TMC PULSE

THE OFFICIAL NEWS OF THE TEXAS MEDICAL CENTER SINCE 1979 - VOL. 36 / NO. 7 - MAY 7, 2014

The Heart's Surgeon

One Texas Heart Institute surgeon recalls being front and center to Houston's rise as a leader in cardiovascular medicine.



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National Nurses Week May 6-12, 2014

.....

A celebration of exceptional nurses across the Texas Medical Center.



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PRESIDENT'S PERSPECTIVE



ROBERT C. ROBBINS, M.D.

President and

Chief Executive Officer,

Texas Medical Center

For this inaugural issue of TMC Pulse, the new Texas Medical Center news magazine, we wanted to take the opportunity to acknowledge National Nurses Week, May 6-12. It is fitting that we celebrate the role these dedicated individuals play in the success of each institution within the Texas Medical Center. Those who work alongside them understand well how valuable their work is to patient care. Today's nurses, and all medical professionals, are called to be more than bedside caregivers. They must also be tuned in to prevention, ongoing care, health management, chronic diseases...the list goes on.

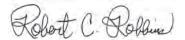
Health care today is a team sport, and the success of the team depends on proper communication, support, and collaboration. The individuals at every level of care—physicians, nurses, administrators, pharmacists, and therapists—are required, more than ever, to work collaboratively. To communicate. To share resources and information. To engage in a way that makes each individual instrumental to the team's mission.

Technology has played a part in this paradigm shift, offering health care providers unprecedented access to patient records, clinical research and collaborative platforms. Add to this the unchanging standard of compassionate care across all, and you have a medical community positioned to deliver incomparable, personalized care.

This is also the approach Texas Medical Center member institution leaders have committed to on a larger scale. Individually, the members of the Texas Medical Center represent some of the best health care providers in the country; in research, education and patient care, they deliver exceptional results. Imagine, then, the incredible work that we can, and will, do together.

The Texas Medical Center councils are among the resources available to help foster multi-institutional collaboration and communication. Members of the Council of Nurse Executives, Council of Pharmacy Executives, Council of Research Directors, Public Health Advisory Council, and others, offer a platform for professionals from across the medical center to gather and share ideas, issues, questions and experiences. These meetings serve as an opportunity for health care professionals to be a part of the conversations taking place in their fields, and to help elevate the level of care this community provides.

For more information about the Texas Medical Center councils, visit http://www.texasmedicalcenter.org/councils/.



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Building a City of Medicine: The History of the Texas Medical Center

By Alex Orlando

66 If one inquires into the history of the Texas Medical Center, one deals with individuals; their thoughts, their actions and the substance of the human character.



- N. DON MACON

"Mr. John H. Freeman and Friends: A Story of the Texas Medical Center and How it Began"

At the turn of the 20th century, Monroe D. Anderson, a banker and cotton trader from Jackson, Tennessee, along with his brother and brother-in-law, founded a successful cotton merchandising firm called Anderson, Clayton and Co. The profits they generated continue to benefit the community to this day, thanks to the massive endowment created by Anderson for "the betterment and welfare of mankind."

Although he was not born in Houston, Anderson's love for the city was fostered when he was a young man. In 1907, after leaving his hometown to capitalize on Houston's growth as a financial center, Anderson quickly realized the city's tremendous potential. "Mr. Anderson had a wide acquaintance among Houston people, but he was reticent and had the appearance of being shy," said Colonel W. B. Bates, one of Anderson's close friends and attorneys. "Only a few people knew him intimately. Those who did admired and loved him."

In conjunction with Bates and John H. Freeman. Anderson created the MD Anderson Foundation in 1936 to keep his business partnership, Anderson, Clayton and Co., from dissolving due to estate taxes in the event of his death.

Anderson exercised caution in his management of money and property, a likely result of the aftermath of the Civil War and the financial toll of

Reconstruction. It was only fitting, then, that the trustees of his estate would be deliberate in their allocation of his fortune, to be used "[for] the establishment, support, and maintenance of hospitals... the promotion of health, science, education, and the advancement and diffusion of knowledge."

Upon Anderson's death, the foundation, as the principal beneficiary of his estate, received over \$19,000,000 in funding. It was the largest charitable foundation ever created in Texas. Although Anderson became ill and died before he could formalize any specific plans for the funds, he met regularly with Bates and Freeman to discuss his ideas. "He came by the office almost every morning to talk things over," recalled Freeman. It was Bates and Freeman who determined how to best fulfill Anderson's wishes.

They sought a project that would bring the greatest good to the greatest number of people. They named Horace M. Wilkins, president of the State National Bank, as a third trustee. Knowledgeable in law, finance, and Houston's rich history, Freeman, Bates and Wilkins started to develop a plan that would realize Anderson's dream, and one day lead to the creation of the Texas Medical Center.

Ernst W. Bertner, M.D., a native Texan who graduated from The University of Texas Medical Branch at Galveston in 1911, was instrumental in the development of the Texas Medical Center. For many years, Bertner traveled across the United States and throughout Europe to study and analyze the great medical centers of the world. Dreaming of a modern "City of Medicine," a contemporary reimagining of those described in Greek mythology as the domain of Asclepius, Bertner keenly saw the advantages of bringing together all aspects of medical education and patient care in one physical location.

Bertner, along with Frederick C. Elliot, M.D., dean of the then unaffiliated Texas Dental College of Houston, were key figures in sparking the Anderson trustees' interest in medical institutions. They encouraged the public's interest in bringing a medical school to Houston, which could be used as a focal point to form a great medical complex of research and healing institutions.

On June 30th, 1941, two years after Anderson's death, a single legislative decision gave these ambitions a solid foundation upon which to build: Texas Governor Lee O'Daniel signed House

Bill 268, which authorized a state cancer research hospital and appropriated \$500,000 towards its construction. State Representative Arthur Cato drafted the bill out of a personal interest in cancer research. His wife's parents and his own father had died from cancer.

The Anderson trustees recognized the value of House Bill 268, contacting Homer Rainey, M.D., the president of the University of Texas at Austin, almost immediately. A series of informal conversations followed, including several on the back porch of Bates' home. These conferences led to the announcement on March 27th, 1942, that the new cancer research hospital would be located in Houston. In late September, the Board of Regents formally announced that they would name the hospital The M.D. Anderson Hospital for Cancer Research of the University of Texas.

"We believe Houston, more than any other city in this part of the world, offers the best opportunity for a medical center," said Rainey.

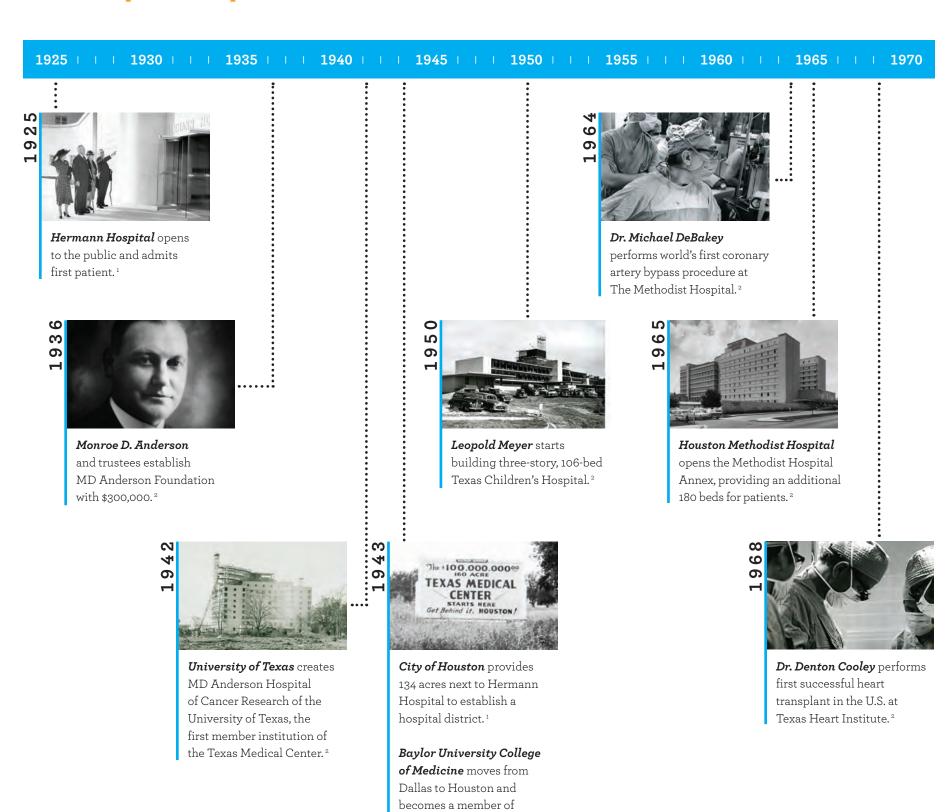
(continued page 8)

Hermann Hospital opened to the public and admitted its first patient in 1925. They would later become a member institution of the Texas Medical Center. (Credit: John P. McGovern Historical Collections and Research Center at the Texas Medical Center Library)



A History of Innovation

Eighty-nine years ago, the Texas Medical Center took the first steps toward becoming the world's largest medical complex. Since then, the TMC has pioneered medical innovations bordering on the impossible. Many of these advancements continue to change people's lives. This timeline celebrates the milestones and breakthroughs—and the profound impact they've made across the entire spectrum of patient care.



the Texas Medical Center.

- (Credit: Texas Medical Center)
- (Credit: John P. McGovern Historical Collections and Research Center at the Texas Medical Center Library)
- 3 (Credit: Texas Children's Hospital)
- 4 (Credit: Texas Heart Institute)

1980 | | | 1985 | | | 1990 | | | 1995 | | | 2000 | | | 2005 | | | 2010 | | | 2015 | |



Hermann Hospital launches Life Flight, the first private hospital air ambulance service. 2



Texas Children's Hospital collaborates with NASA to construct plastic isolator bubble for boy born with severe immune disorder.3



Texas Heart Institute releases first patient in the world with an electric, portable, battery-powered heart pump. 4

Researchers from Rice University and Baylor College of Medicine

discover a way to grow blood vessels and capillaries.



Texas Children's Hospital delivers Perkins sextupletsthe only surviving sextuplets in Texas—at 30 weeks. 3

More than 68 babies are born every day in the TMC.

