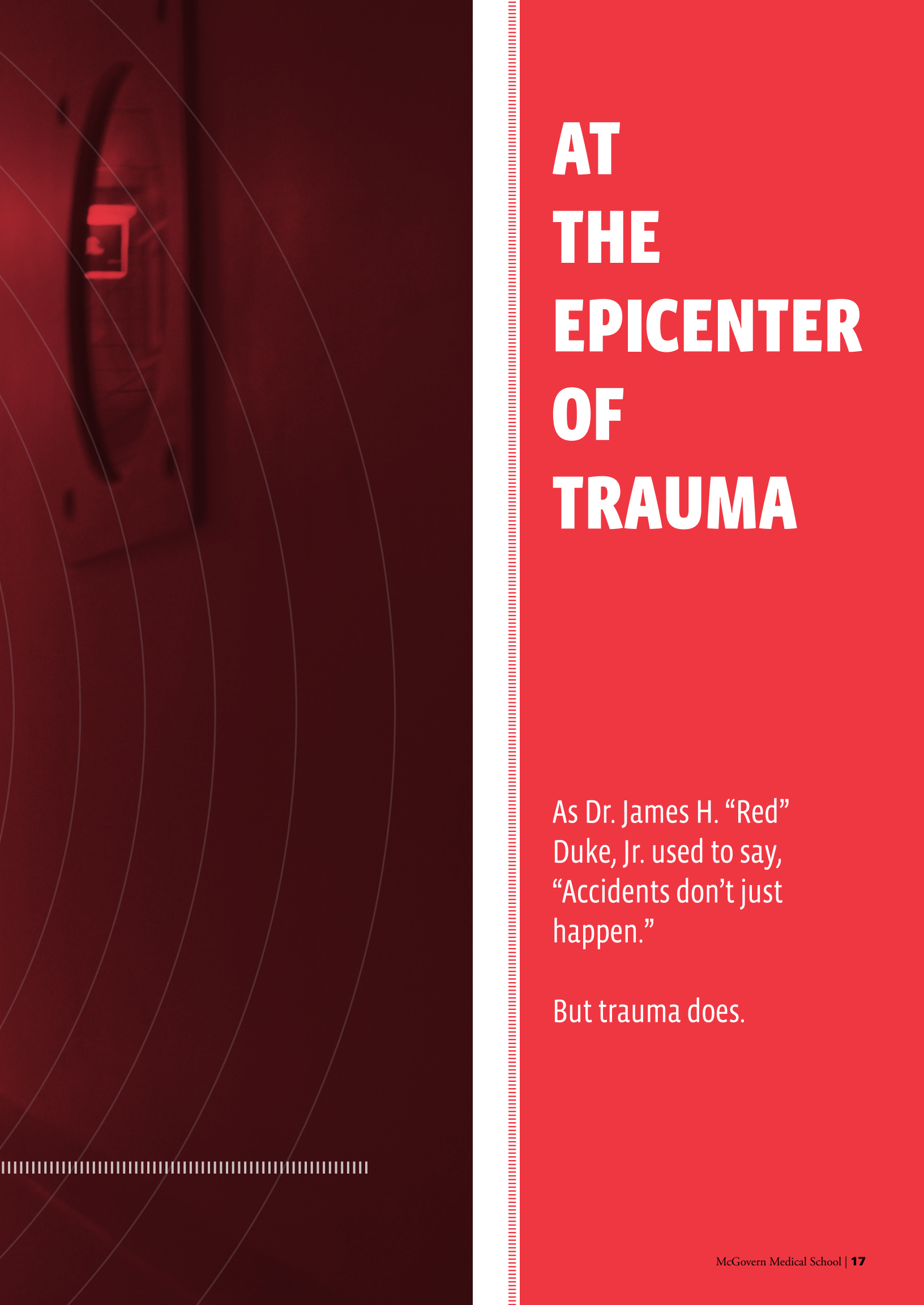
Bain says the program did an excellent job of creating a high-stress environment that took students completely out of their element, and he recommended the simulation to other students.

“Our classmates gained real insight into the conditions faced by those in poverty and the extremely difficult decisions they have to make,” Bain says. “As future health professionals, I think we took one more step toward understanding the almost insurmountable issues our impoverished patients face which often leaves caring for their health on the back-burner.”





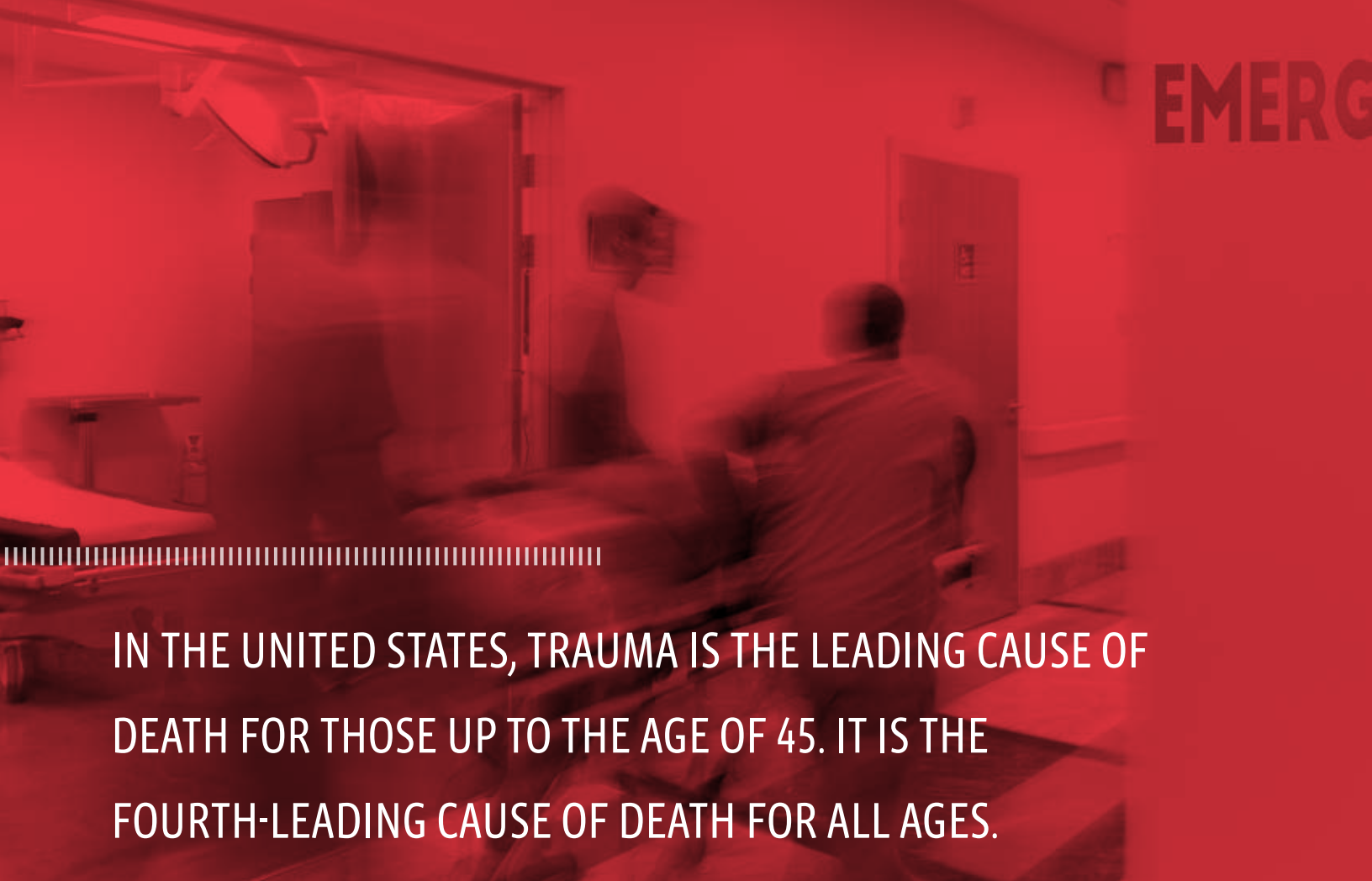




# AT THE EPICENTER OF TRAUMA

As Dr. James H. “Red”  
Duke, Jr. used to say,  
“Accidents don’t just  
happen.”

But trauma does.



## IN THE UNITED STATES, TRAUMA IS THE LEADING CAUSE OF DEATH FOR THOSE UP TO THE AGE OF 45. IT IS THE FOURTH-LEADING CAUSE OF DEATH FOR ALL AGES.

McGovern Medical School faculty, trainees, and students help patients elude these statistics each day at one of the busiest Level I trauma center in the nation – the Red Duke Trauma Institute at Memorial Hermann-Texas Medical Center. Named after the renowned McGovern professor and trauma surgeon, whose benevolence always put patients and students first, this center is at the forefront of research, education, and high-quality patient-centered care.

A “typical” call day starts with an all-team hand-on meeting at 6:30 a.m. Physicians, nurses, residents, fellows, students, and administrators file into the hospital conference room, picking up a list of patients who were admitted to the hospital, or whose level of care changed overnight. Patient imaging is displayed on a giant screen, and questions are posed as details are gathered on current conditions.

Though the start of the day is routine, the needs of the patients are diverse. There’s the self-inflicted gunshot wound, the transfer from a Katy hospital, the man who fell off a roof, the teenager who drove into a ditch at 85 miles an hour, the auto-pedestrian accident who will require an amputation.

The complexity of patients reflects the fact that this is Houston’s only Level I trauma center with an

associated helicopter medical transport service, Life Flight®, with a 150-mile radius, providing 24/7 adult and pediatric trauma care for severely injured patients in a multidisciplinary environment.

“Our facility involves a collaborative approach with all of the services supported by the hospital and the medical school departments – both adult and pediatric specialists, such as emergency medicine, trauma surgery, interventional radiology, orthopedic surgery, anesthesiology, surgical critical care, anesthesia, physical medicine and rehabilitation, and others,” explains Lillian Kao, MD, professor of surgery and the Jack H. Mayfield, MD Chair in Surgery.

Trauma, Dr. Kao says, is a “disease of all ages.” Having worked at UTHealth for 16 years, she notes that patients are arriving to the hospital sicker and with more complex injuries than in the past.

“As a result of improvements in pre-hospital resuscitation (with regards to type of fluid and blood products used), patients are currently surviving to reach the hospital who would not have survived 16 years ago,” says Dr. Kao, division director and chief of acute care surgery. “Additionally, we are seeing an increasing number of elderly patients with multiple co-morbidities who may have less severe trauma but who are no less critically ill.”



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— LILLIAN KAO, MD  
DIRECTOR, DIVISION OF ACUTE CARE SURGERY

# GUNS IN THE CURRICULUM

McGovern Medical School is one of just two medical schools in the nation that offers a course on gun violence to students.

The blue-book elective “Gun Violence and Physicians: What you need to know” was developed by a team of McGovern faculty and medical students led by Sandy McKay, MD, assistant professor of pediatrics; Michael Bagg, second-year student; Marina Ibraheim, second-year student; and Rebecca Lunstroth, JD, MA, associate director of the McGovern Center for Humanities and Ethics and assistant professor of family and community medicine. The course was designed to address the knowledge gap between gun violence prevention and the role of the physician in a non-partisan atmosphere.

The goals of the course are to understand: the large-scale extent of the problem; the mental-health impact on both the patient and the physician; how to evaluate the risk of a patient; what happens when a bullet hits the body; and how to effectively and appropriately use your voice as a physician and public advocate.

“Physicians and other health care professionals need skills to identify patients at risk and to discuss gun violence prevention and firearm safety in an empathetic, non-partisan manner,” Dr. McKay says. “Our priorities are patient care and safety, as well as the safety of our students and staff.”

IN 2016,  
THERE WERE  
3,353  
FIREARM DEATHS  
IN TEXAS



# A LEARNING TRAUMA CENTER

As one of McGovern Medical School's primary teaching hospitals, education is part of Memorial Hermann-Texas Medical Center's mandate.

"Red Duke Trauma Institute is a learning trauma center, which means that rapid learning occurs in the care of patients, informed by continuous improvement, a culture of inquiry, and research aligned with our clinical care," Dr. Kao explains.

Michelle McNutt, MD, associate professor of surgery, chief of trauma, Division of Acute Care Surgery, says she has seen a dramatic improvement in resuscitative strategies over the 14 years she has been with the medical school – ever since she was a general surgery resident.

"Our very active research group has changed the way trauma patients are treated throughout the United States," she says. "Based on this research, we made improvements such as resuscitating trauma patients with blood products instead of crystalloids, created a massive transfusion protocol

to expedite blood transfusion, started blood transfusion in the pre-hospital setting, decreased rates of pulmonary embolism and damage control laparotomy, and utilize thromboelastography (TEG) to improve efficiency of transfusion."

Even though Red Duke Trauma Institute at Memorial Hermann - Texas Medical Center is one of the busiest Level I trauma hospital in the nation, it has one of the lowest mortality indices. Those outcomes are a result of a multidisciplinary approach to trauma patients and the team's dedication to improving outcomes, which starts in the pre-hospital setting and continues through patient discharge.

Clinical trials support this approach.

"We have appropriate skepticism with unproven therapy," Dr. Kao says. "And we will conduct trials if a correct course of care isn't known."

The center collaborates with the UTHealth Center





for Translational Injury Research Center (CeTIR), which supports research that directly impacts trauma patients, as well as with McGovern Medical School's Center for Clinical Research and Evidence-based Medicine.

Charles Wade, MD, professor and James. H. Red Duke, Jr., MD, Distinguished Professor in Surgery, directs CeTIR. He and his colleagues have led large multi-center patient trials, including one that evaluated how blood components should be administered to bleeding trauma victims and another assessing how to best minimize patient pain without use of opioids.

Led by John Harvin, MD, associate professor of surgery, a multi-modal pain trial is being conducted through the Center for Clinical Research and Evidence-based Medicine in trauma patients to improve pain control while preventing adverse side effects.