Collectively, the TMC is the largest employer in Houston.

Clinical research in the TMC generates an average of

15 new start-up businesses a year and averages a **new discovery** every other day.



Over 150 member and community leaders gather to discuss the future of the Texas Medical Center and position it as the world's leader in life sciences. 1

The University of Texas Medical Branch at Galveston helped construct the **1**st **X-ray machine** in the state of Texas in 1896.

Hermann Hospital was the

1st hospital

to open in what would later become the Texas Medical Center. It opened with 100 beds,

100 beas, 109 physicians, and treated 558 inpatients

in its first year.

In 1935, Dr. James Greenwood Jr.
performed the 1st brain
tumor surgery
in Houston

at Houston Methodist Hospital.

In its first 39 years of existence, the Gulf Coast Regional Blood Center has

collected more than

8,000,000 units of blood.

Since Life Flight has been in service, the program has covered over **1,900,000** *miles*.



The trustees learned of a 134-acre piece of property owned by the City of Houston, just south of Hermann Hospital. William Hogg, son of Texas Governor Jim Hogg and a University of Texas regent as well as a developer of River Oaks in Houston, was selling the land back to the city. Despite repeated attempts, Hogg had been unable to get The University of Texas Medical Branch at Galveston to move to Houston and build adjacent to Rice University and Hermann Hospital.

Three miles from Houston's downtown, the site, 134 acres of mosquito-infested forest, was considered too far outside of Houston to be valuable to the University of Texas. The trustees of M.D. Anderson's foundation, however, realized that it was "the logical place to build a medical center." Hermann Hospital, which opened in 1925, was on the northern bounds of the site and the then Rice Institute, now Rice University, was only a short distance away; both institutions were well positioned to benefit the medical center.

The trustees moved quickly and decisively. On November 6, 1943, the MD Anderson Foundation and the City of Houston reached an agreement for the purchase of precisely 134.36 acres of land located south and east of Hermann Hospital for use as a medical center. A full page ad in The Houston Post urged Houstonians to vote the next day and support the idea to develop a medical complex. Voter approval was necessary because the site was designated as city park land.

Fortunately, Rainey's announcements the previous year had excited great civic interest in the community. The sale was approved by the people of Houston on December 14, 1943.

While plans for the cancer hospital and the Texas Dental College affiliation with the University of Texas were being developed, trustees of the then Baylor University College of Medicine, then located in Dallas, approached the Anderson trustees with a proposal that the college be moved to Houston and incorporated into plans for the medical center. In May of 1943, Baylor University College of Medicine received an offer from the MD Anderson Foundation for both land and startup funding. Baylor emerged in the center of the Texas Medical Center forest while, simultaneously, construction on MD Anderson began.

The dream was taking shape, slowly forming the familiar landscape of the Texas Medical Center. On November 1, 1945, just one month after Japan surrendered to formally end World War II, the Texas Medical Center was chartered under the laws of the State of Texas as a non-profit corporation. "Other than the agreements restricting the use of the land to non-profit use in medical care, teaching and research, there were no strings attached," said Freeman. "Every one of the institutions was absolutely autonomous and still is."

In the 1950s, The Methodist Hospital, St. Luke's Episcopal Hospital, and Texas Children's Hospital all broke ground. Their success served as a Founded in 1976 by James "Red" Duke, M.D., Memorial Hermann Life Flight operates around the clock—weather permitting— 24-hours a day, 365 days a year. Since its inaugural flight, Memorial Hermann Life Flight has flown more than 120,000 missions. (Credit: Memorial Hermann-Texas Medical Center)

catalyst, driving others to join the Texas Medical Center's community of non-profit health care institutions. By 1954, Texas Medical Center corporate offices were created to oversee land distribution and develop the common areas for the new medical city.

The Texas Medical Center, with its charter registered, began making gifts of land from its original property. The MD Anderson Foundation was able to contribute substantial funds for building programs to the recipients of the land. Since 1945, the Texas Medical Center has gifted or leased more than 113 acres at almost no cost to various member institutions.

"I think Mr. Anderson, if he saw this medical center today, would say, 'I see it out there, but I don't believe it,'" said Freeman in 1973. "It's all there, and you can reach out and touch it. It's real."

Today, the Texas Medical Center has 54 member institutions, composed of 27 government agencies and 27 not-for-profit health care facilities. This past year, 7.1 million patients visited institutions within the Texas Medical Center. The mission of the Texas Medical Center, and its member institutions, has always focused on providing the best in not-for profit health care for patients, the best in academic training for health professionals at all levels, and support of medical research.

National recognition was generated, in large part, as a result of the incredible work that has come out of the Texas Medical Center through the decades.

Michael E. DeBakey, M.D., a young doctor from Louisiana, performed the first successful carotid endarterectomy in 1953, establishing the field of surgery for strokes.

William Spencer, M.D., often thought of as "The Father of Modern Rehabilitation," was renowned for establishing one of the first polio treatment centers in the nation and the institute he founded, The Institute for Rehabilitation and Research, created a Spinal Cord Injury Program that became the model for the nation's disability centers.

With a sprawling campus that receives over 160,000 visitors daily, the Texas Medical Center alone ranks as the 8th-largest downtown business district in the United States, right after Philadelphia and Seattle.

In the 1960s, Denton A. Cooley, M.D., and his colleagues designed new artificial heart valves, and the mortality rate for valve transplant patients fell from 70 to just eight percent.

Other distinguished doctors gained national and international acclaim in various fields through the organizations they served. In 1998, Ferid Murad, M.D., Ph.D., chairman of Integrative Biology and Pharmacology at The University of Texas Health Science Center's Medical School, was awarded a Nobel Prize in Medicine. It marked the second Nobel commendation for a Texas Medical Center physician, following in the footsteps of Roger Guillemin,

M.D., Ph.D., who received the 1997 Nobel Prize in Medicine for his role in "the discoveries concerning the peptide hormone production of the brain."

Collectively, these milestones are a source of pride within the Texas Medical Center. Founded in 1976 by James "Red" Duke, M.D., Memorial Hermann Hospital's Life Flight was one of the first emergency medical air transport programs in the nation.

David Vetter, the famous "Bubble Boy," born in 1971 with an immune deficiency, lived in a specifically designed bubble at Texas Children's Hospital, where he played, slept, ate and attended school. Study of his condition led to significant contributions in the research of immune system disorders.

Already holding the title of the world's largest medical center, the Texas Medical Center's physical growth in the past few decades has skyrocketed. With a sprawling campus that receives over 160,000 visitors daily, the Texas Medical Center alone ranks as the 8th-largest downtown business district in the United States, right after Philadelphia and Seattle.

In recent months, the momentum of the Texas Medical Center's new strategic vision, designed to advance the medical center as a world leader in life sciences, has intensified. Since January's two-day Strategic Planning Retreat, the Texas Medical Center is making strides toward its collective future.

Leaders within the Texas Medical Center have come together in support of five initiatives, with a special emphasis on collaboration, to usher the 54 member institutions into the future. Their vision falls squarely in line with the original plan set in motion by Anderson nearly a century ago: "to the promotion of health, science, education and advancement and diffusion of knowledge and understanding among the people."

Today, the Texas Medical Center has 54 member institutions, composed of 27 government agencies and 27 not-for-profit health care facilities. This past year, 7.1 million patients visited institutions within the Texas Medical Center. (Credit: Texas Medical Center)



Peavy Gift is Catalyst for Restart of UST Nursing School

First Class to Graduate in May

n May 17, the first cohort of 27 nursing majors will graduate from the University of St. Thomas-Houston School of Nursing, restarted in 2012 after a 26-year hiatus.

The School of Nursing is a dream come true for former UST nursing faculty member Carol Peavy and the 423 nurses who earned UST nursing degrees between 1972 and 1986 - the year the '80s recession forced the school's closure.

"I made a promise to Sister Mary Martina Casey, former dean of the School of Nursing, that I would not give up until UST was educating nurses again," said Carol, wife of PV Rentals founder Odis Peavy. And she was

true to her word.

Carol's enthusiasm and persistence were obvious to Dr. Robert

Ivany when he began as UST's president in 2004. She asked for a meeting his very first week, and he readily agreed.

"Carol looked me right in the eye and told me I must reopen the nursing school," Ivany recalled. "She told me the alumni had been saving money for years for just that purpose. Once I looked into it, I realized the time was right to bring the program back."

A New Beginning

With a \$2 million pledge from Odis and Carol Peavy and recogni-



Odis & Carol Peavy

tion of the serious nursing shortage facing the nation, a nursing consultant was hired to determine the feasibility of reopening the school.

The consultant, after a year-long

"I made a promise... that I

would not give up until UST

was educating nurses again."

-Carol Peavy

study, reported, "There could be no better time for UST to reinvest in nursing education."

With affirmation from the consultant and the initial pledge in hand, the board gave its approval to pursue the concept but challenged the president to raise the funds for five more \$2 million endowed chairs.

Undaunted, Ivany, Carol Peavy, the UST Advancement staff and supportive nursing alumni began to talk to key people about helping fund the nursing school.

The Peavys, in a step of faith, contributed \$500,000 in operating funds, which allowed UST to hire experienced nursing administrator Dr. Poldi Tschirch as dean and to take other steps to create a quality program.

With Tschirch's diligent program development and the growing excitement of the alumni, staff and community, four more endowed chairs were funded. Donors included the Associated Nursing Alumni, Mr. and Mrs. Thomas

Reckling, the Founders Nursing Benefit, generous individuals and foundations, The Cullen Trust for Health Care and The Cullen Trust for Higher Education.

A \$3.25 million government grant, combined with the endowed chairs and committed hospital support, advanced the School of Nursing from dream to reality in a miraculously short time.

Funds have allowed UST to hire exceptional faculty, create and equip two state-of-the art clinical simulation centers and provide scholarships.

"So many things came together to make restarting the nursing school possible," Ivany said. "This spring, we are graduating well-prepared, inspired nurses who will care for the whole person – body, mind and spirit."

Home for Nursing, STEM Programs

The university's dream doesn't end with restarting the nursing program. As part of Faith in Our Future: The Campaign for the University of St. Thomas, UST plans to build a Center for Science and Health Professions to accommodate the high student demand for science, technology, engineering and mathematics (STEM) programs.

"This new facility will impact our students dramatically and will increase STEM capacity for the entire region," Ivany said.



First nursing class to graduate in May



UST's planned Center for Science and **Health Professions**



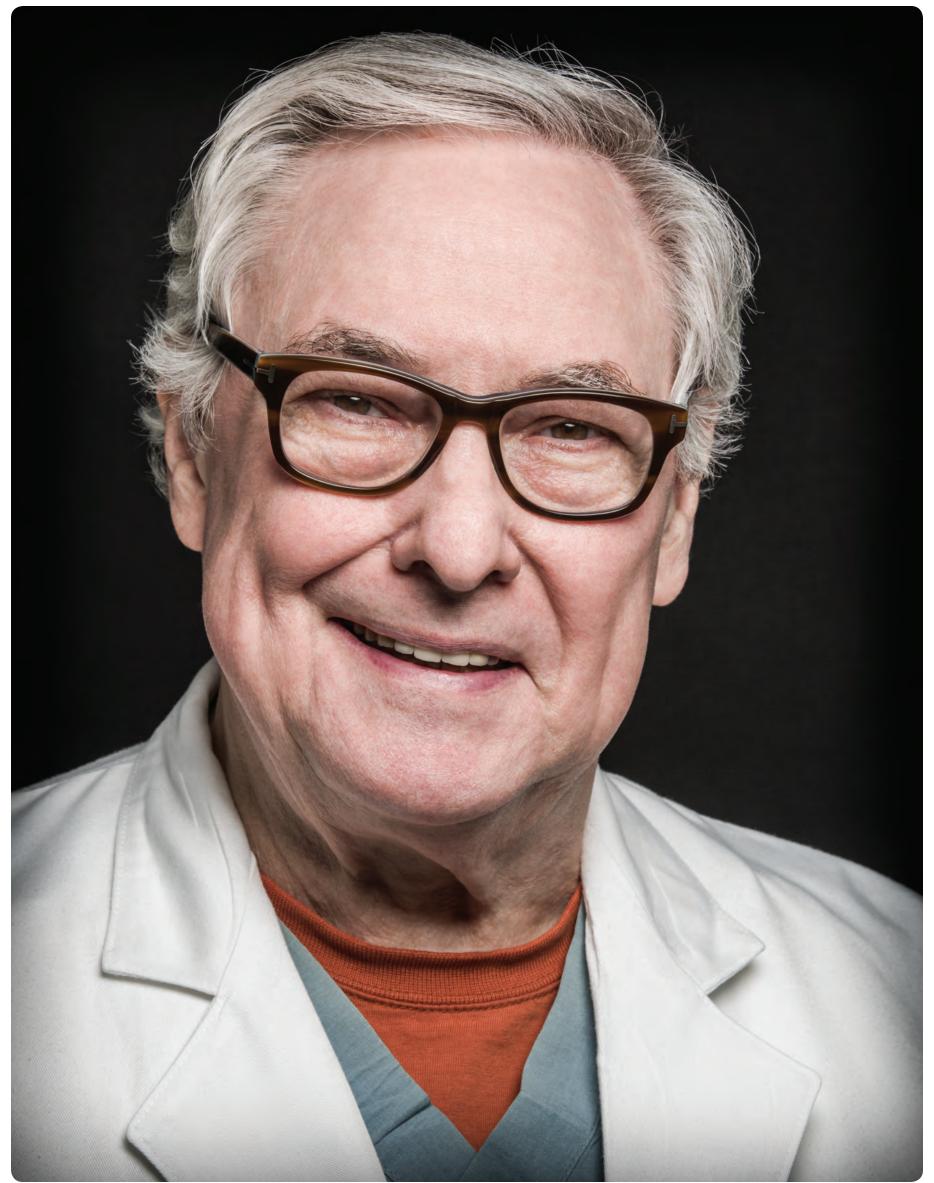
To learn more about the UST School of Nursing or to contribute, visit www.stthom.edu/nursing

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The Heart's Surgeon

WITH ROUGHLY 3,000 PEOPLE IN THE UNITED STATES WAITING FOR A HEART TRANSPLANT ON ANY GIVEN DAY, ONE TEXAS HEART INSTITUTE SURGEON HAS DEDICATED HIS CAREER TO IMPROVING THEIR CHANCES OF SURVIVAL.

By Amanda D. Stein

O. H. "Bud" Frazier, M.D., has had a career punctuated with incredible achievements. The Texas Heart Institute surgeon has developed and been the first to implant nearly every heart assist device being used today. These devices help the damaged heart pump blood to the body. Frazier recently implanted his 1,000th such device—more than any other surgeon in the world. He has also performed more than 1,000 heart transplants since 1982.

Frazier was not, by his own admission, "a typical medical student."
Originally a history major, he was drawn to medicine through literature.
As the time to choose a career neared, Frazier happened to be reading the stories Anton Chekhov wrote about his experiences as a physician in rural Russia. Those stories were pivotal in Frazier's decision.

He recalls the day he told his mother that he wanted to go to medical school.

"She said, 'Well, you can do anything you want, but I don't think you will make much of a doctor. You know you've never been able to kill anything.' She was referring to the fact that I had never liked to hunt. And I said, 'Well, mother, I don't think you have to enjoy killing things to be a good doctor.' And she said, 'No, but it would help.' That may have sounded a little callous, but I realized what she meant. She thought it would be especially hard for me to lose a patient."

Frazier trained at Baylor University School of Medicine, both as a medical student and as a surgical resident. With a steady hand in the operating room, he had the natural skill and drive to become an exceptional surgeon. His mentors were two of the most renowned heart surgeons in the world: Michael E. DeBakey, M.D., the first to successfully implant a left ventricular bypass pump in a patient; and Denton A. Cooley, M.D., the first in the United States to perform a successful human heart transplant and the first in the world to implant an artificial heart in a human. While he was still a medical student at Baylor, Frazier had to choose a research project. Fortuitously, he chose to work on the artificial heart that Cooley later implanted.

The 1960s were an incredible time to be in medicine. "Being a surgeon in those days was glamorous. Dr. DeBakey and Dr. Cooley were constantly in the national news media. Every important development in cardiac surgery was coming from the Texas Medical Center."

Frazier's training was interrupted by the Vietnam War. He was drafted to serve as a U.S. Army flight surgeon, from 1968 to 1970, trading the halls of Baylor for an assault helicopter company. For his bravery and exceptional service, he received the Combat Flight Medal, the Vietnamese Navy Medal, and the Vietnamese Distinguished Service Medal. After his discharge from

To me it has always been a conundrum to know that a heart transplant depends on someone else's misfortune. And, younger patients who have transplants may not have a normal life expectancy. With heart assist devices and artificial hearts, I think that we can significantly improve the outcomes for these patients.

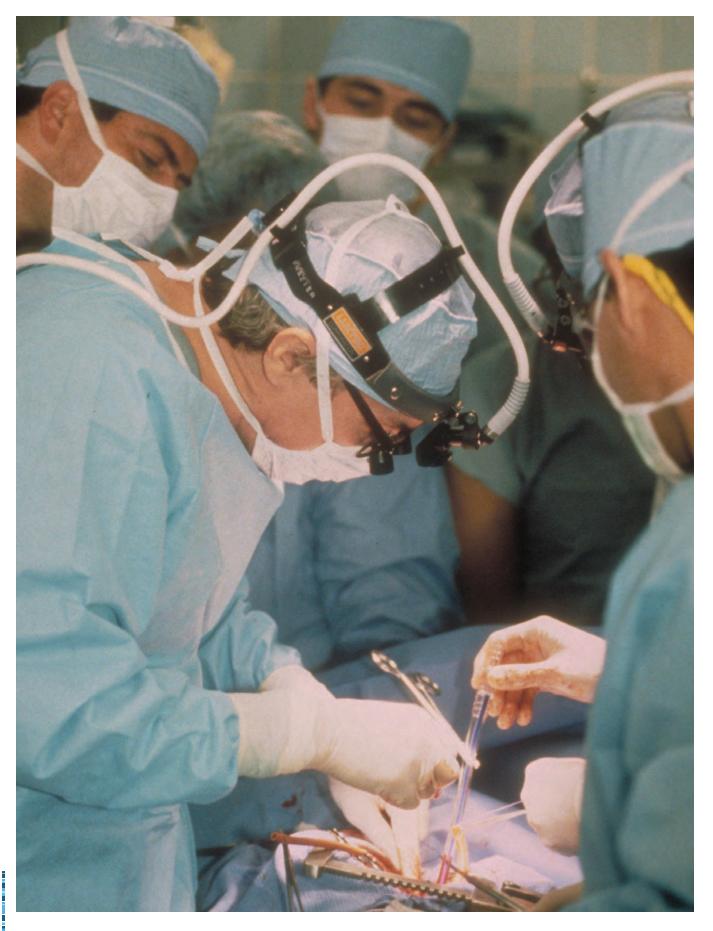


the military, he returned to Houston to continue his surgical residency under DeBakey.

Following his surgical residency, Frazier decided to pursue his cardiac training with Cooley at the Texas Heart Institute (THI), which had the largest cardiovascular surgery program in the world. Cooley, who founded THI, had left Baylor by then. After Frazier's cardiac surgery residency, he stayed at THI, partially because of the state-ofthe-art Cullen Cardiovascular Surgical Research Laboratory, which was the most advanced facility in the country for artificial heart research. Frazier wanted to both continue the work he had begun at Baylor and be an active cardiovascular surgeon.

"The older I get, the more grateful I am to Drs. DeBakey and Cooley for everything they taught me. Everyone has heard the stories about what a taskmaster Dr. DeBakey was, and I can tell you that they are all true. A stickler for excellence, he built Baylor into a world-class institution. I truly respect what he was able to accomplish. I am especially grateful for his introducing me to the world of heart assist and replacement devices and for teaching me much that I would later apply to this field."

Texas Heart Institute Surgeon,
O. H. "Bud" Frazier, M.D., served as
a U.S. Army flight surgeon during the
Vietnam War. Upon his return from
service, Frazier trained alongside
Denton Cooley, M.D., the man he calls
"the best heart surgeon who has ever
lived." (Credit: Texas Heart Institute)



"In my opinion, Dr. Cooley is the best heart surgeon who has ever lived. He also has a very gracious personality. I watched him successfully perform countless cardiac repairs in the operating room—procedures that no other surgeon could even have attempted. He would do as many as 15 open heart operations in one day. Normally, doing three such cases in one day is a big job. But Dr. Cooley would just sail through the operative schedule. No one in history has been his equal. Without his contributions, heart surgery would not be what it is today."