"We have actually shown an impressive reduction in use of patient-controlled analgesia devices, in opioid use (characterized by morphine milligram equivalents per day), and in opioids prescribed at discharge (12% reduction) over time," Dr. Kao adds.

EVEN THOUGH RED DUKE  
TRAUMA INSTITUTE AT  
MEMORIAL HERMANN  
- TEXAS MEDICAL  
CENTER IS ONE OF THE  
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THE LOWEST MORTALITY  
INDICES.

# LEARNING TO STOP THE BLEED

These days, our headlines shout the repeated devastation incurred by mass violence. While none of us expects to be a part of such an emergency, it has been shown that trained bystanders can reduce morbidity and mortality in such situations.


McGovern Medical School offers such training through the national Stop the Bleed course for students, faculty, and staff. Led by Sasha Adams, MD, associate professor of surgery, the course teaches participants how to use tourniquets to stop extremity bleeding, which can save a patient from massive bleeding, shock, and death.

Dr. Adams has teamed up with educators from Memorial Hermann Life Flight® to train McGovern medical students in bleeding control techniques, including wound packing and the proper use of tourniquets. Students learn when a tourniquet is effective and how to use it in emergency situations, blocking the blood flow until the bleeding stops.

With the support of the Department of Surgery, each trained student receives an emergency Stop the Bleed kit to carry in his or her car. The kit is outfitted with two pairs of gloves, shears, packing gauze for wounds, and an approved C-A-T tourniquet.

In addition to learning how to place tourniquets on themselves and others, a new "bleeding arm" training device has been added to the Surgical and Clinical Skills Center, where students can learn Stop the Bleed in a model that mimics a bleeding patient.

Stop the Bleed kits are kept next to all AEDs in the medical school, and hands-on drills are held to keep skills current.

 Stop the Bleed video:  
<http://go.uth.edu/stop-the-bleed>

## LOOKING AHEAD

Despite widespread interest in reducing our nation's trauma rates – via improved auto safety features and gun violence prevention – there is a shortage of acute care surgeons to provide trauma care.

“This is why the national trauma system is so important and why regionally trauma care should be carefully coordinated to provide coverage where it is needed,” Dr. Kao explains. “Emergency general surgery is likely the next target for regionalization of care as there are ‘deserts’ in care of these patients, especially in some rural areas with fewer and fewer general surgeons being able and/or willing to care for these often complex patients.”

In order to help fill this need, McGovern Medical School offers a two-year acute care surgery fellowship and a one-year surgical critical care fellowship under the leadership of Bryan Cotton, MD, professor of surgery.

“As general surgery becomes more sub-specialized, it is important that some surgeons retain the ability to operate comfortably on whatever comes through the door,” Dr. Kao says.

“Trauma surgeons have the privilege of operating on the heart, lungs, abdomen, blood vessels, skin, and extremities in the same call shift and sometimes on the same patient,” Dr. McNutt adds. “Few specialties allow this surgical variety.”

Trauma patients at Memorial Hermann-Texas Medical Center will soon be in a new home – the 17-story Susan and Faye Sarofim Pavilion. The project will create 63 emergency center patient rooms, 24 operating rooms (including three hybrid ORs), and 148 patient beds.

“The hybrid operating room in the Sarofim Pavilion will allow the simultaneous use of diagnostic and therapeutic hybrid technology for the critically injured trauma patient, including CT scan, interventional radiology procedures, and open surgical procedures for any injury,” Dr. McNutt explains.

McGovern faculty have participated in planning for the new trauma tower.

“We’ve been included in many planning meetings, and I am certain it will be very efficient and user-







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— MICHELLE MCNUTT, MD  
ASSOCIATE PROFESSOR OF SURGERY,  
CHIEF OF TRAUMA

friendly for both faculty and patients. It will double the size of the current emergency department,” says Sam Luber, MD, co-interim chair of the Department of Emergency Medicine.

The new tower will allow relocation of acute care services, such as the burn and shock trauma intensive care units, which share a similar patient population. It also will house a new helipad for Life Flight®, which makes over 3,000 flights a year.

A new tower will bring new synergies but will not change the heart of the trauma team.

“We are proud to work in this institute named after Dr. Red Duke. Dr. Duke truly embodied what it means to be a trauma surgeon and basically lived in the hospital,” Dr. Kao says. “We are dedicated to patients, and recovery, and to education of our trainees and the public just like he was. We are training the next generation to be like Dr. Duke.”

# LBJ HOSPITAL

The floodwaters of Hurricane Harvey may have receded, but a year later, LBJ General Hospital is still feeling the impact of the storm. Not only did the hospital lose a significant number of beds, it gained a substantial number of patients over the following year. East Houston Regional Medical Center, a hospital that served the community, never reopened following Harvey.

A safety net hospital in a severely underserved area of Houston, LBJ saw its patient volumes swell from 83,000 in 2017 to approximately 90,000 patients in 2018.

“The patients we treat at LBJ are particularly vulnerable,” says Kunal Sharma, MD, medical director of LBJ Hospital’s Emergency Department and assistant professor of emergency medicine. “More than half of our patients do not speak English. They struggle with higher rates of food insecurity, housing instability, and transportation challenges than other parts of the county. These challenges force us to practice and to teach our trainees the ‘art’ of medicine alongside the ‘science’ of medicine.”

One of the primary teaching hospitals of McGovern Medical School, LBJ is the busiest Level 3 trauma center in the nation.

“Patient volume in the emergency room increased 13% from July 2017 to July 2018,” explains Samuel Luber, MD, MPH, interim co-chair of the Department of Emergency Medicine and associate professor.

Despite this overwhelming increase in volume, the emergency department improved its efficiencies and decreased its “left without being seen” rate by 29%. The average wait time for a patient in the emergency room also decreased by 22%.

“We have used a multidisciplinary approach to take care of our increase in patients,” Dr. Luber explains. “Even though we had to give up beds, we made the best use of our space and also were able to triage our patients who could be vertical – patients who could sit into special treatment areas instead of lie down in beds.”

Dr. Luber also credits a shift in the nursing culture, which is taking ownership of patients, in helping move patients through the hospital more efficiently and into the proper care.

The emergency department has added physician staffing, shifted schedules, and partnered with other services to ensure patients are prioritized.

“We have worked hard to improve the care of our patients over the years. It has taken the work of physician, administrative, and nursing leadership,” Dr. Luber explains.

# Camp McCullough: Mentoring for the future of neuroscience



Dr. Louise McCullough helps students with an early start in the lab through her unique mentoring program.



Dr. Louise McCullough

What began as an initiative to get students involved in neurology and neuroscience early in their careers has blossomed into a successful mentorship program led by Louise McCullough, MD, PhD, professor and Roy M. and Phyllis Gough Huffington Distinguished Chair of Neurology. Dr. McCullough takes undergraduate students, many of whom have no scientific or medical training, and teaches them basic skills for advancing their careers.

"This has always been a really big priority for the lab," Dr. McCullough says. "We call it 'Camp McCullough.' Some of these kids have never touched a pipette, they have never handled a mouse, and they break a lot of stuff."

Throughout a decade of leading the program, first at University of Connecticut and now at McGovern, Dr. McCullough has seen a 90 percent success rate of undergraduates staying involved in science. Many will return for multiple years in the mentorship program,

stacking their classes Monday through Wednesday so that they can be in the lab on Thursdays and Fridays, or even taking a gap year following graduation to continue learning in the program.

The program employs around 10 undergraduates per summer, selected from a growing list of applicants. Students spend the summer months in the lab, earning \$10 to \$12 an hour, so that the program feels more like a job than an internship.

"A lot of these kids end up coming back: seven of the 10 this summer are all returnees," Dr. McCullough says. "That becomes helpful, because they can develop little projects of their own. Three of the returnees have already designed small projects for the summer. Hopefully some of those will either turn into papers or contribute to papers that they can be an author on, which really helps them be competitive for graduate or medical school."

Being in Dr. McCullough's mentorship program has

*“I not only learned basic lab skills, but I learned how to think like a scientist.”*

— SARAH DORAN

proven to be extremely useful to the development of the undergraduate's careers. Alongside the basic techniques students develop, they also learn skills that will help them with either their science or medical careers, depending on the route they choose.

“Some of them want to be more medical centered as well as lab based, so they come and accompany me on rounds,” Dr. McCullough says. “The students who do gap years often learn how to do phlebotomy and will draw bio samples from patients. That gives them patient contact and helps us get samples to validate targets. It's a win-win, but you have to get through the up-front investment of the first year or two. Some of them will drop out when they realize they're not particularly interested in certain things like neuroscience, but we still give them basic lab skills.”

That was the experience of Sarah Doran, an early participant in the program.

“Over my summer, I made great friends in lab, some that have lasted almost a decade,” Doran says. “The next summer, Dr. McCullough worked with me to put together a grant for me to come back. I worked as a participant and teacher of her ‘summer camp’ for four years.

“I not only learned basic lab skills, but I learned how to think like a scientist. My experience in the lab led me to pursue an MD/PhD. Dr. McCullough and I still talk on a regular basis, and I consider her my closest mentor.”

Dr. McCullough is well aware of the benefits of being well versed in an academic background. Originally a French major, she received her PhD in neuroscience from the University of Connecticut before then earning her medical degree from the University of Connecticut School of Medicine.

“Going the MD/PhD route helped me tremendously,” Dr. McCullough says. “It kept my work more relevant. You should do basic science for basic science sake. We have to advance science, but for me, my biggest reward is trying to get something that is relevant in the lab. That has always been the biggest struggle: crossing what they call the translational chasm. We're getting much, much closer by designing trials that are more appropriate.”

Dr. McCullough also knows the importance of being a mentor. She remembers nearly failing as a French major until she found her niche in a molecular and cell

biology lab. While doing a work-study washing glassware, she sparked an interest by asking fellows what they were doing in the lab. Then she met John Salamone, professor and Behavioral Neuroscience Division head at UConn, who took her on as his first graduate student.

“If I hadn't met him, I probably would not be in science or medicine,” Dr. McCullough recalls. “His impact on my career and forming who I am today was so integral, and I want to provide that to other people. That's why I'm so motivated. I have had successful mentors through every step of my career. If I hadn't had these mentors, I would not be successful.”

The tradition of being mentored extends itself to Dr. McCullough's lab as well. She surrounds herself in the lab with others who know the value of mentorship. From her lab manager, Diego Morales, PhD, to her program manager Lori Capozzi and everyone in between, Dr. McCullough knows that all of her faculty are good mentors, because they have been mentored and know the value of such a program.

“It requires a lot of support and organization,” Dr. McCullough says. “I have a tremendous support staff in my own lab. If it wasn't for them, and the fellows who are willing to take these kids on, we could not be so productive. Mentoring is hard, and it takes a lot of time. You have to really get personal satisfaction out of it to see the value, but once you do, you become a great mentor.”

One doesn't have to look far to see the impact that Dr. McCullough is having on the future of medical students with her mentoring program. Students across the country, from Doran at Maryland to Joshua Crasper at University of California, Irvine, understand its incredible value.

“Dr. McCullough invests in, and challenges, her students more than they are often willing to invest in and challenge themselves – until they find themselves racing to keep up out of sheer obligation,” Crasper says. “Her mentorship program has been the single most powerful force shaping my scientific trajectory up to this point, in a PhD program across the country, and I am eternally grateful for it.”

Dr. McCullough has seen the hard work and the constant investment show dividends over the past decade. Though she notes that the students she mentors are never really gone, comparing them to her own children. She knows that in a way, the lifetime commitment of mentoring is helping her professional career as well.

“You don't see the real rewards for many years,” Dr. McCullough says. “When you look at my CV, so many of my own publications have my prior residents, fellows, or students as co-authors. In a way, they've enhanced my career of success, so it's all worth it. It's worth it when you see them get grants, and you see them get faculty positions, and you look out at a national conference, and you see 20 people that you've mentored. I like to mentor.”



DEPARTMENT OF  
Anesthesiology

**Holger Eltzschig, MD, PhD**  
Professor and Chair  
John P. and Kathrine G. McGovern  
Distinguished Chair

The Department of Anesthesiology is committed to excellent clinical care of perioperative and critically ill patients and patients requiring interventional pain treatment. We also provide a wide array of training opportunities for anesthesia residents, fellows, and advance practice providers and perform cutting-edge research in the field of perioperative medicine.

Our diverse faculty provide clinical expertise at multiple sites in both ambulatory and inpatient settings, including Memorial Hermann-Texas Medical Center, Memorial Hermann Ambulatory Surgery Center, the Memorial Hermann Heart and Vascular Institute, Memorial Hermann Southwest Hospital, Lyndon Baines Johnson General Hospital, the UTHealth School of Dentistry at Houston, as well as in specialized pain management clinics.

Our residency training program is one of the largest anesthesiology training programs in the country, with 24 clinical base year spots and 27 clinical anesthesia spots per year. Our residents’ training begins with a clinical base year offering broad experience in both medicine and surgery. Fellowships are available in Cardiovascular, Critical Care, Neuro, Pediatrics, Regional, and Trauma Anesthesia.

Clinical research is being performed in airway management, coagulation abnormalities, as well as cardiac, critical care, pediatric, obstetric, regional, and trauma anesthesia. During the past year, we launched the building of a new translational research center called the “Center for Perioperative Medicine,” where cutting-edge research is performed to understand inflammatory responses triggered during surgery, infection, ischemia, and reperfusion injury. Through our research, we hope to identify novel pharmacologic approaches to treat or prevent organ injury, train the next generation of scientists, and perform collaborative research.

Our basic science research team has expanded in number. We have increased our laboratory-based research platform with multiple R01 grants and other federal grants, which generate about \$2M in annual funding to McGovern Medical School. Our most recent cutting-edge basic science research focuses on the inflammatory responses in acute and chronic liver diseases. Our studies in cell and animal models seek to identify mechanistic strategies to prevent and treat these liver abnormalities.

We also are conducting research on the role of hypoxia-elicited adaptive responses during organ injury and its corresponding signaling pathways, which may lead to novel pharmacologic approaches to prevent or treat acute organ injury in surgical patients. As an incentive to engage our residents in translational research, our department offers training grants and fellowships to promote this opportunity.

Faculty .....	90
Residents .....	72
Interns .....	24
Fellows .....	13
Research .....	\$2,407,000



DEPARTMENT OF  
Biochemistry &  
Molecular Biology

**Rodney Kellems, PhD**  
Professor and Chair  
Bob and Hazel Casey Chair in Biochemistry

As a basic science department in a research-intensive medical school, the major mission of the Department of Biochemistry and Molecular Biology (BMB) is to conduct innovative and important multidisciplinary biomedical research. The research activities of the BMB faculty are built on the premise that biochemistry is the molecular basis of life. This premise is evident in the research programs of each of our faculty members who share a common goal of understanding the molecular mechanisms responsible for biological function. BMB is host to a diverse array of research programs ranging from atomic resolution studies of molecular machines and mouse models of human disease to translational studies with our clinical colleagues. Basic biomedical research is conducted in cell biology, structural biology, biophysics, genetics, microbiology, neurobiology, and circadian biology. Preclinical and translational research is carried out in areas of pulmonary disease, cardiovascular disease, hematology, hypertension, Alzheimer’s disease, diabetes, obesity, metabolic syndrome, burn injury, sickle cell disease, bioinformatics, and cancer. The fundamental mechanistic approaches taken by our faculty provide real meaning to the term “molecular medicine.”

BMB faculty members constitute a well-funded community of curiosity-driven scientists conducting significant and innovative research on many frontiers. We enjoy our diversity and thrive on the interdisciplinary research opportunities that our diversity provides. Because our research is not restricted by arbitrary thematic boundaries, we are free to take our research activities in new directions when opportunities arise or when our curiosity drives us there. Because we have no thematic boundaries, we are able to recruit faculty members in emerging areas of research that appear to have promising future potential. The research findings of our faculty are routinely published in journals of the highest esteem.

BMB is home to three research centers (Structural Biology Imaging Center, Center for Membrane Biology, and Pulmonary Center of Excellence) that represent areas of research excellence within the department. Of particular note, the Structural Biology Imaging Center recently installed a new Titan Krios cryo-electron microscope, capable of providing near-atomic resolution structures of complex biological molecules. Overall, the research activities of the BMB faculty provide an atmosphere of discovery and learning that enriches medical and graduate school educational activities.

Faculty .....	33
Graduate Students .....	11
Fellows .....	24
Research .....	\$8,735,000





DEPARTMENT OF  
Cardiothoracic  
& Vascular Surgery

**Hazim Safi, MD**  
Professor and Chair

Our faculty care for patients at Memorial Hermann Heart & Vascular Institute and are world leaders in the treatment of heart and blood vessel problems, including heart valves, heart blood supply, and blood circulation throughout the body.

Our innovative techniques have resulted in critical advancements in the repair of dangerously enlarged blood vessels – preventing rupture and significantly improving outcomes. Surgeons of the department have been leaders in the field of aortic surgery for three decades, developing and perfecting all aspects of aortic disease management. Procedures involve clinical investigation with the goal of optimizing techniques of repairs of the ascending, transverse, arch, and thoracoabdominal aorta. Refinement in techniques are being investigated to provide multiorgan protection. Also, we have first-class thoracic surgeons dedicated to thoracic diseases, benign and malignant; esophageal; lung; and mediastinal disease; in addition to minimally invasive experts and those who specialize in the most advanced structural heart therapies (TAVR). Our surgeons operate all over the world and maintain collaborative clinical, research, and training programs in England, Germany, and China.

Our department maintains an active portfolio of clinical research, with 32 clinical trials currently underway, many of which involve national leadership roles for department faculty. Several of our faculty also collaborate actively with the educational and research programs of McGovern Medical School's Center for Clinical Research and Evidence-Based Medicine in teaching and mentorship programs as well as in the administration of the NIH-funded KL2 program in connection with the Center for Clinical and Translational Sciences. We sponsor three ACGME-accredited fellowship programs – two in vascular surgery and one in cardiothoracic surgery, and we maintain other educational programs, including a fellowship in aortic disease and structural heart surgery. Several of our faculty have major leadership roles in UTHealth and Memorial Hermann research and healthcare quality initiatives, where substantial improvements in clinical outcomes have been demonstrated in cardiothoracic and vascular and aortic surgery. We are active in national quality initiatives, including the Society of Thoracic Surgeons, Society for Vascular Surgery, and UHC/Vizient quality initiatives.

Faculty .....	20
Residents .....	9
Fellows .....	2
Research .....	\$73,000



DEPARTMENT OF  
Dermatology

**Ronald Rapini, MD**  
Professor and Chair  
Josey Professor in Dermatology and  
Marvin E. Chernosky, MD, Endowed Distinguished  
Chair in Dermatology

Dermatology is an integrated department between McGovern Medical School and MD Anderson Cancer Center. Activities also involve Memorial Hermann-Texas Medical Center and Harris Health System.

The department has been ranked as one of the top eight dermatology clinical centers of excellence in the nation. The faculty and residents care for an extremely diverse patient population at all of the affiliated locations. Research in the department emphasizes pediatric dermatology, cutaneous lymphoma, skin cancer, dermatopathology, and skin molecular virology. The department operates free-standing laboratories for dermatopathology histologic slide preparation, including immunofluorescence and for state-of-the-art molecular studies of viruses that affect the skin. The clinical dermatopathology laboratory issues diagnostic reports on more than 35,000 patient specimens per year.

There are 25 salaried faculty and 20 dermatology residents. A fellowship in Pharmaceutical Clinical Trials in Pediatric Dermatology is offered. In collaboration with the Department of Pathology, there is an ACGME-accredited dermatopathology fellowship program. In collaboration with MD Anderson Cancer Center, there is an ACGME-accredited fellowship training program in Micrographic Surgery and Cutaneous Oncology. The training programs are extremely competitive. We are one of the larger dermatology programs in the nation.

Senior faculty have held major national offices, such as president of the American Board of Dermatology, president of the American Society of Dermatopathology, president of the Society for Pediatric Dermatology, and president of The Women's Dermatologic Society.

Electives for medical students are popular among students from our own school and outside institutions.

Faculty .....	10*
Residents .....	20*
Fellows .....	2*
Research .....	\$130,000*

\*excludes MD Anderson



DEPARTMENT OF  
Diagnostic &  
Interventional Imaging

**Susan John, MD**  
Professor and Chair  
J.S. Dunn Distinguished Chair in Radiology

The Department of Diagnostic and Interventional Imaging is a community of physicians, scholars, and educators who are leaders in innovative, evidence-based, personalized imaging, and image-guided procedures. Our achievements are possible because of our strong affiliations with our primary teaching hospitals, Memorial Hermann Hospital-Texas Medical Center and the Harris Health Lyndon B. Johnson General Hospital. Our mission is to 1) deliver efficient, high quality, subspecialized, team-based care focused on the needs and values of the patient, 2) conduct innovative basic science, translational, and clinical, and quality improvement research to advance patient care, and 3) educate and engage current and future radiologists, imaging scientists, and non-radiologist physicians.

The faculty consists of a diverse group of highly specialized diagnostic and interventional radiologists who work in a collaborative and collegial manner to accomplish our goals. Highest clinical quality is fostered and maintained by a robust quality improvement program that emphasizes optimal patient safety and patient experience. We work closely with all clinical service lines within UTHealth to ensure exceptional patient outcomes through accurate diagnoses and prompt state-of-the-art interventional procedures.

Our faculty are engaged in education of physicians and other healthcare workers at all levels, including medical students, allied health school students, residents, fellows, and practicing physicians. Our training programs not only capitalize on the broad educational opportunities at our affiliated teaching hospitals but also benefit by sharing residency and fellowship training programs with other internationally recognized radiology departments, including MD Anderson Cancer Center and Texas Children's Hospital. Together we offer a premier teaching environment staffed by an internationally recognized faculty.

World-class research in advanced imaging and image-guided interventions is conducted by the imaging scientists and clinical investigators of DII. Advanced MRI techniques in multiple sclerosis and stroke, use of deep learning networks for improved brain imaging, advanced digital data archiving system development, identification of biomarkers for liver tumors, and imaging of health effects of low gravity environments on NASA astronauts are some of the current research focuses of our faculty.

Faculty .....	74
Residents .....	54
Fellows .....	14
Research .....	\$592,000



DEPARTMENT OF  
Emergency Medicine



**Sam Lubner, MD, MPH** (top)  
Associate Professor and Interim Chair  
**Sam Prater, MD** (bottom)  
Assistant Professor and Interim Chair

The Department of Emergency Medicine is proud of its commitment to outstanding clinical care, educational excellence, and academic rigor.

The heart of any clinical department will always be the care it provides the patients who entrust their health and life to our doctors. We provide clinical emergency expertise at Lyndon B. Johnson General Hospital, Memorial Hermann-Texas Medical Center, Children's Memorial Hermann Hospital, and Memorial Hermann Sugar Land and Memorial Hermann Memorial City pediatric emergency centers.

Education of the next generation of leaders in emergency medicine and acute care will continue to be a core pillar of our mission. With our expansion to 20 new residents arriving each July, we have become one of the largest emergency medicine training programs in the country. With our strong hospital partners and core faculty, we offer an unparalleled training experience – unmatched in Texas and on par with the best in the nation. We currently support fellowships in Emergency Medical Services, Pediatric Emergency Medicine, Quality/Administration, and Ultrasound.

Our primary research foci include: the acute care of the injured heart, brain, and vascular system; public health and prevention research; research involving the medical or traumatic presentation of shock; and research involving health informatics and emergency medicine processes.

Together with the Hospitalist Division, our department has established the Acute Care Service Line, which provides high-quality care to patients admitted to the Medicine, Orthopedics, Trauma, Neurology and Cardiovascular service lines. In addition, we provide consultative services for all service lines at Memorial Hermann-TMC and at TIRR Memorial Hermann. The Hospitalist Division is collaborating closely with the Department of Internal Medicine and has taken the lead on multiple teaching programs for residents, such as the Ultrasound Curriculum and the Leadership in Medicine Track. Our research interests include a vast array of topics to include acute brain injury immunosuppression and secondary complications, bone health, perioperative management, and clinical pathways as a tool for improving outcomes in patient care.

Faculty .....	61
Staff Physicians.....	65
Advance Practice Practitioners .....	49
Residents.....	57
Fellows .....	4
Research .....	\$1,641,000





DEPARTMENT OF  
Family &  
Community Medicine

**Carlos Moreno, MD**  
Professor and Chair  
C. Frank Webber Chair in Family Medicine

We have a diverse faculty and staff committed to excellence in patient care, teaching, research, and community service. Our faculty are involved in a wide range of activities, including medical student education, and family medicine residency training. Departmental faculty are involved in all four years of medical education and serve as role models for future physicians.

We deliver high-quality comprehensive family care, including screening and prevention of disease and ambulatory procedures, such as colonoscopy, exercise stress testing and exercise prescription, vasectomy, and skin procedures in both ambulatory and inpatient settings that include multiple UT Physicians and Harris Health System locations. Our faculty and residents provide low-risk maternity care, care for newborns and children, as well as adult medical care covering a wide spectrum of common diseases. Several faculty have special expertise in geriatrics, sports medicine, and skin conditions. Faculty and residents provide inpatient management of patients at both Memorial Hermann-TMC and LBJ General Hospital.

We have 36 residents who train in both the urban underserved on private and not-for-profit facilities. Residents are trained to use current evidence-based approaches to provide the best medicine in the context of the patients' needs, their families, and their community.

We offer Primary Care Sports Medicine Fellowship in conjunction with the Department of Orthopedic Surgery that provides experiences in multiple settings, including field and training room experiences for high school and collegiate athletes and large community sporting events. Residency graduates have an opportunity to obtain additional training in a Geriatrics Fellowship Program in conjunction with the Department of Internal Medicine.

Our Harris Health System Community Health Program coordinates medical services, educational activities, research, community outreach, and health profession interdisciplinary endeavors at 10 sites in the community, delivering medical care to the medically underserved of Harris County.

The UTP Community Based Clinics offer excellent patient care in 13 ambulatory sites throughout the Houston area provided by faculty and staff physicians.

The department maintains an active research portfolio of externally funded research programs focusing on the impact of health behavioral change and clinical research.

Faculty .....	79.5
Staff Physicians .....	19
Residents .....	36
Fellows .....	2
Research .....	\$480,000



DEPARTMENT OF  
Integrative Biology &  
Pharmacology

**John Hancock, MA, MB, BChir, PhD**  
Professor and Chair  
John S. Dunn Distinguished University  
Chair in Physiology and Medicine

The Department of Integrative Biology and Pharmacology (IBP) is interested in the cell biology, physiology, and pharmacology of cell regulation and communication.

Our major research themes include the molecular mechanisms and spatiotemporal dynamics of membrane signaling; intracellular and metabolic signaling; the biology and physiology of cell-cell interactions; and the use of computational, structural, and systems approaches to decipher signaling networks.

These efforts are aimed at understanding how normal and abnormal cell function translates into whole animal physiology and pathophysiology, and exploring the molecular pharmacology of existing and novel therapeutics.

In this context, IBP has research programs in cancer cell biology, cardiovascular biology, tissue regeneration, and plasticity (especially in nerve and muscle), and neuronal signaling in injury, inflammation, and pain.

Members of the IBP faculty teach Physiology and Pharmacology to medical students and actively participate in four Graduate School programs: Biochemistry and Cell Biology, Cancer Biology, Neuroscience, and Therapeutics and Pharmacology. We also participate in the Center for Membrane Biology within the McGovern Medical School and in several training grants, including those in Interdisciplinary Pharmacological Scientists and Computational Cancer Biology.