Frazier began his experimental research immediately upon joining THI in the late 1970s. In 1986, he successfully implanted a pulsatile heart assist device as a bridge to transplantation. In 1994, the Food and Drug Administration (FDA) approved this device as the first for the bridge-totransplant use. In 1991, he implanted the first electrically powered, untethered assist device, which allowed a patient to leave the hospital and lead an active life while waiting for a heart transplant. This device was the first approved by the FDA for "destination," not bridge-to-transplant, therapy.

Frazier was an early champion of the continuous-flow pump as a heart assist device. In 1988, he was the first to implant the Hemopump, the first totally implantable, continuous-flow device, which he developed with an engineer named Rich Wampler. Its design, based on the concept of the Archimedes screw, results in "pulseless" (or continuous) blood flow. "The Hemopump was considered the 'Kitty Hawk' of continuous-flow device development, and it showed that a device spinning at 25,000 rpm could be safely implanted in the human circulatory system."

Frazier was also working simultaneously with another engineer, Rob Jarvik, to develop a long-term, continuous-flow pump. In 2000, Frazier successfully implanted this device in a patient.

In 2003, he implanted the first successful HeartMate II, a descendant of the Hemopump. The HeartMate II has become the device most widely used today—both as a bridge to transplant and as destination therapy.

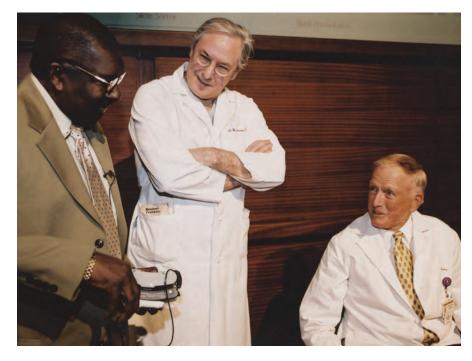
Frazier first implanted a continuous-flow pump as a total heart replacement in 2005, in a calf. Later, after numerous lab experiments, he implanted a similar device in a patient,

Frazier remains dedicated to developing new technology to sustain, replace, or heal damaged hearts. He is currently working at the THI with an engineering group led by Daniel Timms on a new continuous-flow artificial heart that Frazier believes could be the most revolutionary artificial heart ever.

Given his extraordinary career, no one would expect anything less.

TOP: Throughout his career, Frazier, pictured alongside Cooley, right, has been active in the development and implantation of heart assist devices. BOTTOM: He was also an early champion of the continuous-flow pump as an assist device, which was among the topics he and colleague William Cohn, M.D., discussed during a 2012 TEDMED presentation.

(Credit: Texas Heart Institute)



We have shown in many cases that the heart will improve enough that the pump can be removed, eliminating the need for the patient to have a transplant or be dependent on a device.

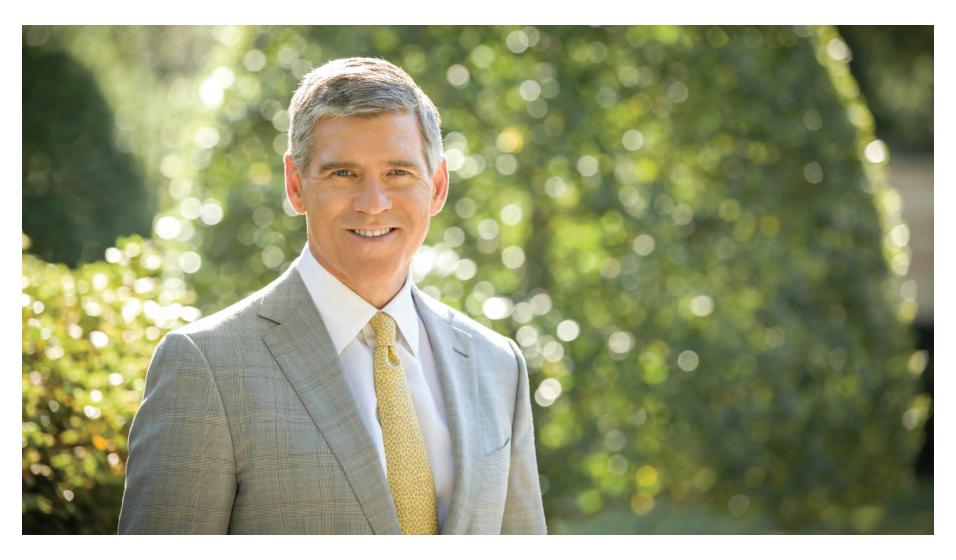
thereby proving that a human, as well as experimental animals, could survive with a pulseless total heart device.

Frazier learned that the native heart can, in some cases, recover if it is allowed to rest with the help of an assist device. When this occurs, the device can be removed entirely. "We have shown in many cases that the heart will improve enough that the pump can be removed, eliminating the need for the patient to have a transplant or be dependent on a device."

When talking about transplants, Frazier shows the combined sense of responsibility and compassion that helped drive his exceptional career. "To me it has always been a conundrum to know that a heart transplant depends on someone else's misfortune. And, younger patients who have transplants may not have a normal life expectancy. With heart assist devices and artificial hearts, I think that we can significantly improve the outcomes for these patients."



INDUSTRY SPOTLIGHT



PAUL W. HOBBY, CHAIRMAN OF THE GREATER HOUSTON PARTNERSHIP, DISCUSSES HIS FAMILY'S POLITICAL LEGACY, HIS OWN CAREER PATH, AND THE FUTURE OF HOUSTON'S ECONOMIC DEVELOPMENT.

Q Tell us a bit about your formative years.

A I'm a Houston guy. I was born on Southgate, over by Rice Village. We moved to South Blvd. when I was a year old and my parents still live in that house. We lack imagination, geographically. We tend to stay where we are.

So what led you to eventually head off to the University of Virginia?

A Well, it's hard to apply logic to teenage decisions, but it was a pretty good decision. I wanted to get away. I was not rebellious and I didn't have any anxiety about my family, but Houston was a small town and everybody knew who I was. The idea of going to create my own space in a place where I was anonymous was pretty exciting.

As soon as I walked onto the University of Virginia campus, I just felt that warm, fuzzy thing. And I trusted my gut, and it was a good decision. A lot of my family members, including my sister, her two girls and my three children, have gone to UVA. So be careful about your teenage decisions, because much can come from them.

What led you back to the University of Texas and into law?

A I took a year off and campaigned for my father. He was in a campaign cycle, so I did the small towns. There are lots of those in Texas, and he needed family members to help cover a space this big. So I did a lot of public speaking on behalf of my dad for nine months, and then he won. I had applied to law school and

gotten in to UT and deferred my admission for a year, and the decision was whether to pursue the waiting list at Stanford, where I was, or to go to Texas. And probably an offhand comment by my father broke the tie. He said, 'Well, that's going to be your professional network for the rest of your life. Why wouldn't you be classmates with the people that are otherwise going to be around you in the professional world in Texas?' And that's probably good advice. Austin is where I met my wife, so that sort of settles the matter.

Q Your grandfather served as the governor of Texas, and your father served as lieutenant governor for 18 years. How has that shaped you as an individual?

A Well, I don't know. Not trying to be glib, but people always asked me things like that growing up and they would say, 'What's it like having an airport named after you?' And I would say, 'What's it like not?' The point is, I have always been me, and so I don't really know what it was like to be someone else. But I was keenly aware of the fact that if I got in trouble, it was in the newspaper. Maybe that had some salutary affect on my conduct. In any event, I think it gave me tremendous exposure.

I got to go to a lot of small towns and run a lot of parades, and meet a lot of people that were nominally very powerful on the outside, who were just regular small, vulnerable folks on the inside. In those days, campaigns weren't so expensive. So candidates would stay at our house when they were in Houston. They would show up after their last event, they would have

breakfast and help me with my homework, and they would go on with their Senate campaign or their gubernatorial campaign. It was a different world back then. And I think that experience compelled me to use that exposure and offer myself in public service. Which I hope I have done in some ways.

Q You mentioned once that your father had intellectual independence. How important was that to him in his illustrious 18 years in office?

A I think it was very important. If you know my father, he is not easy to know. He is transcendent in whatever his sense of accountability is. He is not a deeply religious person, but he doesn't care about money either. He has a long-term perspective and he doesn't much care for what people say this afternoon or tomorrow. So I think that gave him great stability as a public servant. People knew that you couldn't knock him off his game and that you couldn't scare him, and so I think that was a great asset.

I suppose that was my example to say and do the things that need to be said. I also have the blessing of some financial independence, and politically I died a long time ago, so you can't scare me that way. So you try and speak the truth, but you want to do that in a loving way, not an arrogant way because there is a temptation to become arrogant when you suspect that's your job—to go tell the truth to the world every day. So you try and make sure you keep that in perspective.

Q Congratulations you on your recent appointment as chairman of the Greater Houston Partnership. What do you hope to do with it as you take this on?

A The Greater Houston Partnership is a mash-up of the business advocacy group of the Chamber of Commerce function and of the economic development function. So it has been interesting to try to reshape the organization around the new President and CEO Bob Harvey, who is incredibly capable. The Greater Houston Partnership can do the gripping and grinning part, the trade mission part that goes with economic development, but also be purposeful, to say we have some goals on the public policy side, on the economic side. We are going to have metrics, we are going to be accountable. We are going to have CEO access, not because they need another meeting every month, but because we need them to do certain things and we are going to have well thought-through strategies, and we will succeed or fail at those certain things. That doesn't mean we won't swap paint on certain things, but we will swap paint with our eyes wide open. We will be civil in our disagreement and be fact-based in our argument. I think the Greater Houston Partnership needs to be relevant, so my place has been to say that criticism is okay. If they are shooting at you, that just means you are over the target. But the difference is in how you fight. We fight civilly, we understand that we have to get along on the next issue, so we don't cross lines. We are here to be an objective voice for the business community.

When your name comes up, the question is always whether you are going to follow in the family footsteps. How does that question strike you?