Faculty .....	33
Graduate Students .....	12
Fellows .....	22
Research .....	\$9,987,000



DEPARTMENT OF  
Internal  
Medicine

**David McPherson, MD**  
Professor and Chair  
James T. and Nancy B. Willerson Chair

The Department of Internal Medicine strives to improve the quality of health care through excellence in the education of students, residents, physicians, and the public; the advancement of biomedical knowledge through discovery, integration, and translation to the clinical setting; and the provision of state-of-the-art comprehensive, compassionate, and accessible patient care.

The department has undergone exponential growth over the last few years in basic and clinical research, as well as in clinical patient care, to become one of the largest academic departments of medicine in the country.

The scope of our department is best illustrated through our 15 divisions, Cardiovascular Medicine; Center for Clinical and Translational Sciences; Critical Care; Endocrinology and Diabetes; Gastroenterology and Hepatology; General Internal Medicine; Geriatric and Palliative Medicine; Hematology; Hyperbaric Medicine; Infectious Diseases; Medical Genetics; Oncology; Pulmonary and Sleep Medicine; Renal Diseases and Hypertension; and Rheumatology.

The department's clinical services span the continuum of primary care to subspecialty care. Excellent clinical care is provided at UT Physicians-Texas Medical Center, Bellaire, Sienna, Cinco Ranch, Greens, Heights, Dashwood, Victory, Hermann Medical Plaza, Park Plaza Clinics, and Bayshore; Memorial Hermann-Texas Medical Center; Memorial Hermann Northeast; Memorial Hermann Southeast; Memorial Hermann Southwest; TIRR Memorial Hermann; Memorial Hermann Cypress; Memorial Hermann Greater Heights; and Lyndon B. Johnson General Hospital.

During the past year, we have achieved a 10-year recertification of all of our training programs, obtained numerous new research grants from the National Institutes of Health and other national research funding agencies, and grown our clinical enterprise into 37 off-site clinics in Greater Houston and the surrounding areas from College Station down into Corpus Christi and South Texas in Brownsville/Cameron County.

Despite the rapid changes in health care today, the Internal Medicine faculty and staff remain doggedly devoted to excellent service to our patients, to providing meaningful educational experience to trainees, and to strive for new discoveries that advance science.

Faculty .....	238
Staff.....	270
Residents.....	166
Fellows .....	108
Research .....	\$19,640,022



DEPARTMENT OF  
Microbiology &  
Molecular Genetics

**Theresa Koehler, PhD**  
Professor and Chair  
Herbert L. and Margaret W. DuPont  
Professor in Biomedical Science

The faculty of the Department of Microbiology and Molecular Genetics are highly committed to excellence in research and education. The nationally recognized discovery research program of the department has five areas of excellence: cell cycle and development, gene regulation, host-pathogen interactions, microbial stress response, and molecular machines. Investigations include a wide variety of disease-causing and environmental bacteria, fungi, and parasites.

In addition to its strong research program, the department provides didactic and experiential training to medical students, graduate students, and postdoctoral fellows. The department is home to the Graduate Program in Microbiology and Infectious Diseases, a model program of the Graduate School of Biomedical Sciences. Many departmental faculty participate in the Molecular Basis of Infectious Diseases T32 Training Grant funded by the National Institute for Allergy and Infectious Disease.

During the past year, faculty have been recipients of prestigious teaching and research honors. Dr. Ambro van Hoof received the D. Dudley and Judy White Oldham Faculty Award, and Dr. Ronald Mackenzie earned the Dean's Teaching Excellence Award. Dr. Nayun Kim was recognized by the UTHealth Women Faculty Forum with a Rising Star Excellence Award, and Dr. Kevin Morano was named holder of the Roger J. Bulger, MD, Distinguished Professorship.

Faculty .....	18
Graduate Students.....	15
Fellows .....	22
Research .....	\$7,479,000



DEPARTMENT OF  
**Neurobiology &  
Anatomy**

**Pramod Dash, PhD**  
Professor and Interim Chair  
Nina and Michael Zilkha Distinguished Chair  
in Neurodegenerative Disease Research

**N**ormal functioning of the brain, which makes us who we are, can be robbed by diseases like memory disorders, stress-related disorders, and neurodegenerative diseases. Faculty in the Department of Neurobiology and Anatomy are engaged in multiple areas of research, including cellular and molecular neuroscience, computational neuroscience, systems and cognitive neuroscience, brain injury, and neurodegenerative diseases. Faculty also train both medical and graduate students. The department houses the Center for Concussion Studies, the Neuroscience Research Center, the W. M. Keck Center for the Neurobiology of Learning and Memory, the Willed Body Program, and the Human Structure Facility.

In the 2017-2018 academic year, our faculty received numerous research awards. Drs. Pramod Dash and John Redell received two grants from the TIRR Foundation, Dr. John Byrne was awarded three R01 grants from the National Institutes of Health (NIH), Dr. Fabricio Do Monte received the NARSAD Young Investigator Award from the Brain & Behavior Research Foundation, and Dr. Ruth Heidelbergberger helped secure a T32 Medical Scientist Training Program grant from the NIH. In the arena of scholarship, our faculty authored papers in *Brain Structure and Function*, *Cerebral Cortex*, *eLife*, *eNeuro*, *Experimental Cell Research*, *Journal of Biological Chemistry*, *Journal of the Experimental Analysis of Behavior*, *Journal of Neurotrauma*, *Molecular and Cellular Neuroscience*, *Nature Communications*, *PLoS Biology*, *Scientific Reports*, and *The Journal of Neuroscience* (amongst many others), in addition to invited review articles and book chapters.

Graduate students Natasha Kharas (adviser: Dr. Valentin Dragoi) won the Russell and Diana Hawkins Family Foundation Discovery Fellowship; Renan Costa (adviser: Dr. Byrne) received the Larry Deaven PhD Fellowship in Biomedical Sciences; Rajan Dasgupta (adviser: Dr. Michael Beierlein) won the Sam Taub and Beatrice Burton Endowed Fellowship in Vision Disease; and John O'Malley (adviser: Dr. Beierlein) received the Harry S. and Isabel C. Cameron Foundation Fellowship.

Our faculty also serve the larger neuroscience community. Dr. Dash served as an ad hoc member for the Learning and Memory Study Section and for two Special Emphasis Panels. Dr. Byrne served as a member of the Learning and Memory Study Section and as a member of the Society for Neuroscience Government and Public Affairs Committee. Dr. Heidelbergberger served as an ad hoc member for the Neurotransmitters, Receptors, and Calcium Signaling Study Section, and Dr. Tsvetkov served as an ad hoc member for the Neural Oxidative Metabolism, Mitochondria and Cell Death Study Section. Dr. Claire Hulsebosch received the John H. Freeman Award for Faculty Teaching and was selected by the students to be the Student Marshal during commencement.

Faculty .....	26
Fellows .....	8
Research .....	\$6,700,000



DEPARTMENT OF  
**Neurology**

**Louise McCullough, MD, PhD**  
Professor and Chair  
Roy M. and Phyllis Gough Huffington  
Distinguished Chair

**C**entral to the mission of the Department of Neurology is to provide the best clinical care in an environment that emphasizes collegiality and academic excellence.

The Stroke Program translates new therapies from the lab to the bedside and is a national leader. Our Stroke Institute continues to grow and provides research and educational support to the department and to UTHealth. The UT telemedicine program has grown to 20 sites, providing access to care for many patients throughout Houston and Texas.

The endovascular and intervention division continues to work in collaboration with the Department of Neurosurgery and Memorial Hermann-Texas Medical Center. The group now performs emergent stroke thrombectomy services at four Memorial Hermann sites, the Texas Medical Center, Southwest Memorial, Memorial City, and The Woodlands. Fellowship training has expanded to three fellows per year.

The Multiple Sclerosis Research Group focuses on fundamental and applied research approaches in neuroimmunology and advanced magnetic resonance imaging. In addition to a busy clinical practice, the group participates in clinical trials and conducts basic and translational research.

The Neuromuscular Program providers have unique expertise in neuromuscular pathology, single fiber EMG, and the treatment of chronic inflammatory neuropathies. The program is a designated Center of Excellence for GBS and CIDP. Our muscle and nerve pathology laboratory is CAP/CLIA certified and EMG laboratory is AANEM accredited.

The Texas Comprehensive Epilepsy Program and its Epilepsy Monitoring Unit at Memorial Hermann-Texas Medical Center offer a comprehensive diagnostic and therapeutic program for pediatric and adult epilepsy patients and their physicians. It is one of the largest surgical epilepsy programs.

The Movement Disorders Program provides comprehensive diagnostic and state-of-the-art medical and surgical therapeutic programs for patients with Parkinsonian diseases, tremor, dystonia, ataxia, and traumatic brain disorders. In addition to being actively engaged in translational research, we offer several clinical trials, a large community-centric Deep Brain Stimulation Program, and have the only Huntington's Center of Excellence in Texas.

Our program in cognitive disorders and dementia includes a multidisciplinary clinical diagnostic and treatment program and groundbreaking research. The Neuropsychology Program specializes in the comprehensive evaluation of the cognitive and behavioral effects of neurological and psychological disorders and provides cognitive rehabilitation and psychotherapy to enhance cognitive functioning and to help patients cope with neurological disability.

Faculty .....	62
Residents and Fellows.....	41
Research .....	\$19,000,000



THE VIVIAN L. SMITH  
DEPARTMENT OF  
Neurosurgery

**Dong Kim, MD**  
Professor and Chair

We are currently the largest neurosurgery group in Houston in terms of numbers of faculty, NIH grants received, and total research expenditure. We are the #1 neurosurgery program in terms of market share. We also have robust educational programs, including residents and fellows.

Our clinical program has grown significantly, more than quadrupling in size. At the same time, our quality outcomes have improved. Our mortality rates are well below the benchmark of our peers in the University Health System Consortium (now Vizient). In recent years, we have ranked around #10 nationally. In addition, complication rates at the Mischel Neuroscience Institute are below national benchmarks.

We are proud of our educational activities. Currently, about a quarter of McGovern medical students rotate through neurosurgery during the third year, a dramatic increase from prior years. The Neurosurgery Residency Training Program started in July 2008. In April 2016, we were given an unconditional 10-year certification after review, and our resident complement was recently approved to increase to three per year (for a seven-year program). Most neurosurgery residencies nationally support one resident per year. We have three fellowships, in cerebrovascular and skull-base surgery, neuro-critical care, and endovascular neurosurgery.

Research is a high priority for us. We have 11 PhD faculty, and many clinicians are involved in research projects. We currently run more than 30 clinical trials in various areas of neurosurgery. Last year, we were in the top 20 nationally for NIH funding to Neurosurgery Departments (#13).

Faculty .....	37
Residents and Fellows.....	25
Research .....	\$6,635,000



DEPARTMENT OF  
Obstetrics, Gynecology  
& Reproductive Sciences

**Sean Blackwell, MD**  
Professor and Chair  
Emma Sue Hightower Development Board  
Professor and Berel Held, MD, Professor in  
Obstetrics, Gynecology and Reproductive Sciences

Our department has undergone substantial growth over the last few years, with expansion of both general obstetrics, gynecology, and subspecialty practices across the Greater Houston area, as well as an increased academic footprint within the Texas Medical Center.

Subspecialty services include Gynecologic Oncology, Female Pelvic Medicine and Reconstructive Surgery, Maternal-Fetal Medicine, and Fetal Intervention.

Our physicians provide services and care across the Memorial Hermann Health System as well as at Lyndon B. Johnson General Hospital, The Woman's Hospital of Texas, St. Joseph Hospital, and Cypress Fairbanks Medical Center.

Our faculty offer special expertise to women across their lifespan, including minimally invasive and robotic surgery. Our gynecology sub-specialists are experts in gynecologic oncology and female urology. Our high-risk pregnancy specialists care for women with underlying medical complications, multiple gestations, and fetal abnormalities. The department also includes The Fetal Center, where our fetal medicine physicians perform fetal surgery, including selective laser photocoagulation of placenta vessels in treatment of twin-twin transfusion syndrome, in utero repair for spinal bifida, as well as treat fetal medical conditions requiring intrauterine transfusion.

The educational program includes medical student rotations for third- and fourth-year students, OB/GYN residency program, and fellowships in maternal fetal medicine, fetal intervention, and OB/Gyn hospitalist.

Research within the department is a combination of basic and translational sciences and patient-oriented research.

Faculty .....	81
Residents.....	48
Fellows (Maternal Fetal Medicine).....	10
Fellows (Hospitalist).....	2
Research .....	\$1,411,000





RUIZ, MD DEPARTMENT OF  
Ophthalmology  
& Visual Science

**Robert Feldman, MD**  
Professor and Chair  
Richard S. Ruiz, MD, Distinguished University  
Chair in Ophthalmology

The Ruiz, MD, Department of Ophthalmology and Visual Science provides a full complement of inpatient and outpatient clinical services through its primary teaching facilities: the Cizik Eye Clinic, Memorial Hermann-Texas Medical Center, Children's Memorial Hermann Hospital, Lyndon B. Johnson General Hospital, Settegast Community Health Center, Baytown Community Clinic, and Acres Home Community Health Center. Our physicians also provide outpatient care at UT Physicians Cinco Ranch.

The ophthalmic subspecialties represented in the Cizik Eye Clinic include ophthalmic plastic, reconstructive, and orbital surgery; corneal and external disease, refractive surgery, glaucoma, retina, vitreous, and uveitis; pediatric ophthalmology; and neuro-ophthalmology. All of the physicians at the Cizik Eye Clinic are faculty members in the department, are board certified by the American Board of Ophthalmology, and are on the medical staffs of numerous facilities, most notably that of Memorial Hermann-Texas Medical Center.

In addition to clinical care, ophthalmology and visual science faculty are at the forefront of research into anatomy and physiology of the eye as well as the causes and treatments of ocular disease. The department is known as a leading center for the design and development of clinical trials in ophthalmology.

The Department of Ophthalmology and Visual Science is involved in the education of undergraduate, graduate, and post-graduate students as well as residents and fellows in a variety of fields of medicine.

Faculty .....	27
Fellows .....	1
Residents .....	12
Research .....	\$2,865,000



DEPARTMENT OF  
Orthopedic  
Surgery

**Walter Lowe, MD**  
Professor and Chair  
Edward T. Smith, MD Chair in Orthopaedic Surgery

The Department of Orthopedic Surgery will continue to grow as the dominant provider of orthopedic care in the entire region. The establishment of a regional network of high-quality, multi-specialty, orthopaedic and related providers, along with strategically located sub-specialists has fostered this growth and development. Anchored at McGovern Medical School, the department will be a national leader in translational research, physician training, and clinical outcomes; provide unrivaled access to care; relentlessly ensure high-value diagnostic and procedural outcomes; and deliver exceptional patient experiences in a sustainable and efficient manner.

Our research mission is to apply basic science and bioengineering techniques to address clinical problems and improve patient care. Our faculty continue to focus on advancing the field of musculoskeletal medicine and orthopaedic surgery. Our research facilities include Dr. Johnny Huard's Lab, where the focus is to understand basic stem cell biology and translate that knowledge to the clinic and aid in the healing and regeneration of a variety of tissues. Dr. Scott Tashman is developing and directing the new Biodynamics Laboratories for preclinical and clinical research into the relationships between musculoskeletal function and joint health, injury, and disease. Dr. Tashman's primary areas of expertise are advanced 3D imaging, *in vivo*, dynamic assessment of joint function, orthopaedic biomechanics, and musculoskeletal modeling. Our research is focused on translational and clinical research, develop improved orthopaedic therapies and treatments, and improve quality of life for patients.

Orthopaedic trauma is a leader in the Major Extremity Trauma and Rehabilitation Consortium (METRC) under the leadership of Danielle Melton, MD; Stephen Warner, MD/PhD; and Joshua Gary, MD; and continues to enroll over 800 patients in more than 20 multi-center studies to address gaps in the care of patients with musculoskeletal injury. Coordination with Charlie Wade, MD, and Bryan Cotton, MD and the Center for Translational Injury Research (CeTIR) in multiple studies of injured patients continues to grow with Prevent CLOT and is set to become the largest trial in orthopaedic surgery after anticipated completion of enrollment in 2021. New collaborations with McMaster University and the University of Maryland are studying the ideal preoperative surgical preparation for open fractures with multimillion dollar funding from the Department of Defense.

Our department comprises 107 faculty with training and experience in joint replacement, spine, trauma, sports medicine, reconstructive shoulder, hand and upper extremity, foot and ankle, internal medicine and primary care/sports medicine, pain management, concussion, and pediatrics.

Faculty .....	107
Residents .....	25
Fellows .....	9
Research .....	\$2,116,000



DEPARTMENT OF  
Otorhinolaryngology  
Head & Neck Surgery

**Martin Citardi, MD**  
Professor and Chair

The Department of Otorhinolaryngology–Head and Neck Surgery focuses on the care of patients with complex diseases and disorders of the ears, nose, and throat and neck, and related structures. The department’s full-time faculty members provide world-class patient care and participate in a variety of academic activities for education and research. Their knowledge and expertise has earned them regional, national, and international recognition.

The Department of Otorhinolaryngology–Head and Neck Surgery’s mission is to provide the best possible ear, nose, and throat care for our patients. The department’s clinical offices are located in the Texas Medical Center, Southeast Houston, and The Woodlands. Patient care is provided at Memorial Hermann Medical Plaza, Memorial Hermann-Texas Medical Center, Children’s Memorial Hermann Hospital, Memorial Hermann-Southeast, Memorial Hermann-The Woodlands Medical Center, and Memorial Hermann-Pearland. In 2018, the adult ENT service line at Memorial Hermann-Texas Medical Center was ranked #19 in the nation by *US News & World Report*.

Specialized programs within the department include the Texas Sinus Institute, the Texas Skull Base Physicians, the Texas Voice Performance Institute, and the Texas Center for Facial Plastic Surgery. In addition, the department has established programs for audiology, pediatric ENT, otology, ENT sleep disorders, and head and neck surgery.

The department sponsors a robust educational program, which includes an otolaryngology residency training program, as well as two clinical fellowships (rhinology and facial plastic surgery). The department’s CME programs include Lone Star Rhinology, Otorhinolaryngology Frontiers, Texas Hill Country ENT Symposium, and departmental grand rounds. In addition, the department publishes *ORL Notes*, its monthly e-newsletter.

The department conducts clinical trials work for advanced therapeutics in the treatment of chronic rhinosinusitis, and its basic science program is focusing on the mechanisms that drive chronic rhinosinusitis, with a focus on allergic fungal rhinosinusitis. In addition, the department’s faculty members participate in many other projects in all areas of otorhinolaryngology.

Faculty .....	16
Residents .....	11
Fellows .....	2
Research .....	\$167,000



DEPARTMENT OF  
Pathology &  
Laboratory Medicine

**Robert Hunter, MD, PhD**  
Professor and Chair  
Distinguished Chair in Molecular Pathology

The goal of the Department of Pathology and Laboratory Medicine is to combine the traditional values of academic pathology – excellence in service, teaching, and research – with innovative approaches to the new challenges of medicine and science. We strive to become a model of excellence in the changing world of medicine.

The department includes 45 full-time clinical and research faculty as well as many joint appointment, part-time, and adjunct faculty.

Clinical and basic research are major aspects of the department’s programs. Almost all faculty are engaged in research with the aim of discovering new knowledge and/or developing ways to apply new knowledge to improve the diagnosis and management of disease.

Centers and facilities include the Chemical Immunology Research Center, the Treponema Molecular Genetics Server, the Electron Microscopy Laboratory, and Research Training in the Molecular Basis of Infectious Disease.

The Outreach Laboratory is fully accredited and staffed by pathologists with subspecialty expertise in many areas. Our goal is to provide the specialized expertise of McGovern Medical School pathologists to practicing physicians in an efficient, cost-effective, and user-friendly manner.

The department directs a fully accredited residency training program, is extensively involved in the McGovern Medical School curriculum, and plays an active role in the training of graduate students in the affiliated Graduate School of Biomedical Sciences.

Our teaching hospitals provide a diverse patient population and exposure to a wide spectrum of human disease.

Faculty .....	45
Residents .....	27
Research .....	\$2,475,000



DEPARTMENT OF  
Pediatric  
Surgery

**Kevin Lally, MD**  
Professor and Chair  
A.G. McNeese Chair in Pediatric Surgery and  
Richard J. Andrassy, MD, Distinguished Chair  
in Pediatric Surgery

The Department of Pediatric Surgery was established in 2007.

The department has seven divisions: General & Thoracic Surgery, Neurosurgery, Plastic & Craniofacial Surgery, Urology, Cardiovascular Surgery, Acute Care Practitioners, and Regenerative Medicine. Our divisions are composed of outstanding clinicians and researchers whose skills and expertise cover all major areas of pediatric surgery and different fields of scientific investigation.

We provide educational opportunities for students and residents in many areas. Residents in most of the core surgical training programs receive their pediatric training in one of the divisions. There is also an ACGME training program in pediatric surgery. The goal of the pediatric surgery residency training program is to prepare residents to become safe, qualified, and board-certified pediatric surgeons and to be the teachers, researchers, and future leaders in the field of pediatric surgery.

The UTHealth pediatric surgical team partners with the Children’s Memorial Hermann Hospital (CMHH), the Children’s Cancer Hospital at MD Anderson, HarrisHealth/LBJ Hospital, and Woman’s Hospital.

We offer emergency and continued care for pediatric trauma patients from our Level 1 pediatric trauma facility based at CMHH. Our research programs include multiple Phase I and Phase II clinical trials and research in cellular therapies, gut function, and hospital safety. We have other research programs in pediatric brain tumors, advanced neural imaging and new techniques for management of cleft lip and palate.

Faculty .....	27
General Pediatric Surgical Fellows .....	2
Research .....	\$5,371,000



DEPARTMENT OF  
Pediatrics

**Barbara J. Stoll, MD**  
Professor and Interim Chair  
H. Wayne Hightower Distinguished Professor  
in the Medical Sciences

The mission of the McGovern Medical School Department of Pediatrics is to provide the highest quality medical care for infants, children, and adolescents; to advance knowledge in biomedical and behavioral sciences through the expansion of our research programs; and to provide excellence and innovation in the training of students, residents, fellows, and physicians.

As one of the sites for the National Institutes of Health Neonatal Research Network, our faculty have contributed to major advances in the care of newborn infants. Investigators with the Department’s Pediatric Research Center (PRC) are involved in clinical, basic, and translational research. To accomplish this mission, the PRC sponsors seminars, grant review sessions, an annual retreat, and produces a bi-monthly newsletter.

The department’s specialized centers include the Center for Clinical Research and Evidence-Based Medicine, which promotes high-quality clinical research and research training. The goal of our Children’s Learning Institute is to be the pre-eminent source for proven clinical and educational programs covering early childhood through late teens. The department also directs the Forensic Assessment Center Network whose mission is to correct the disparities in Texas in the availability of quality medical assessment for suspected victims of child abuse and neglect and to improve the outcomes for all Texas child abuse victims.

The department’s three-year pediatric residency training program educates future pediatricians in both general and subspecialty care across a variety of inpatient and outpatient sites. Advanced fellowship training is offered in the disciplines of Adolescent Medicine, Child and Adolescent Neurology, Child Protection, Critical Care, Endocrinology, Gastroenterology, Infectious Diseases, Interventional Pediatric Cardiology, Neonatology, Nephrology, Palliative Care, Pediatric Cardiology, and Pulmonology.

Exceptional inpatient care is provided at Children’s Memorial Hermann Hospital, Lyndon B. Johnson General Hospital, and Shriners Hospital. Outpatient general and subspecialty care is provided at multiple locations around Houston.

Faculty .....	191
Residents .....	107
Fellows .....	62
Postdocs .....	9
Research .....	\$37,238,000



DEPARTMENT OF  
Physical Medicine  
& Rehabilitation

**Gerard Francisco, MD**  
Professor and Chair

The Department of Physical Medicine and Rehabilitation (PM&R) is dedicated to providing outstanding health care in the areas of musculoskeletal and pain medicine, electrodiagnosis, and rehabilitation of persons with spinal cord injury, traumatic brain injury, stroke, multiple sclerosis, and other neurologic and medical conditions, in Houston and the surrounding community.

We are dedicated to the training, education, and research in these areas in cooperation with TIRR Memorial Hermann and the Memorial Hermann Rehabilitation Network, Memorial Hermann Orthopedic & Spine Hospital (MHOSH), the Lyndon B. Johnson General Hospital, MD Anderson, and Shriners Hospital for Children.

The department also is committed to providing the highest quality of graduate and postgraduate training for future physiatrists, as well as disability and rehabilitation management for medical students.

The PM&R department operates the NeuroRecovery Research Center based at TIRR Memorial Hermann. The faculty direct various laboratories in this center, including the UTHealth Motor Recovery Laboratory, the Center for Wearable Exoskeletons, Rehabilitation Robotics, Neuromodulation and Neural Interfaces, Neuromyo engineering, and Neurorehabilitation.

The faculty are dedicated to discovering novel methods of enhancing functional recovery from neurological and physical disorders, such as stroke, spinal cord injury, and traumatic brain injury and their rapid clinical translation.

Faculty members are recognized leaders in international and national PM&R and multi-specialty organizations and have been strong advocates for persons with disabilities.

Faculty .....	30
Residents .....	16
Fellows .....	2
Research .....	\$935,000



DEPARTMENT OF  
Psychiatry &  
Behavioral Sciences

**Jair Soares, MD, PhD**  
Professor and Chair  
Pat R. Rutherford, Jr. Chair in Psychiatry

The Department of Psychiatry and Behavioral Sciences is dedicated to the mission of education, research, and patient care. Each year we train students, residents, and fellows of today to become the mental health care leaders of tomorrow – whether in public or private sectors, in solo or group practice, as researchers, educators, or clinicians. Our training totals more than 1,650 students and 175,000 hours of education annually, including specialties in psychiatry, psychology, mental health nursing, and social work.

Our faculty and staff—at the forefront of the exploration of the causes and treatments of mental illnesses—generate more than \$6 million annually in grant-supported research. Specific areas of research include mood and anxiety disorders, trauma and grief, childhood disorders, and addiction, with new programs in Post-traumatic Stress, Integrated Clinical Neuroscience and Treatment, Early Diagnosis & Intervention, Biochemical Markers, Psychiatric Genetics, and Geriatric Psychiatry. Our faculty members’ wide variety of expertise covers the full spectrum of behavioral disorders, supporting research they pursue in conjunction with their clinical and educational contributions to the department.

We have the highest commitment to providing care to individuals suffering from behavioral disorders in our community. The Department of Psychiatry and Behavioral Sciences provides innovative approaches to treating patients in public and private hospitals, as well as a network of affiliated outpatient clinics. We offer outpatient services at 23 community clinics throughout Houston, in addition to specialty psychiatry clinics located at the Behavioral and Biomedical Sciences Building in the Texas Medical Center. Telemedicine now provides inpatient care to 13 hospital sites for the State of Texas Hospital System. In addition, the Department of Psychiatry has initiated school-based clinics in and throughout several different independent school districts to serve the Greater Houston area.