A It's flattering, so thank you to the people who have suggested that. I did run for statewide office; in fact I lost the closest race in statewide history. Not the footnote I intended to have, but you live in the age that you live in and I just try to use my gifts constructively. I think I would be a good governor. I would love to be governor, but one of my favorite expressions is, 'If you want to hear God laugh, tell him your plan.' And I've heard God laugh. I live in a state that will not elect a radically moderate white male in statewide office, and I have to accept that.

Q There has been a change in focus of the Texas Medical Center, from what was largely about physical infrastructure to now more programmatic leadership under Dr. Bobby Robbins. How does that resonate with you, knowing the future plan for the Texas Medical Center?

A I'm so excited about what Dr. Robbins is doing, it's not even healthy. I mean that. This is a long game, and this is about human resources. Yes, we need wet lab space, we need more venture capital, but mostly we need the commercialization. And we get those people one by one, and the Texas Medical Center role is tremendously important. There have always been opportunities in health care and biotech here in Houston. People always want to say that if we have research, then we have all sorts of low-hanging fruit. It's not low-hanging, its hard work. It takes a lot of time. But the biotech/med cluster here now has an opportunity, because it now has a sponsor, and that is the Texas Medical Center under Dr. Bobby Robbins. I've offered to get him his own Pope mobile, and that offer stands.

Q The Texas Medical Center is building a comprehensive innovation center that will incubate young entrepreneurs and companies to commercialization, and allow them to flow into the surrounding community. What advice do you have for the Texas Medical Center in this effort?

A I think we approach it with a shamelessly commercial mindset. People can argue about how the food chain works and all of this. Again, I'm on record saying it is the human element. It is the commercialization class. People have colorful arguments, but the thing that you guys are doing over there is the big 'c' and that's commitment. Whether it's capital or whether it's people, or research, it's about showing commitment. We are going to do the difficult triage, even if it is a star researcher's project that has to hit the floor. You know, we are creating a business here.

O Some say that the medical center was built on competition, and that competition really raised the value of these programs. Others would argue that competition has given way to collaboration. How well prepared do you think the Texas Medical Center is, given that history of competition, to really embrace collaboration?

A I think, in Houston right now, all things are possible. That's what gets me out of bed in the morning. Everybody is geeked about something. Whether it is about the medical center or bio projects, or something at the University of Houston, or something at Rice. When I talk to breakfast clubs, that's basically my pitch in a nutshell. If you're not geeked about something, find it, do it, now.

The Texas Medical Center had that great retreat, but the looming question that was in the room was, 'Competition got us here, now we are going to collaborate? We are going to change the nature of what's been so successful here?' Well, economic development in Houston has to change now also. But we are a city that has thrived on a lack of central planning. What we need to do is steer a bit. We are not telling anybody. This is not a compulsory society. This is a relational society. If I tell you to do something, in Houston, likely you will give me a finger salute. If I ask you to, and do it in the right way and tell you why, you will do it. And we are trying to steer economic development here because we do want some things more than others.

Houston's economic development has to change. And the Texas Medical Center has to change because it's now about all of this interdisciplinary stuff that has to work together. So you have to take some great individual musicians and turn them into a symphony. I think that's the model. It has to be done in the right way.

Q You are running a private entity firm, you sit as chairman of several boards, and participate in many others. How do you find a balance between work and your personal life?

A Not very well. We are recently empty nesters, so it has become much harder. Because when you have kids at home, you don't miss a lacrosse game. That's rule number one, two and three. Fortunately, we live in a generation where you can call somebody and say 'Sorry, I'm going to the lacrosse game.' I have lost that primary scheduling discipline in my life. I am public property this year, so I am trying to take the meetings and do the speaking engagements, and take a deep breath when I feel overwhelmed, because it's not forever. You just try and spin all of the plates.

Any closing thoughts?

A I've been here long enough to know that when the bad times come, the bumper sticker comes out. 'Lord give me this one more oil boom and I promise not to blow it.' And everybody needs to think about what that means in the context of their own lives. I encourage people, this is the time to use your time and talents, and do not mistake your good luck for high intelligence. Find the project you are excited about, and pitch in.

IBM Watson Joins MD Anderson in Cancer Fight

By Amanda D. Stein

We meet in an hour of change and challenge, in a decade of hope and fear, in an age of both knowledge and ignorance.

- PRESIDENT JOHN F. KENNEDY

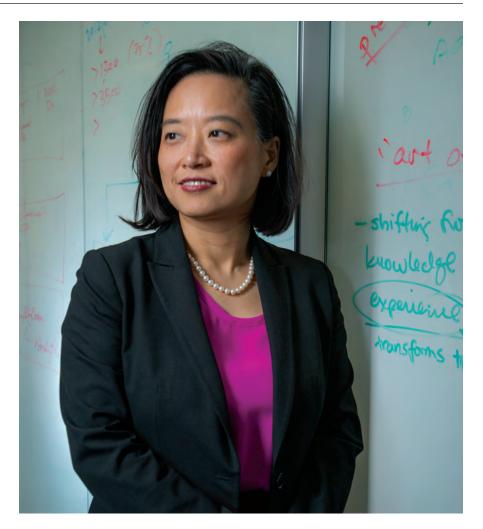
Moon Speech at Rice Stadium, September 12, 1962

A union of technology and human innovation made the first moon landing possible. In that same spirit, The University of Texas MD Anderson Cancer Center is leveraging technology to change the very foundation of cancer care.

MD Anderson's Oncology Expert Advisor (OEA) powered by IBM Watson is the result of a year-long partnership between MD Anderson and IBM to develop a cognitive clinical decision support tool that can aggregate vast quantities of medical data and deliver relevant information for a particular patient, so that treating oncologists can make evidence-informed decisions for more effective care.

What Watson brings to this partnership is a powerful combination of programmatic computing, natural language processing, hypothesis generation and dynamic learning based on question-answer. It was this impressive computational power that earned Watson first place in the game show Jeopardy! in 2011. In the context of cancer care and research, the OEA is being trained to ingest complex structured and unstructured information from a variety of real-world sources —patient records, physician notes, laboratory results—and weigh these patient attributes against its ever expanding corpus of medical knowledge, oncology literature and treatment guidelines to propose appropriate evidence-based treatment options based on each patient's unique disease profile.

The Oncology Expert Advisor also offers care pathway advisories, such as alerting a treating physician to a trend toward an adverse event so he or she can proactively manage a patient to minimize toxicity. In this way, OEA







TOP: Lynda Chin, M.D. (Credit: Wyatt McSpadden for MD Anderson Cancer Center)
LOWER LEFT AND RIGHT: At The University of Texas MD Anderson Cancer Center,
Assistant Professor of Leukemia Courtney DiNardo, M.D., uses IBM's Watson cognitive
system while consulting with patients and colleagues. (Credit: Feature Photo Service)
FACING PAGE: (Credit: IBM)

The question is not whether we should deliver the best possible care based on the latest and best medical evidence to all patients. The question is how. It is not good enough to mandate. We must enable.

- LYNDA CHIN, M.D.

Chair of Genomic Medicine and Scientific Director of the Institute for Applied Cancer Science at MD Anderson Cancer Center

serves as a knowledge equalizer to provide practicing oncologists access to the most relevant and up-to-date medical information for decision making.

The Oncology Expert Advisor is only the beginning of what Lynda Chin, M.D., chair of Genomic Medicine and scientific director of the Institute for Applied Cancer Science at MD Anderson Cancer Center, describes as "rebuilding the ecosystem of cancer care." The problem, as assessed by the Institute of Medicine (IOM), is that "cancer care is often not as patientcentered, accessible, coordinated or evidence-based as it could be." Chin hopes that her team can harness big data, cognitive computing capabilities and mobile technologies to create a value-based, patient-centered oncology care ecosystem. In this new ecosystem, OEA is the tip of the spear that broadly drives the democratization of a superior standard of care.

"Democratization means we disseminate and share the knowledge and expertise so that patients who are not able to be treated by experts at a specialty center like MD Anderson can still access high quality care informed by the latest medical knowledge. OEA is akin to a knowledge equalizer that can enable practicing oncologists to make better care decisions based on a leveled knowledge base," said Chin.

With a tool like OEA, Chin imagines that the latest and best care options practiced at a specialty center can be democratized, so that more patients in community settings receive comparable care. She hopes that access to expert cancer care will not be limited to the few tertiary care centers where cancer experts work. A majority of the newly diagnosed cancer patients are treated in community setting, explained Chin. "In most cases, these patients end up at tertiary care centers like MD Anderson only after they have failed multiple therapy options, at which point, the chance of a cure is very low. To achieve better patient outcomes, we have to be able to ensure that patients will receive a similarly superior standard of care at primary and secondary care settings, where more patients are at earlier stages of their diseases and their chances for a cure are much greater."

The project seemed like a natural fit for IBM and MD Anderson to work on collaboratively, explained Steve Gold, vice president for the IBM Watson Group.

"This whole idea of an even broader vision of the eradication of cancer is truly inspirational. And in a very paralleled way, IBM was on mission to define a whole new generation of computing," said Gold. "The Watson capabilities provided an opportunity to really advance the way in which information could be explored and harnessed. It was that ability to pull together two really big, bold visions—and redefine the possibilities—that was the foundation for the relationship."

"We began working with Lynda and her team at MD Anderson to explore ways in which Watson could be applied and how it could be used to reshape the way in which both research would be conducted as well as the way medicine could be practiced in a future patient-centered health care system, as she envisioned," he added. "And that was one of the first 'Aha!' moments certainly, for IBM in the process, as we began to better appreciate the way health care operates. You realize this huge potential to leverage the insight and discoveries that were happening every day on the research side of the house, and the clinical side of the house, with really what was happening in clinical practice, at the patient level."

In addition to the Oncology Expert Advisor, Chin is exploring other innovative technologies to leverage the power of information to revolutionize cancer care. In particular, Chin is launching another initiative to create a secure and interactive mobile health platform to establish continuity and connectivity between patients and care providers. Such a mobile platform will enable remote and frequent monitoring of patient status, to improve the quality of care, deliver targeted health education, and facilitate personalized detection and prevention strategies to manage health and prevent disease.