With more than 30 years of commitment to community service, UTHealth HCPC (Harris County Psychiatric Center) offers newly renovated units, including Mood Disorders, Geriatric Psychiatry, and Child & Adolescent Psychiatry. We also have specialized inpatient programs on Bipolar Disorder, Schizophrenia, Forensic Competency Restoration, and Dual Diagnosis. Our outpatient ECT Clinic is now fully operational, and we recently added a clinical research study of ketamine. The department also provides consultation/liaison services at Memorial Hermann-TMC, and TIRR locations, and LBJ Hospital. Our skills and technological innovation are balanced with compassion and the highest commitment and respect for the patients we serve.

Faculty .....	93
Residents .....	42
Fellows .....	6
Post-Doctoral Research Fellows .....	8
Research .....	\$6,166,000





DEPARTMENT OF  
Surgery

**Richard Andrassy, MD**

Denton A. Cooley, MD, Chair in Surgery  
Jack H. Mayfield, MD, Distinguished University Chair  
Dr. Thomas D. Cronin, Chair Plastic Surgery

The Department of Surgery and its divisions are committed to excellence in patient care, innovative research, and mentoring the next generation of surgeons.

Our divisions include Acute Care Surgery, General Surgery, Immunology and Organ Transplantation, Minimally Invasive and Elective General Surgery, Plastic and Reconstructive Surgery, Urology and LBJ General Hospital Division of Surgery.

Our location within the Texas Medical Center, the largest medical center in the world, gives our surgeons, researchers, and residents unique opportunities for collaboration and clinical experience.

Our department offers residency programs in General Surgery, Plastic and Reconstructive Surgery, Urology, and Colon and Rectal Surgery. Fellowships are offered in Surgical Critical Care, Trauma Research, Female Urology and Urodynamics, Minimally Invasive Surgery, Renal Transplantation, and Plastic and Burns.

The Department of Surgery and its divisions are involved in collaborative research efforts throughout the Texas Medical Center, including the Center for Translational Injury Research, the Trauma Research Center, and Nutritional Research.

Excellent clinical services are provided at Memorial Hermann -Texas Medical Center, Memorial Hermann – Southwest, Memorial Hermann – Sugar Land, Memorial Hermann – Katy, Memorial Hermann – Memorial City, Memorial Hermann – Woodlands, Lyndon B. Johnson General Hospital, St. Luke’s Episcopal Hospital, MD Anderson Cancer Center, Triumph Hospital, Park Plaza, Spring Branch Medical Center, TIRR Memorial Hermann, UT Physicians at Bellaire, Christus St. Catherine’s, Healthsouth, Pedi Woodlands Clinic, Smith Tower, Texas Liver Center, Twelve Oaks Medical Center, Ambulatory Surgery Center, and Bayshore Medical Center.

Faculty .....	78
Staff Physicians.....	11
Residents.....	76
Fellows .....	21
Research .....	\$3,512,000

## FACULTY ACCOLADES



**Sasha D. Adams, MD**, associate professor of surgery in the Division of Acute Care Surgery, was named program director of the Department of Surgery Residency Program and won the 2018 Benjy F. Brooks, MD, Outstanding Clinical Faculty Award.



**Duraisamy Balaguru, MD**, associate professor in the Department of Pediatrics, and **Gus W. Krucke, MD**, associate professor of internal medicine, both won the 2018 John P. McGovern Award as the exceptional clinical teachers.



**Sean Blackwell, MD**, chair of the Department of Obstetrics, Gynecology and Reproductive Sciences and Emma Sue Hightower Development Board Professor and **Berel Held, MD**, Professor, in Obstetrics, Gynecology, and Reproductive Sciences, was named president of the Society for Maternal-Fetal Medicine.



**Brooks D. Cash, MD**, professor of medicine in the Department of Internal Medicine, was named chief of the Division of Gastroenterology, Hepatology, and Nutrition.



**Olasimbo Chiadika, MD**, associate professor of internal medicine, was selected to host the Spirit of Heart Program for the Association of Black Cardiologists in Houston.



**Martin J. Citardi, MD, FACS**, professor and chair of the Department of Otorhinolaryngology won the Distinguished Service Award from The American Academy of Otolaryngology-Head and Neck Surgery.



**Valentin Dragoi, PhD**, professor of neurobiology and anatomy and Rochelle and Max Levit Distinguished Professor in the Neurosciences, received a three-year, \$1.6 million award from the National Institutes of Health's Brain Research through Advancing Innovative Neurotechnologies® (BRAIN) Initiative.



**J. Chase Findley, MD**, assistant professor and director of medical student education in the Department of Psychiatry & Behavioral Sciences, won the 2018 Herbert L. and Margaret W. DuPont Master Clinical Teaching Award.



**Daniel J. Freet, MD**, assistant professor of surgery, was the recipient of the 2018 Leonard Tow Humanism in Medicine Award presented by the Arnold P. Gold Foundation.



**K. Lance Gould, MD**, professor of cardiovascular medicine in the Department of Internal Medicine and the Martin Bucksbaum Distinguished University Chair in Heart Disease, won the 2018 Distinguished Scientist Award-Translational Domain from The American College of Cardiology.



**Igor D. Gregoric, MD, FACC**, professor of advanced cardiopulmonary therapies and transplantation in the Department of Surgery and chief of the surgical division and program director for the UT Physicians Center for Advanced Heart Failure, won the VTIS Leta 2017, by VTIS, or the Association of Slovenians Educated Abroad.



**Claire E. Hulsebosch, PhD**, professor in the Department of Neurobiology & Anatomy, was the 2018 winner of the John H. Freeman Award for Faculty Teaching.



**Amir M. Khan, MD**, David R. Park Professor in Pediatric Medicine and medical director of the Children's Memorial Hermann Hospital NICU Respiratory Care and Transport Team, received the Dr. James "Red" Duke, Jr. Physician Leadership Award.



**Louise D. McCullough, MD, PhD**, professor and chair of the Department of Neurology and Roy M. and Phyllis Gough Huffington Distinguished Chair, was inducted into the Society of Scholars at John Hopkins University.



**William R. Miller, MD**, assistant professor of medicine in the Division of Infectious Diseases, won the Young Investigator Award in Infectious Diseases

from The Infectious Diseases Society of America.



**Tom Nguyen, MD**, associate professor of cardiothoracic surgery and director of minimally invasive valve surgery in the Department of Cardiothoracic & Vascular Surgery, won first place in the American College of Cardiology 2017 Section Awards for the Transcatheter Heart Valve Handbook, written with two other colleagues.



**Hope Northrup, MD**, professor and director of the Division of Medical Genetics in the Department of Pediatrics, won the 2018 Pruzansky Lectureship Award in Genetics at the 49<sup>th</sup> Annual March of Dimes Clinical Genetics Conference and delivered the Samuel Pruzansky Memorial Lecture.



**Omonele O. Nwokolo, MD**, associate professor and vice chair of Diversity and Inclusion in the Department of Anesthesiology, won the STEM Catalyst Award and was honored by the Professional Association of Young Africans during the organization's 2018 Annual Honors Ball.



**Jacqueline Parchem, MD**, assistant professor in the Department of Obstetrics, Gynecology and Reproductive Sciences, received the 2019-22 Foundation for Society for Maternal-Fetal Medicine Scholarship Award.



**Evan G. Pivalizza, MD**, professor and vice chair for academic affairs in the Department of Anesthesiology, was elected president-elect of the Texas Society of Anesthesiologists for 2018-19.



**Hazim J. Safi, MD**, professor and chair of the Department of Cardiothoracic and Vascular Surgery, presented the John Homans Lecture at the 2018 Society of Vascular Surgery Annual Meeting.



**Jorge D. Salazar, MD**, professor and chief of the Division of Pediatric Cardiovascular Surgery in the Department of Pediatric Surgery, was appointed holder of the John P. and Kathrine G. McGovern Distinguished Chair.



**Sunil A. Sheth, MD**, assistant professor in the Department of Neurology, won the Clinician-Scientist Development Award in Interventional Neurology from The American Academy of Neurology.



**Jair C. Soares, MD, PhD**, professor and Pat R. Rutherford, Jr. Chair in Psychiatry in the Department of Psychiatry and Behavioral Sciences, was named the president of the International Society for Affective Disorders.



**Dean Barbara J. Stoll, H. Wayne Hightower Distinguished Professor** in the Medical Sciences, received the 2018 Award of Honor from the Emory University School of Medicine. She also won the 2017 Frank H. Morriss, Jr. Leadership Award from the University of Iowa School of Medicine.



**Henry Wang, MD**, professor in the Department of Emergency Medicine, won this year's Society for Academic Emergency Medicine Excellence in Research Award at the organization's annual meeting.



**George W. Williams, II, MD**, associate professor of anesthesiology, vice chair and division chief of critical care medicine and fellowship program director, was elected treasurer of the Texas Society of Anesthesiologists for 2018-19.



Winners of the 2018 Women Faculty Forum Awards are **Sasha D. Adams, MD**, associate professor of surgery in the Division of Acute Care Surgery, as a rising star; **Nayun Kim, PhD**, assistant professor in the Department of Microbiology and Molecular Genetics, as a rising star; **Vasanthi Jayaraman, PhD**, professor and co-director of the Biochemistry and Molecular Biology Graduate Program, for research excellence; and **Gloria P. Heresi, MD**, professor of pediatrics and chief of the Division Of Pediatric Infectious Diseases, for clinical excellence.





# Putting the brakes on epilepsy

About six weeks after her birth in 2011, Savanna Lininger's parents, Rebecca and Ken, noticed short periods they describe as "episodes" when she was unresponsive and withdrawn, unlike her twin brother. Just before Christmas, at the age of 3 months, the family learned epilepsy was causing her infantile spasms and complex partial seizures.

"I'll never forget what the doctor told us," Ken says. "She said we needed to mourn the loss of our normal child, that she was gone."

Doctors in Southern California, where the Liningers lived, said not treating or controlling Savanna's condition would severely impair her mental capacity and quality of life. A variety of studies and tests, however,

were inconclusive and sometimes returned conflicting results, while medication controlled her infantile spasms but not her partial seizures.

"Watching her seize was gut-wrenching," Ken remembers. "But, watching her regress was actually more difficult as time slipped away. Savanna was metaphorically drowning, and we could not get to her to save her."

In June 2012, the Liningers moved to Houston to be closer to family and enrolled Savanna in the epilepsy program at Children's Memorial Hermann Hospital where they met Gretchen Von Allmen, MD, associate professor of pediatrics. She recommended a pre-surgical evaluation that included a magnetoencephalography study, a functional, non-invasive imaging technique to



Dr. Gretchen Von Allmen



Dr. Nitin Tandon



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*“Her life as we know it today was saved — it was rescued — much like resuscitating the unconscious person after you rescue them from a smoke-filled building.”*

— KEN LININGER,  
Savanna’s Father

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measure the magnetic fields produced by electrical activity in the brain. That would allow them to locate the source of epileptiform activity in the brain in preparation for surgery.

“The results provided extremely compelling evidence that the seizures were originating from one region of brain tissue, and it allowed us to say with confidence that Savanna was a good surgical candidate,” Dr. Von Allmen says.

Approximately 470,000 children in the United States have epilepsy, with 70,000 of those in Texas. About a third of these children have intractable epilepsy, failing to respond to two or three anti-epilepsy medications.

“One of the important messages we try to get out there is that epilepsy surgery is a very effective treatment for children who do not respond to medications,” Dr. Von Allmen explains. “We really feel that evaluating children for intractable epilepsy in a center that provides epilepsy surgery is very important.”

A 2017 study reported that at the 12-month mark, 77 percent of children who underwent surgery were seizure-free while just 4 percent of the medicine-only group were seizure-free. But many epilepsy patients diagnosed in childhood do not undergo surgery for as long as two decades.

“That’s a really long time for these children,” she says. “Something that adds an urgency is that they are in the highest risk group for having a sudden unexpected death in epilepsy.”

Nitin Tandon, MD, Professor in the Vivian L. Smith Department of Neurosurgery and the Department of Pediatric Surgery, performed Savanna’s first surgery in

October 2012, a resection of a malformation of the brain at the junction of the left temporal and occipital lobes. Because of her weight (less than 20 pounds) and respiratory problems, the resection was limited to the worst part of the abnormality.

“This was a profound parental decision,” Ken says. “It was elective and not medically necessary, but it was a chance for Savanna to develop beyond infancy. It was our chance to save her life. This was a forever decision; there was no going back.”

Although Savanna improved immediately, her partial seizures from the remaining abnormal tissue recurred within a few months, requiring a second surgery in April 2013, entirely removing the primary lesion and seizure focus.

“The second surgery was more complex because we were dealing with scar tissue from the first surgery, and we had to take out a substantially larger volume of brain tissue while minimizing our impact on speech and motor function,” Dr. Tandon explains. “It is always an incredibly difficult balance, but it’s important in a young child to cure the epilepsy, and the surgery went very well.”

Savanna celebrated her second birthday by going from between 75 and 100 seizures a day before the surgeries to being seizure-free for six months.

Today, her father describes Savanna as a six-year-old “spitfire” free from medication and seizures.

“Her life as we know it today was saved—it was rescued—much like resuscitating the unconscious person after you rescue them from a smoke-filled building.”



# Saving a life is just one call away



As society continues to become more dependent on technology, a team of nurses at UT Physicians is staying ahead of the curve and offering round-the-clock medical services, which are just a phone call away.

The UT Physicians Nurse Triage Line is a 24-hour call center for UT Physicians patients. The mission: to triage symptomatic patients. A team of 35 registered nurses and two patient access representatives provide services to 30 UTP clinics. The triage line received over 226,000 phone calls from patients during the 2018 fiscal year, ranging anywhere from prescription refills to medical and behavioral (suicidal/homicidal) emergencies.

Patients who call the triage line are classified into three categories: emergent, urgent, and non-urgent. Emergent callers receive advice to head to the emergency department immediately, while urgent patients have appointments set up within 24 hours, and non-urgent patients receive home care advice when appropriate, or appointments scheduled beyond 24 hours.