As Chin sees it, technology holds tremendous potential to transform medicine. "It is unrealistic to expect any human mind to read, understand and retain the overwhelming amount of medical literature, much less to assimilate such in real-time to make evidence-based care decisions consistently for each patient. That is where technology comes in," she said. "The question is not whether we should deliver the best possible care based on the latest and best medical evidence to all patients. The question is how. It is not good enough to mandate. We must enable."

MD Anderson Taps IBM Watson for Mission to End Cancer

Going Up Against a Deadly Disease



How Watson is Helping the Fight





Early analysis shows IBM Watson could unlock new patterns and relationships from within Big Data that could help advance new cancer therapies.



National Nurses Week: May 6-12, 2014

A Celebration of Exceptional Nurses Across the Texas Medical Center

CHILDREN'S MEMORIAL HERMANN HOSPITAL

Melissa "Missy" Howard, R.N. Pediatric Intensive Care Unit

"Missy is always willing to go the extra mile for her patients, families and peers. She seeks out opportunities to help others and is incredibly giving of her time. She serves as an excellent mentor for our recent graduates and new nurses. Our families frequently request her because she not only has critical nursing skills but also the caring and loving attitude necessary to be an exceptional nurse."

— Sharron Kirby, Clinical Manager of the PICU

MelissaJoy "MJ" Cox, R.N. Neonatal Intensive Care Unit

"MelissaJoy is an inspiration to those around her with her unwavering advocacy for our patients and for all underserved children. She spends her vacation time each year on missionary trips around the world and she has found her calling working with orphaned children in Uganda. She will be leaving our NICU team in May to work for a year in Uganda as a child advocate. This is volunteer work and she has fundraised the money that she will need to live for a year while taking care of these children in need. We are so proud of the work that MJ has done here and the work that she will do in Uganda supporting children."

Nicole Francis,
 Clinical Director of the NICU

Melissa Peguero, R.N. Labor, Delivery, Recovery and Postpartum

"Melissa is extremely passionate about being able to actively be there for and participate with the family during their birth experience. She always has a smile on her face and makes everyone around her feel special."

> — Kirsten Benjamin, Administrative Director of Women's Services

MEMORIAL HERMANN – TEXAS MEDICAL CENTER

Lavelle Grubb, R.N.

John S. Dunn Sr. Burn Center

"As a burn nurse for the past 30 years, Lavelle is the epitome of what a nurse should be: kind, caring, intelligent, hard-working, giving and a mentor. She goes out of her way to make her patients feel special and well cared for, while at the same time, giving them the best possible care."

— Debra Mulkey, R.N., colleague at The John S. Dunn Sr. Burn Center at the Memorial Hermann Texas Trauma Institute

Rudy Cabrera, R.N. Memorial Hermann Life Flight

"Rudy is an excellent clinician and has become the Life Flight crew educator for the department. He is a mentor and preceptor to all of the employees. He has revamped our medical crew orientation and has used evidence-based medicine to update our Life Flight Patient Care Guidelines. The crew even likes to tease him with the nickname 'super nurse."

— Georgian "Georgie" Brown, Chief Flight Nurse for Memorial Hermann Life Flight

Wimberly Melton, R.N. Shock Trauma Intensive Care Unit

"A simple 'thank you' seems wholly inadequate to express our appreciation for the nursing care she provided when our 19-year-old granddaughter, Cherissa, was a patient in Memorial Hermann (Texas Trauma Institute)'s Shock

Trauma ICU in June. From the moment that my husband and I arrived on the unit, she provided us with everything we needed to cope with the situation we faced. I will forever remember the kindness, sensitivity, responsiveness, respect, and support she provided every moment throughout that day and into the night. From one critical care nurse to another, from one trauma nurse to another, you were beyond the best, Wimberly, so thank you."

— JoAnn Grif Alspach, R.N., Editor of Critical Care Nurse Journal

THE UNIVERSITY OF TEXAS MD ANDERSON CANCER CENTER

Theresa Johnson, B.S.N., R.N., C.B.C.N.

Nellie B. Connally Breast Center

"Theresa epitomizes all that a breast care nurse should be and has a passion for thoughtfully engaging patients and their caregivers. She also assumes a leadership role in supporting other nurses on their journeys toward certification, which has led to 100% of MD Anderson's eligible breast center nurses becoming certified."

—Susan Ferguson, Clinical Administrative Director for the Breast Center

Angela Krach, B.S.N., R.N., O.C.N. Inpatient Stem Cell Transplant and Cellular Therapies Unit

"It's difficult to stand out, head and shoulders above the other nurses at an institution of MD Anderson's magnitude. But Angela Krach does stand out not only for her exceptional clinical skills, but also for her caring compassion and commitment to patients and caregivers."

- Colleague

Mary Lou Warren, D.N.P., R.N., C.C.R.N., A.C.N.S.-B.C., C.C.C.N.S. Department of Critical Care

"Mary Lou relentlessly promotes excellent patient care. She has outstanding communication skills, thinks system-wide, and demonstrates the values of the advanced practitioners in the current health care system."

— Joseph Nates, Professor in Critical Care

HOUSTON METHODIST HOSPITAL

Haley Mattiza, B.S.N., R.N., C.C.R.N. Medical ICU

"During her five years as a registered nurse, Haley has blossomed and grown into an amazing, compassionate health care provider. I have witnessed firsthand Haley's quick mind, caring heart and compassionate spirit. Haley is not one to stand on the sidelines and let things happen — she makes things happen! Haley's caring heart is evident in the way she treats her patients and their families."

-Preceptor

Christie Aguirre, B.S.N., R.N., C.H.P.N. Main 3NW, AOD

(Admission, Observation, Discharge)

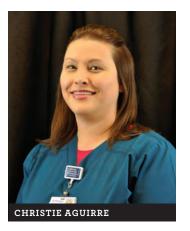
"Christie conducts herself in a professional manner at all times. She is always positive and enthusiastic, and demonstrates empathy in a caring manner to patients and family members. She is patient and very methodical in her teaching skills for the nurses she mentors and provides explanations and rationales to support her techniques. She is willing to always go that extra mile, and her patients can see and feel it."

- Manager

(continued page 22)















In this changing health care landscape, successful nursing innovators harness the passion and energy of their nursing enterprise. Talented nurses today think and function differently. They are leaders of their interdisiciplinary teams and experts in managing transitions of care for patients and families. — ANN SCANLON McGINITY, PH.D., R.N. Chief Nurse Executive, Senior Vice President of Operations at The Methodist Hospital

Chairman of the Texas Medical Center Council of Nurse Executives































These bright men and women leverage both their scientific skills as well as their relationship abilities to impact and improve the work of nursing and thereby transform our systems to ones that are patient centric. I daily witness nurses who enthusiastically go about the work of making a difference and am proud to be their colleague and celebrate their impact on our healthcare system.

- ANN SCANLON McGINITY, PH.D., R.N.

Lorelie (Lori) Lazaro, M.S.N., R.N. C.M.S.R.N.

Main 7SW, General Medicine/GI/ Hepatology Unit

"Many colleagues may view Lori as a quiet nurse, but while she talks little, she listens more. Serving as a charge nurse on the nightshift is not an easy job, but what Lori says she enjoys the most about the night shift is that it provides the best opportunity to sit at the bedside and listen to her patients as they unfold their stories. There are those who cannot sleep because of the pain and many worries, and there are those who are just afraid to sleep that they might not see another day. It is in those moments that Lori feels she is making a difference and is ensured that she made the right decision in becoming a nurse."

- Colleague

MICHAEL E. DEBAKEY VA MEDICAL CENTER

Jocelyn Ellison, M.S.N., R.N.

Community Living Center

"Jocelyn's judgment is respected by everyone from hospital leaders to bedside nurses. We always call upon for her expert opinion and count on her for her compassion knowledge and skills. She always keeps the patient uppermost in her mind and leads by example."

- Tammy Welcome, Nurse Executive for Community Living Center

Shirley Koshy, M.S.N., R.N. Operating Room

"As the assistant nurse manager of the OR, Shirley is a dependable sincere nurse who is totally committed and dedicated when it comes to the care of the surgical patients. She offers professional guidance for clinical practice, research and related issues to about 70 employees and is a true leader."

Molly Alex, MEDVAMC Nurse
 Executive Operative Care Line

Karen Aylor, B.S.N. Patient Care Unit 5E

"Karen plays a key role in leading and mentoring nurses in our Medical Center. Her fellow nurses see that she is respected by her patients and genuinely cares about the veteran patients. Thanks to her expert advice, the many employees she has precepted over the years have gone on to accomplish remarkable things. Veterans always remember Karen's name long after they are discharged. She has a tremendous impact on patients, nurses, family members and everyone she meets."

Molly Alex, MEDVAMC Nurse
 Executive Operative Care Line

BAYLOR COLLEGE OF MEDICINE

Pat Mouish, B.S.N., R.N.
Infectious Disease and
Travel Medicine Clinic

"Pat is a lifelong learner who has been instrumental in providing safe and compassionate care for her patients. With more than 30 years of dedicated service, Pat's hard work and initiative has exemplified Baylor's core values, and her commitment and loyalty allows patients to have continuity in their care. She exhibits selfless service, going above and beyond the call of duty to help accommodate patients."

— Jessica Smith, Manager of Clinical Operations, Department of Medicine – Outpatient Clinic

Carol Elizondo, B.S.N., R.N.

Dan L. Duncan Cancer Center

"Carol has provided compassionate, patient-centered care for more than 25 years at Baylor College of Medicine. Her dedication to excellence at the Dan L. Duncan Cancer Center has greatly impacted the lives of her patients. She is a valued member of her health care

team, and provides safe and efficient care to all patients. Carol has a true heart for her profession."

Jessica Smith, Manager of Clinical
 Operations, Department of Medicine –
 Outpatient Clinic

Tenika Murry, B.S.N., R.N. Diagnostic Services, Baylor Clinic

"Tenika has great compassion for her patients. She has served in diagnostics for three years and has helped the department grow as a team because of her nursing leadership. She and her nursing team provide outstanding nursing care."

 Peggy Ottosen, Manager of Clinical Operations, Ambulatory Operations

UNIVERSITY OF TEXAS MEDICAL BRANCH AT GALVESTON

Jamie Heffernan, R.N. Blocker Burn Unit

"Jaime has led the Blocker Burn Unit at UTMB with a fearless dedication, warmth and intellectual brilliance that have inspired a generation of nurses, doctors and other allied health specialists. She almost single handedly kept the unit open during a hurricane, saving all patients. She opened the unit to children from throughout Texas when no other pediatric burn center was available. She designed a new burn unit that is recognized worldwide as an example of excellence in design and efficiency."