“What makes us unique is that we have access to the patients’ medical records as opposed to somebody just calling in,” says Robin C. Riggs, RN, MSN, CEN, senior nurse manager. “It’s a better service for us. We have the history. We know exactly what medications they’re on, and it helps nurses disposition those patients to the right level of care.”

If a patient calls to set up an appointment at the patient access center, and the patient is symptomatic with any of an array of buzzwords, they are dispatched to the nurse line for triage before they can make an appointment. This determines if the patient is safe to go to the clinic, or if the patient needs more urgent care.

“The service is very well received,” Riggs says. “We provide an amazing service to the clinics. We answer over 22,000 calls a month. I don’t even understand how they were able to handle that call volume before we came along. The doctors love us, because their patients are talking to a registered nurse first, and they don’t have to wake up in the middle of the night to take calls.”

The Nurse Triage Line not only helps with the day-to-day stress of medical care for both patients and doctors but also serves as a life-saving resource for patients in need.

In March of 2018, Elise Jenkins called UT Physi-

cians because she thought she was going to die. After being transferred to the Nurse Triage Line, Ribi Kurian, RN, answered the call, listened to Jenkins’ symptoms, and advised her to go to the emergency room. Jenkins did not want to go however, because her grandson was celebrating his birthday that afternoon, and she did not want to miss it.

As the call continued, Kurian noticed that Jenkins’ answers started to become vague. Though unknown at the time, Jenkins was losing blood due to a bleeding ulcer, and while Kurian had no idea the initial cause, she was able to dispatch emergency responders to the scene.

Kurian remained on the line, calming Jenkins as she waited for the ambulance to arrive, and then explaining what happened to the emergency crew. Three days later, Jenkins had recovered and was released from the hospital.

“I didn’t think it was as serious as it was,” Jenkins says. “I didn’t want to go to the ER, and I almost hung up the phone. Had she not called 911, or if I had waited another day, I don’t know what would have happened.”

In its brief existence, the UT Physicians Nurse Triage Line already boasts countless stories similar to that of Elise Jenkins.

“It’s a vital, tremendous lifeline for many of our patients,” says Andrew Casas, COO of UT Physicians and senior vice president of UTHealth. “That was clearly illustrated during Hurricane Harvey and the aftermath. Not only does the Nurse Triage Line provide assistance to our patients on a daily basis, but they service a much-needed role during emergency situations. I am so proud of how much this service line has grown, and the connections they have made with our patients.”

While the call volume continues to grow, the success stories of life-saving events will continue to rise as well.

“It’s amazing. Not only do we keep people out of the ER when they don’t need to go, but we get people to the ER that don’t know they need to go,” Riggs says. “The patients are so thankful we’re here. We’re getting that reputation through UT patients that we’re always here. I’m an ER nurse by trade, and I’m used to seeing the worst with people, and here we get to provide the best. I haven’t felt this level of satisfaction in nursing, just because the people that call really need our help. We save a lot of lives.”



A low-angle photograph of the Memorial Hermann building, a modern multi-story structure with a prominent glass facade and a central tower. The building is partially obscured by green foliage in the foreground. The image has a blue tint.

# Memorial Hermann earns national recognition for quality and safety

Memorial Hermann-Texas Medical Center, the primary teaching hospital for McGovern Medical School in the Texas Medical Center, earned national recognition as top performers for superior quality and safety by the Vizient Quality and Accountability Study on Oct. 4 at the 2018 Vizient Connections Summit in Las Vegas.

Memorial Hermann-TMC received the 2018 Bernard A. Birnbaum, MD, Quality Leadership Award for Academic Medical Centers, and ranked ninth out of 99 participating academic medical centers.

“We are extremely proud of our partnership with UTHHealth and the role Memorial Hermann plays in developing some of the best healthcare providers in Texas and the nation,” said Memorial Hermann President and CEO Chuck Stokes. “Recognition from Vizient, an esteemed industry leader in quality measurement, underscores Memorial Hermann’s commitment to providing environments that help facilitate great patient outcomes and foster clinical and academic excellence.”

The Vizient Quality and Accountability Study helps nearly 300 academic medical centers, complex teaching medical centers, and community hospitals identify

structures and processes associated with high performance in quality and safety across a broad spectrum of patient care activity. The study measured performance based on safety, timeliness, effectiveness, efficiency, equity, and patient centeredness.

The study’s composite scoring system uses patient-level performance data from a variety of sources, including the Vizient Clinical Data Base, Center for Medicare and Medicaid Services Core Measures, the Hospital Consumer Assessment of Healthcare Providers and Systems survey, and the Centers for Disease Control and Prevention’s National Healthcare Safety Network.

“Today’s leading hospitals are leveraging advanced analytics and innovative technology to provide superior clinical outcomes and patient experiences while effectively managing costs,” said Byron Jobe, president and chief executive officer for Vizient. “Receiving this award indicates that Memorial Hermann has demonstrated a leadership style focused on results and a culture of collaboration and adaptability that is necessary to succeed during this time of change in the health care industry. We congratulate them on their achievement and commitment to delivering exceptional patient care.”



# A day for play for Huntington's patients



Dr. Erin Furr-Stimming

An outing to an Astros' game is a treat for families battling Huntington's Disease (HD), and thanks to the generosity of an Astros player, and the dedication of a McGovern Medical School neurologist, several Houston-area HD patients and their families were able to enjoy a day at the ballpark.

A fatal genetic disorder, HD progressively damages a patient's nerve cells, causing physical, cognitive, and potentially psychiatric symptoms. The usual age for onset of this disease is 30-50 years old.

Erin Furr-Stimming, MD, leads the Huntington's Disease Society of America Center of Excellence at UTHealth – one of 43 centers in the nation and the only one in Texas.

"It's a complex, devastating disease," says Dr. Furr-Stimming, who joined the McGovern faculty in 2007.

Joe Smith, a pitcher for the Astros since 2018, and his wife, Allie LaForce, facilitated about 100 Astros-Diamondbacks tickets to those affected by HD for the game on Sept. 15.

"Joe and his wife Allie, together with the Astros Foundation, have been so kind, and they have given everyone such a magical experience. It lifted everyone's spirits and was a dream come true, especially for the children," Dr. Furr-Stimming says.

Smith has a special connection to Huntington's – his mother, Lee Smith, was diagnosed in 2012, and her mother also lived with HD.

"Watching my mom suffer is the hardest part. But she wants me to keep playing and doing what I love. I want to be there for her, but she wants me to live my life," he says. "We really hope everyone had an awesome time at the game and got to forget about the daily strug-

gles for even just a few hours."

HD affects about 30,000 Americans today – with more than 200,000 at risk of inheriting the disease. The altered gene is passed down by the parent with Huntington's – every child of a parent with HD has a 50/50 chance of carrying the HD gene.

Joe and Allie established a foundation, Help Cure HD, to help raise awareness and offer families help in stopping the gene's progression. It's possible for confirmed carriers of the mutated HD gene, and those at-risk, to undergo genetic testing before pursuing in vitro fertilization, ensuring their offspring do not inherit the mutated HD gene.

"Huntington's disease is hugely challenging, but we've got to keep raising awareness and stick together," Smith says. "The Houston HD community is one of the most supportive and encouraging I've gotten to be part of. We are so thankful to have the incredible support from Dr. Furr-Stimming and her co-workers and experts at UTHealth."

Dr. Furr-Stimming's clinical team includes a psychiatrist, a neuropsychologist, a dietitian, two physical therapists, a social worker, and a genetic counselor to help patients navigate the challenging disease. Her research team includes more than a dozen investigators, working to advance clinical breakthroughs in mitigating its impact.

For more information, please call 832-325-7080.



Huntington's Disease video:  
<http://go.uth.edu/hchd>

## GRADUATES

# 221

## 51%

112 graduates will stay in Texas for first year of postgraduate training.

## 41%

93 graduates were matched to primary care specialties.

## 23%

51 graduates were matched to McGovern Medical School programs.



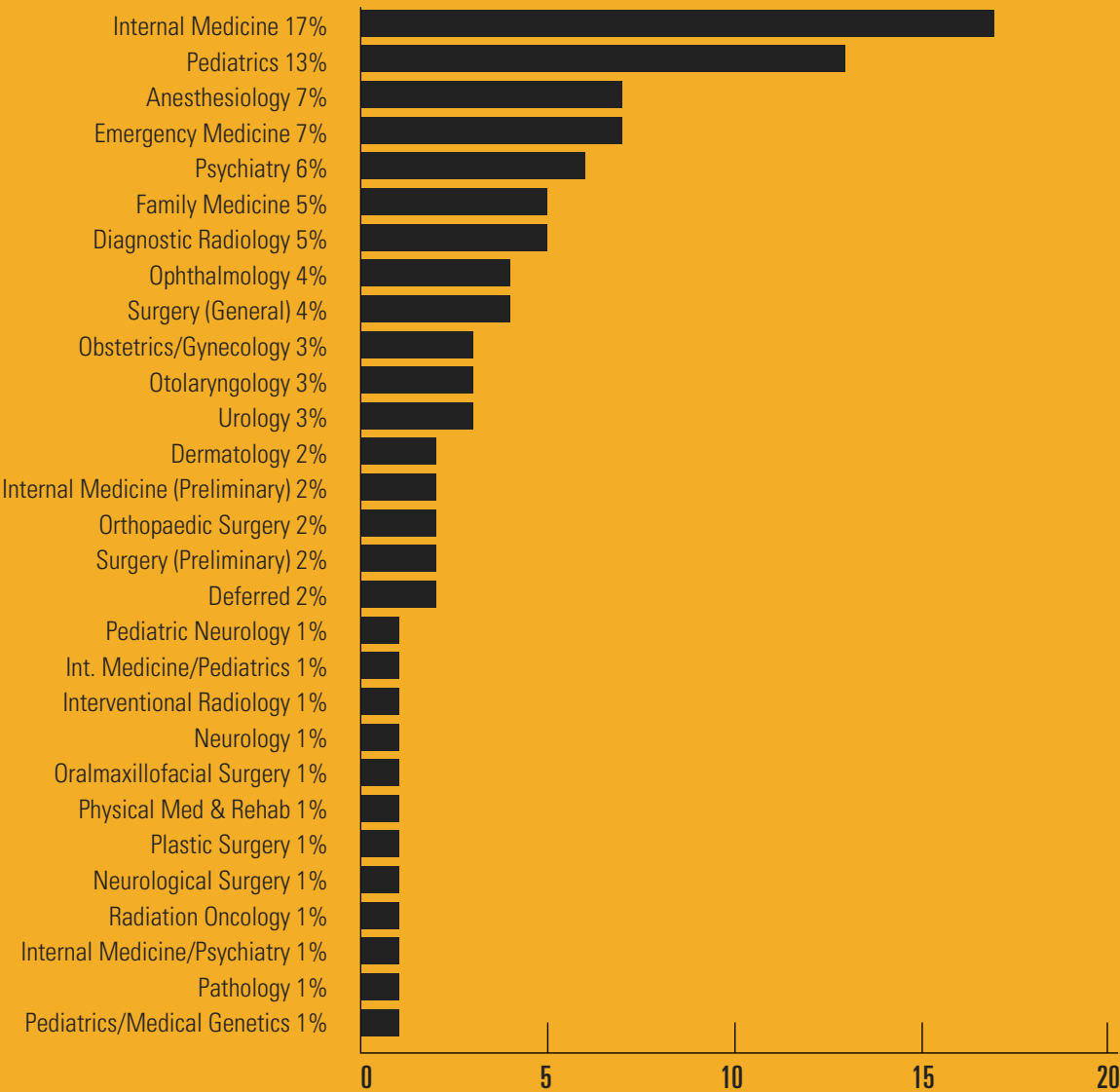
Match Day video:  
<http://go.uth.edu/match18>



CLASS OF 2018



# SPECIALTY CHOICES



Commencement video:  
<http://go.uth.edu/commencement18>

CLASS OF 2018

The 2018 graduating class increases our alumni to a total of 7,887 MD graduates.

CLAS OF 2018





Drs. John Reveille, left, and Frank Arnett are planning for the future of the Division of Rheumatology.

## Focusing on the future by honoring the past

John Reveille, MD, will tell you that Frank Arnett, MD, turned him on to research—and is one of the reasons Dr. Reveille is the longest-practicing rheumatologist in Houston.

Dr. Arnett, emeritus professor of internal medicine/rheumatology and clinical immunogenetics at McGovern Medical School, was Dr. Reveille's mentor at the Johns Hopkins University School of Medicine and a close friend. Dr. Arnett came to McGovern Medical School in 1984 as professor of medicine and director of the Division of Rheumatology, later serving as chair of the Department of Internal Medicine from 2000 to 2004.

Dr. Reveille arrived at UTHealth in 1987 after he received a medical degree from Johns Hopkins. Those 32 years in Houston have made Dr. Reveille one of the two senior rheumatologists in the city.

"If it hadn't been for Dr. Arnett, I wouldn't have been an academician," Dr. Reveille told an audience after receiving a President's Scholar Award in 2016, UTHealth's highest award for research and teaching. "He recruited me to UTHealth and presented the academic career as a quest. That has been my guiding principle."

Dr. Reveille credits his friend with creating the foundation for research innovation that allowed the division to grow and prosper over the past three decades. He points out, however, that research programs and clinical efforts work hand-in-hand.

"Frank Arnett focused on building the research and education programs here, and that's what made this division great. Noranna Warner worked just as hard to

strengthen and grow the clinical side, arriving here in 1981 when it was almost nothing. Research, education, and clinical. All are necessary, and my job is to keep them moving forward after I step down as division chair in September 2019."

The inconsistency of National Institutes of Health funding is why Dr. Reveille wants to see more community and corporate partners join his mission. "The Linda and Ronny Finger Foundation endowment is keeping us alive now," Dr. Reveille says. "I want to make sure there is a lot more of that in place to keep things moving forward, regardless of federal funding."