— Dr. David N. Herndon, Jesse H. Jones Distinguished Chair in Burn Surgery and Professor of Surgery Chief of Staff, Shriners Hospitals for Children

BAYLOR ST. LUKE'S MEDICAL CENTER

Eloise Catrett, A.P.R.N., R.N., M.S.N., A.C.N.P.-B.C. Center for Advanced Clinical Practice "As an advanced practice registered nurse, Eloise is an expert clinician who goes beyond the call to make sure the patients receive exceptional care as well as supporting the bedside R.N. Her 'can do' attitude enables us to overcome challenges without impacting patient care. With a willingness to always take on new projects, Eloise serves as chair for a hospital-wide quality initiative and co-chairs a CPR committee."

— Linda Cole, Manager, Center for Advanced Clinical Practice

Janie Yanez, R.N. Cardiac Cath Lab

"With quick thinking, a calm demeanor, superb nursing assessment, exceptional monitoring skills and highly specialized training, Janie is an experienced Room Leader who provides compassionate, high-quality care to cardiac patients. She works in an critical care environment and exhibits professionalism and poise. Janie is an important contributor to our success and is always striving to achieve the highest standard of excellence and is recognized as a role model and inspiration to other nurses."

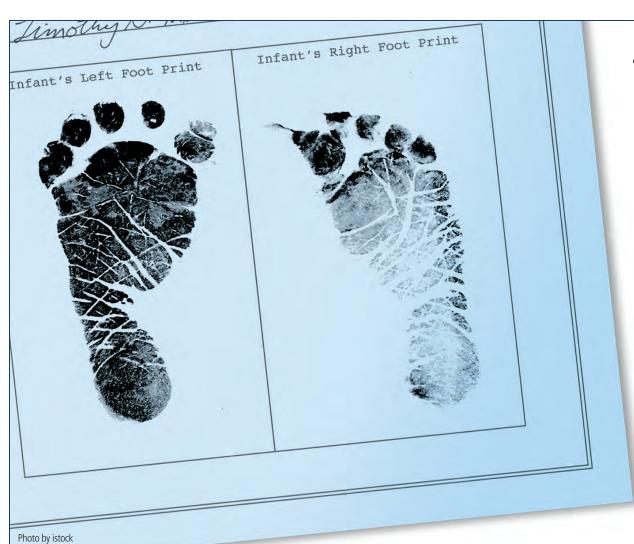
 $-\operatorname{Jody}\operatorname{Bucci},$ Clinical Director Cath Lab

Erin Mouton, R.N.

14 Tower, Cardiology Telemetry Unit

"An exceptional nurse at work and in her community, Erin shares her spirituality and compassionate care on a daily basis with kind words and prayers for patients and their families. Her compassion goes beyond the hospital walls through to her community involvement that includes participating in a church camp for children diagnosed with ADHD. Dedicated with a purpose and a smile that is always genuine and never forced, Erin possesses a 'calming peace' especially in times of crisis."

— Valerie Edwards-Arkadie, Nurse Manager, 14 Tower and Camille Dumoit, R.N., 14 Tower



"OUR ONLY MEASURE OF SUCCESS IS The Birth of A Healthy Baby."

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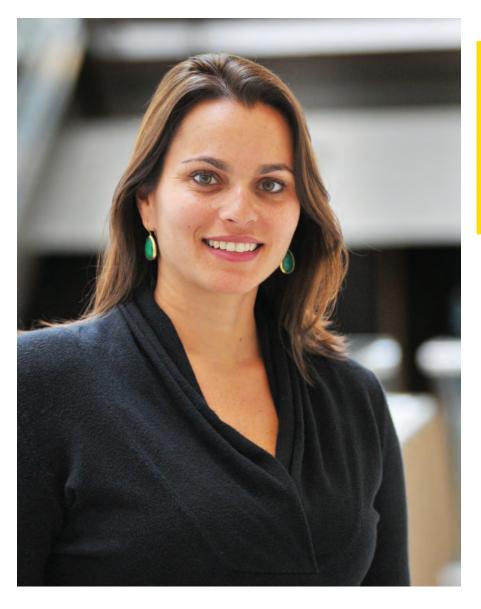
From ADHD to depression to anxiety, 1 in 5 children in Houston struggles with a mental health issue. It's time we start talking about it and begin a healing process by removing the fear people have about disorders of the brain. Show your support by wearing a band-aid $^{\text{m}}$ on your forehead on May 16th to symbolize the connection between healing and mental health.

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TMC SPOTLIGHT



AMY L. McGUIRE, J.D., PH.D., LEON JAWORSKI PROFESSOR
OF BIOMEDICAL ETHICS AND DIRECTOR OF BAYLOR
COLLEGE OF MEDICINE'S CENTER FOR MEDICAL ETHICS
AND HEALTH POLICY, SAT DOWN WITH TEXAS MEDICAL
CENTER CHIEF STRATEGY AND OPERATING OFFICER
AND EXECUTIVE VICE PRESIDENT WILLIAM F. McKEON
TO TALK ABOUT THE ETHICS OF GENOMICS RESEARCH,
AND THE FUTURE OF HEALTH POLICY.

Q | Tell us a bit about your formative years?

A | My parents grew up on Long Island in New York, and I was born while my dad was in medical school in Brooklyn. He's an ophthalmologist, and we moved to Florida after he completed his fellowship at Johns Hopkins when I was about five years old. I grew up in Jupiter, Florida. My mom was a therapist and I had an older brother and a younger sister. I lived in Florida through high school, and then I left to attend the University of Pennsylvania, where I studied psychology. I was also very interested in cultural anthropology as an undergraduate.

Q What triggered your interest in cultural anthropology?

A In college I became very interested in different cultural belief systems. I spent a semester in Australia studying aboriginal studies, and I was also interested in Native American studies and the spiritual beliefs held by different cultures. I ended up, towards the end of college, working with a newly formed NPO called DreamChange. It was led by a man named John Perkins, who had done work in the 1960s when he was in the Peace Corps, in South America and Ecuador, and he had become close to the indigenous populations down there. He started leading trips throughout Ecuador to study the belief systems of the indigenous populations and the healing practices of the local shamans.

I joined the DreamChange organization and started leading trips myself, for approximately a year, between college and law school. After I started law school I lost touch with the organization, but I recently reconnected with John and this has come full circle because I was recently asked to join the board of directors of DreamChange.

The organization is now committed to educating educators, business leaders, and individuals, using some of the shamanistic principles, to shift the way modern societies value each other and the planet and to create a more sustainable world.

Q | How does your work with DreamChange tie into your interest in medical ethics?

A Through my work with DreamChange I became very interested in complementary and alternative medicine, and the ethics and regulations around different healing modalities in the United States and abroad. I decided to enroll in a J.D., Ph.D. program that was focused on health law and the medical humanities. While in law school I did a little work on the ethics and regulation of complementary and alternative medicine but then became interested in other areas during my Ph.D. A couple years ago, I had an opportunity to return to that early interest and taught an undergraduate course at Rice on the Ethics and Regulation of Complementary and Alternative Medicine, which was really fun for me, but other than that I haven't really done much scholarship in that area.

Q Do you have any mentors?

A I think we all have mentors, in different ways. As an undergraduate at Penn, one of my mentors was Martin Seligman, who at the time was developing the concept of learned helplessness and the role of optimism and pessimism in depression. I did my undergraduate thesis in that area. While I was working with him, he started to shift his interest towards positive psychology, which is what he focuses on now, and we had some really engaging discussions about positive psychology,

happiness, and what it means to live a meaningful life. He was a great mentor, although he was very disappointed that I didn't go on to get a Ph.D. in clinical psychology or something similar.

Early in my career, and still to this day, two of my biggest mentors are Larry McCullough and Baruch Brody. I started working with Larry when I was a Ph.D. student, and he continues to be a significant mentor to me today. He's a philosopher, and has a very sophisticated and rigorous way of thinking that appeals to me, as a lawyer. I have learned a tremendous amount from him over the years and still frequently seek his advice on papers and grants, as well as on administrative matters in the Center. Baruch was the founding director of the Center for Medical Ethics at Baylor. He's an extremely thoughtful and productive scholar, and is very well respected in the field of bioethics. He was a great leader who ran our Center for 30 years and I continue to call on him occasionally, even though he has retired from Baylor, for advice and support.

I've had other mentors along the way, including Richard Gibbs, who got me interested in genetics and provided many opportunities for me professionally. There are also many other clinical and scientific colleagues who through collaborative efforts have taught me a lot.

But honestly, from a career perspective, my biggest mentor has been my husband. Sean is a clear thinker and a great writer. He taught me how to write academic papers. I use his advice all the time now with people who I mentor, because many of us who come from a humanities background have a hard time learning how to write for a medical or scientific journal. I've also learned a lot from him about the politics of working at a medical school, which he learned early on since his father was the chief of medical oncology at UTHSC in San Antonio.

Q | Can you share your thoughts about the major issues around genomics?

A | That's a very interesting question. I think a lot of the ethical and policy issues in genomics are not only about how we will look at ourselves, but also about how others will view us and treat us. And that stems partly from a very real history of abuse based on

ideas about genetics and inheritance. This dates back not just to World War II and the Nazis killing millions of people in an effort to 'purify' the human race. Some may not be aware, but we also have a history of this in the United States. In the early 1900s, for example, thousands of Americans who were deemed 'unfit' to reproduce were forcibly sterilized under eugenics laws in the United States. So, I think there's a lot of concern about the social construction of what makes a particular individual or group 'unfit,' or 'not pure,' or 'not worthy' of either reproducing or having access to other social goods and benefits. This is a huge social issue, and to a large degree it stems from a misunderstanding of the science and how powerful (or not) genetics is in determining certain traits, such as criminality or intelligence.

The concern about the misuse of information to harm individuals or groups, in turn, raises policy issues about privacy, discrimination, and access to information. I think that's a major concern for people. And I think it's a very legitimate concern, given the history that we have.