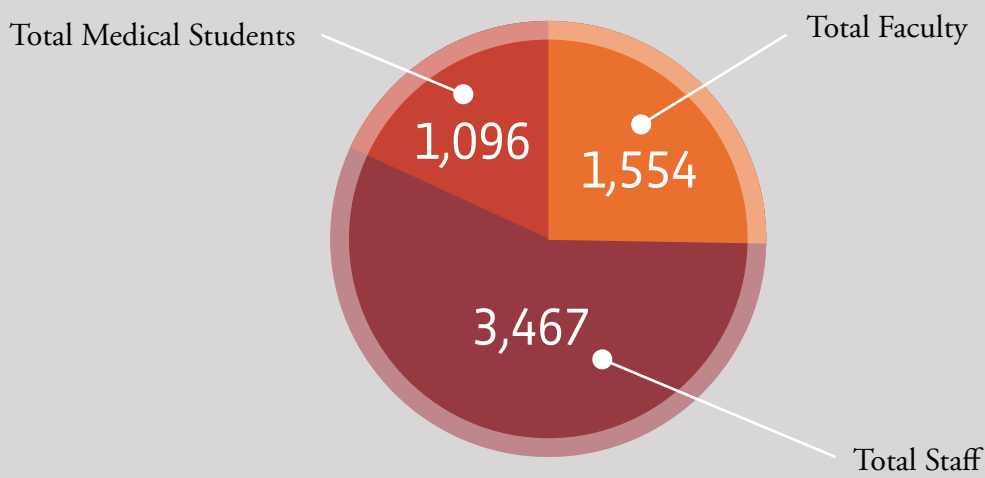
Drs. Arnett and Reveille are doing their part to make this happen. Dr. Arnett and his wife, Lynne, committed a substantial planned gift to support research in the Division of Rheumatology. Dr. Reveille also is supporting rheumatology research by establishing the Dr. Noranna B. Warner Endowed Chair in the Division of Rheumatology and making his own significant commitment from his estate.

"Noranna's nickname was Mother to all the fellows, and she was just that," Dr. Reveille says. "She worked hard to bring the clinical effort of this division forward, when it was almost nothing. The Warner Endowed Chair is a testimony to the love and devotion she gave to this division."

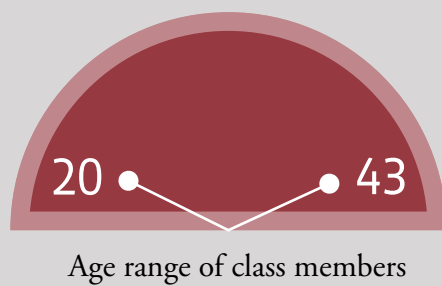
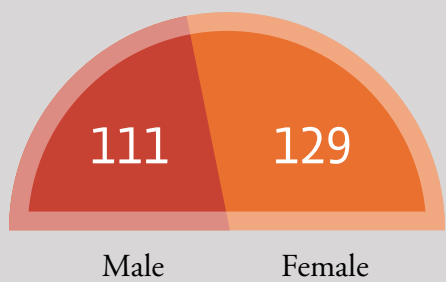
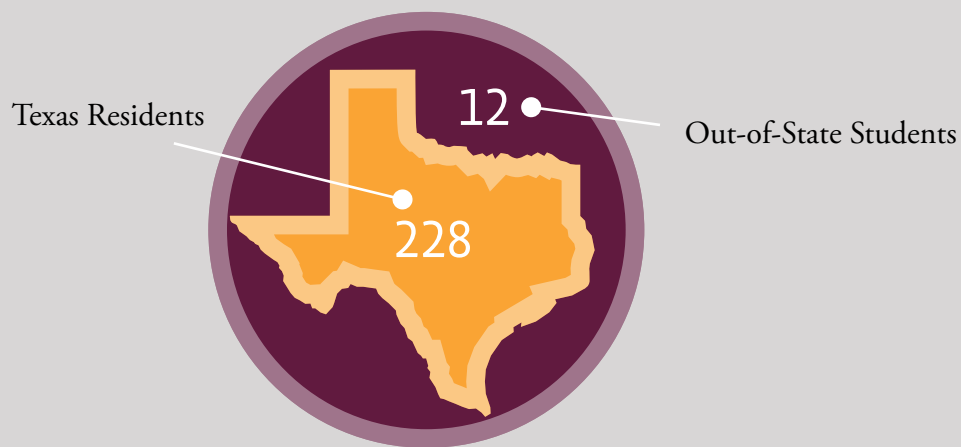
The Warner endowment and the desire to assure continued growth for the division reflect Dr. Reveille's philosophy on life and philanthropy: They should build on success and be testimonies to the dedication of those who made that success possible.



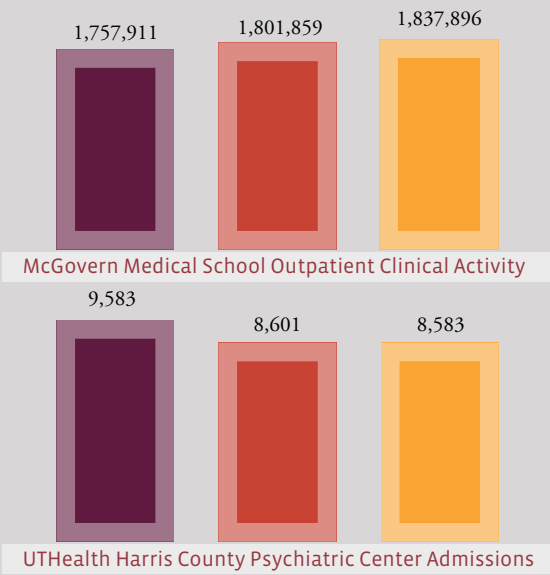
**FY 2018 Data**



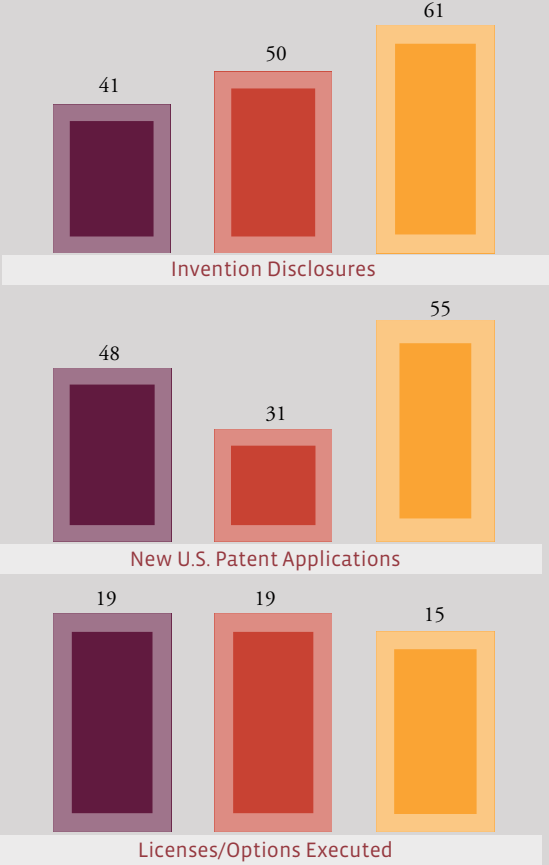
**Fall 2018 Entering Class**



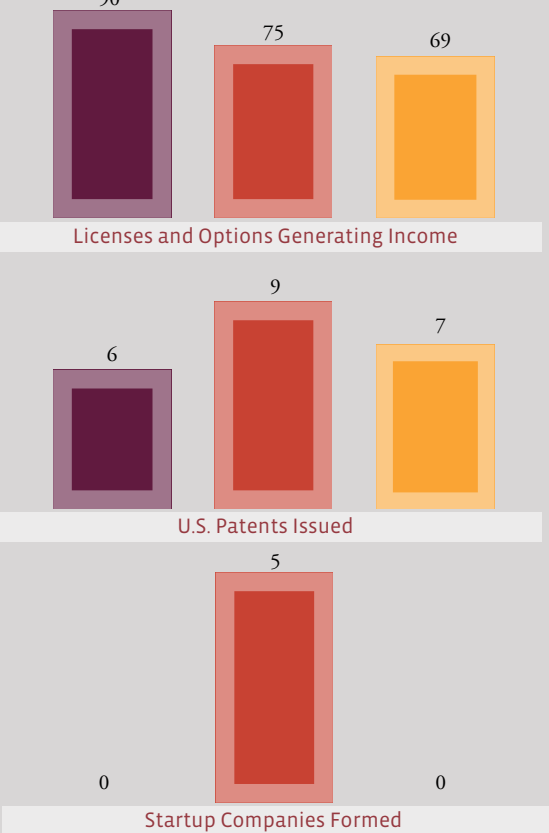
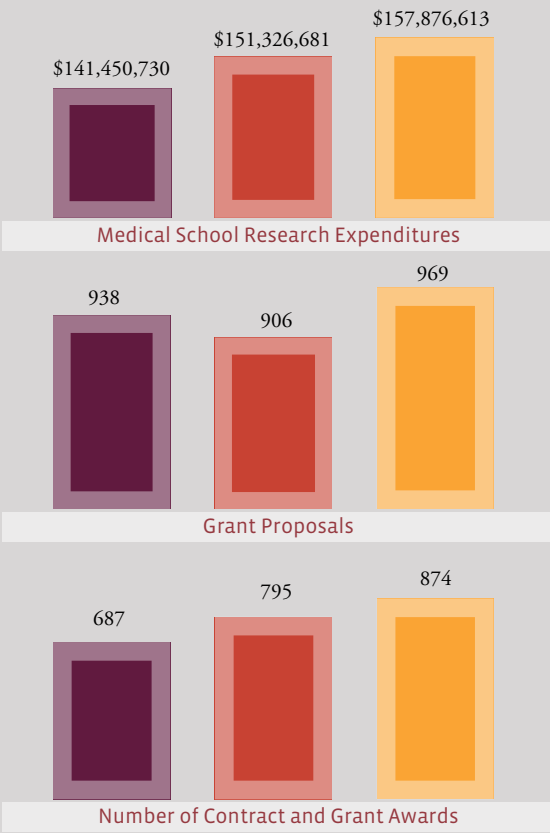
Patient Care



Discoveries



Research



FY16 FY17 FY18

## Harvey Rosenberg, MD

Harvey Rosenberg, MD, professor Emeritus in the Department of Pathology and Laboratory Medicine, died Nov. 28, 2018. He was 94.

He joined the McGovern Medical School and Hermann Hospital faculty in 1979, where he continued to work and teach until his retirement in 2017. He earned his medical degree from Baylor College of Medicine in 1949 and completed postgraduate training at Children's Hospital in Boston and William Beaumont Army

Hospital in El Paso, Texas.

Dr. Rosenberg was the recipient of the Harlan J. Spjut Award from the Houston Society of Clinical Pathologists and was the holder of the Harvey S. Rosenberg Chair in Pathology and Laboratory Medicine.

His clinical interest was pediatric pathology, and he was an editor of "Perspectives in Pediatric Pathology."

Graveside services were held in Houston Dec. 2, 2018.



## Herbert Fred, MD



Herbert Fred, MD, MACP, 89, died Dec. 30, 2018. He was a professor of internal medicine at McGovern Medical School from 1971 until his retirement in 2016, when he was then appointed professor emeritus.

A graduate of the Rice Institute, he received his MD degree from the Johns Hopkins University School of Medicine in 1954. He completed his internship and residency training at the University of Utah Affiliated Hospitals in Salt Lake City. After two years in the U.S. Air Force, he joined the faculty of Baylor College of Medicine in 1962. During his seven years at Baylor, he was named the Outstanding Full-time Clinical Faculty Member by the senior classes of 1964

and 1965. The senior class of 1967 dedicated its annual, the Aesculapian, to him.

Dr. Fred became director of Medical Education at St. Joseph Hospital, Houston, in 1969. In 1971, he joined the faculty of McGovern Medical School. Between 1974 and 1979, the interns and residents at St. Joseph Hospital and McGovern Medical School gave him a yearly award for "Excellence in Teaching," and from 1990 to 1999, he earned the Dean's Excellence Award. In 1999, he received the Benjy F. Brooks, MD, Outstanding Clinical Faculty Award from the Alumni Association of McGovern Medical School. He was the 2005 winner of the TIAA-CREF Distinguished Medical Educator Award.

He also was a faculty member of the UT Graduate School of Biomedical Sciences, from 1968-2016.

Dr. Fred was a member of the Texas Medical Association and Harris County Medical Society for more than 60 years. His love for, and appreciation of, libraries culminated in construction of The Herbert L. Fred, MD, MACP, Student Study Hall, which opened in 2016 in the Texas Medical Center Library.

He was the 2017 recipient of the John P. McGovern Complete Physi-

cian Award from the Houston Academy of Medicine in collaboration with the Harris County Medical Society.

His interest in physical fitness started in 1966, and from 1980-83 he set records for running ultra distances, including the 100-mile run (17 hours, 2 min., 3 sec. at age 53). He ended his running career in 2016, having totaled 253,010 miles.

He molded innumerable physicians in his more than half-century of bedside teaching.

In 2002, his former trainees created The Herb Fred Medical Society, Inc. to honor Dr. Fred and annually gather in fellowship and service.

Surviving him are his wife of 40 years, Judy; his children, Stuart, Michael, Nancy, and their families; his step-children, Daniel, Lisa, Stefani, and Gregory; seven granddaughters; one grandson; two great-granddaughters; and one great-grandson.

A memorial service and celebration of life was held Jan. 6, 2019 at the Houston Congregation for Reform Judaism.

In lieu of customary remembrances, the family requests with gratitude that donations in Dr. Fred's name be directed to a charity of one's choice.



For information on supporting programs at  
McGovern Medical School, contact 713-500-5125.

Visit our online version of Year in Review, featuring videos  
and photos: [go.uth.edu/yearinreview](http://go.uth.edu/yearinreview)

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