Another issue has to do with genetic selection. There's a lot of talk right now in the media about 'designer babies' and whether couples should be able to use genomic technologies to select 'genetically superior' embryos, or egg or sperm donors when that is needed. There's some consensus that most would like to avoid children being born with devastating, fatal diseases in childhood, if at all possible. However, should we allow the use of this technology to 'weed out' embryos with an increased genetic risk of adult onset disease, or to select for children of a particular gender? And what are the implications of going down that road?

As genomic testing becomes more widely available there's also a lot of concern about how people might respond to some of the information that they're getting. I think that, partly, that comes back to interpretation.

Q On one hand, you know that the information may provide you the opportunity to make choices. But on the other side, that information could also add a lot of pain and worry that might not be relevant at all.

A Genome sequencing is a fantastic tool, and has been used to find causative mutations in many patients with severe undiagnosed diseases. But it provides a lot of information, and there's concern that individuals will be overwhelmed by the amount of information presented and that the results will cause anxiety or distress. The data do not really support that. Numerous studies have shown that we are really a very adaptive species. We generally tend to adapt well to the information that we get.

Q | Tell us a little bit about your role in the Texas Medical Center strategic planning process around health policy.

A I think the most exciting thing is that we have many areas of expertise in the TMC, and health policy in particular, is something that I think needs to be looked at from a comprehensive, holistic perspective. We talk about getting stakeholder perspectives, but it's really important to look at policy from a variety of different lenses, and to be responsive to all of those different perspectives when developing policy, because it affects many people in different and important ways.

So, for example, some people in the medical center have real expertise in doing large, quantitative studies around important policy issues. Others, like those at the UH Law Center, can provide legal analyses of different policy solutions. We have Vivian Ho over at the Baker Institute who is an economist. Our center focuses on looking at policy from an ethical perspective. There are physicians in the group who are looking at it more from an on-the-ground, in-the-trenches medical perspective. We haven't yet engaged consumers or the public in this effort, which we will need to do at some point in the future when things get more formalized. But I think it's really important when you're thinking through policy issues to get all of those perspectives in the same room and to draw on different people's expertise. I think this is a great area for collaboration, because it's not competitive; we all bring something different to the table. And it really is most effective when you have a highly talented group of people in the same room together talking about a particular issue.

Q | What excites you most about the future of ethics and health policy?

A I think the collective conscious around ethics and policy is growing. Our center has been around for more than thirty years and we have always been very busy, but it feels to me that there is a growing interest in these issues and these topics from a variety of different perspectives in the medical center. For example, we run clinical ethics consultation services at several of the local hospitals to try to help health care professionals, patients and families address ethical issues and conflicts that arise in the course of medical care. So we have people on call 24/7 who carry a pager and if there is an ethical issue or conflict that happens at the hospital, which happens every single day at every single hospital, you can call somebody to come in, just like you can call a neurologist, and they come and help try to address the ethical issue.

We provide clinical ethics consultation services at several local hospitals, but our largest program by far is at Houston Methodist Hospital System. For years we have been running this service at Methodist and we have always done about 50 consults per year. But this has been growing, and last year we did 450 consults at Methodist. That's not because they're having more issues, it's because people are more attuned to the issues. And it's largely due to the hard work of that program's director, Courtney Bruce, and the other center faculty and staff who work there. It is also due in part to the fact that the hospital leadership supports this program and is really dedicated to it. And it's partly, I think, just a more global awareness of the issues.

So, even nationally, I think there's a greater recognition that this is a really valuable service and that it adds something—a new dimension—to the practice of medicine that's really important. And I think we see that in health policy also, at least in the medical center, with Baylor's new health policy institute and the Texas Medical Center's focus on a collaborative health policy initiative. I think it's a really positive move to more consciously be thinking about these issues and how they impact everything that we do in medicine and science.

Teach a Man to Fish

Baylor College of Medicine partners to help African researchers build a foundation for the continent's genomics research.

By Amanda D. Stein



As part of Human Heredity and Health in Africa (H3Africa), researchers with Baylor College of Medicine are partnering with universities in Uganda and Botswana to provide infrastructure and training for the continent's genomics research. (Credit: Smiley Pool)

The Human Genome Project, a
13-year project initiated by the
National Institutes of Health (NIH), the
Department of Energy and others, gave
researchers an unprecedented understanding of DNA and the sequencing
of genomes. It helped develop new
technologies for genomics research,
and the role that research can play in
treating, curing and preventing disease
in populations worldwide. To date, the
project has led to the discovery of more
than 1,800 disease genes.

In 2009, twenty years after the Human Genome Project was first proposed, the African Society of Human Genetics, NIH, and the Wellcome Trust, met in Cameroon to discuss issues surrounding genetics research in Africa. One issue of concern was the fact that the continent's genetic research was not keeping pace with the rest of the world, despite the tremendous need.

Out of the Cameroon meetings emerged Human Heredity and Health in Africa (H3Africa), which seeks to study the connection between genetics and disease susceptibility and treatment in African populations. The multi-institutional effort houses the Collaborative African Genomics Network (CAfGEN), led by primary grant awardee Botswana-Baylor Children's Clinical Centre of Excellence

(COE). CAfGEN and the other centers and projects under H3Africa aim to build a sustainable genomics research presence in Africa, beginning with training and infrastructure.

"The whole problem is that the disease burden in the world is the complete opposite of where the majority of genomics research has been conducted historically. There is a massive imbalance," explained Graeme Mardon, Ph.D., professor of Molecular and Human Genetics at Baylor College of Medicine and a co-principal investigator of CAFGEN.

Mardon adds that for many decades, foreign researchers have typically conducted studies in developing countries by taking patient samples from African participants and then conducting the research in labs in the U.S. and Europe, with little scientific acknowledgment or transfer of expertise to the people in Africa. This, he says, is no longer a tenable model, and is something that the governments of African nations are actively opposing.

"They want to do the research themselves," he said, "on their own people, for the diseases that are affecting their people."

Genomics, the study of how a person's genes interact with each other and the individual's environment, holds promise for the treatment of complex diseases—those that are most likely a result of both genetic and environmental factors. If researchers are able to identify the genetic basis for the progression of HIV/AIDS in Africa, there is a greater chance of finding targeted treatments and therapies for the affected population.

"For kids, when the mother is known to be infected, there is a certain probability that she will pass that on to her child," said Mardon. "So when the child is born HIV positive, they immediately begin antiretroviral therapy, and for the most part, these medicines are effective.

A relatively small number, however, still progress to AIDS. Then there is another group of kids who have never been given antiretroviral drugs due to public health policies and limited resources in the past, yet they will never get sick. They are resistant to the damaging effects of the virus.

"There is quite a lot known in western Caucasian populations about what types of mutations can allow one to be resistant to HIV, but there is very little known in African countries, which is ironic because that is where the overwhelming majority of people in the world are infected with HIV. So we need to explore whether the same mutations that allow resistance to HIV in Caucasian populations are also present in African populations or if new ones can be discovered.

"One of the most common and effective mutations that confers HIV resistance in Caucasians has already been looked at to a limited extent, in African populations, and that mutation has not been found. So we need to take a closer look and see if there are other possible mutations in the same gene that could lead to resistance in some cases."

Professor Gabriel Anabwani, principal investigator of CAfGEN and executive director of the Botswana-Baylor Children's Clinical Centre of Excellence explained the value of putting the research capabilities in the hands of African researchers.

"Most of the previous genetic studies in HIV, and in fact most genomewide association studies in general, have been undertaken in non-African, adult populations," he said. "CAfGEN will address these disparities in genomic research. Indeed, there is a great need to study the genetic factors of disease progression in children because their disease differs considerably from their adult counterparts and they potentially have more to gain from therapeutic advances."

Tuberculosis (TB) is another concern, second only to HIV/AIDS in terms of its deadly toll on populations, according to the World Health Organization. The death rate for TB has declined significantly over the past decade, but it remains a leading cause of death for individuals with HIV.

In conjunction with Makerere University in Uganda and the University of Botswana, Baylor College of Medicine will train as many as eight Ph.D. students in their Houston labs over the next three years to form the foundation for the home universities' own genetics and genomics departments and laboratories. Makerere University Ph.D. student, Savannah Mwesigwa, will be among the first African students to attend Baylor for training under the CAfGEN program.

"Previous research in Africa has been hugely reliant on foreign institutions, which can be attributed to a lack of the essential facilities and technical expertise," said Mwesigwa. "CAfGEN will play a significant role in developing the vital infrastructure, and through the training program at Baylor College of Medicine, increase the necessary expertise in genomics and genetics. The participation of different institutions will reinforce collaborative ties between researchers in both the U.S. and Africa.

"The results from the CAfGEN projects will help answer important questions about HIV/AIDS and Tuberculosis progression especially in African pediatric populations, an underrepresented, but significant cohort," he added. "Such information will be instrumental in developing new therapeutic and prophylactic strategies to control the diseases."

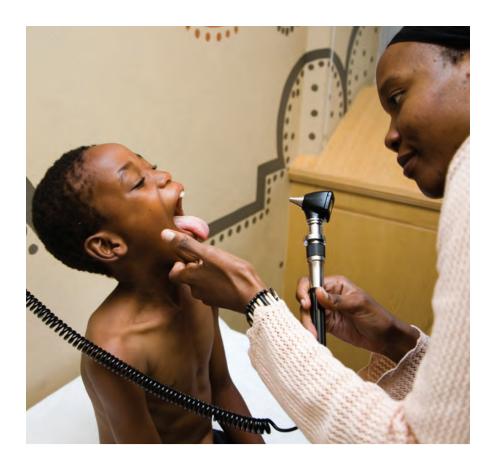
Following his time at Baylor, where he hopes to learn about next generation sequencing, bioinformatics and biostatistics, Mwesigwa will return to Uganda and help train the next generation of genomics researchers in Africa. CAfGEN will also be arranging for the universities to house sequencing machines. The goal is a self-sustaining research and training program that will ultimately reach beyond Botswana and Uganda.

"Our role, as one of the Collaborative Centers of H3Africa, is to train African researchers in genomics research, and build the infrastructure. We will be basically providing next generation sequencing machines, and the equipment to do genomics and genetics research," said Mardon. "When that training has become self-sufficient and our colleagues in Africa have the infrastructure to do the work, then they can do genomics research on their own people independently. They will also be trained in grant writing, so they can secure their own genomic research funding. The broader goal is to create a sustainable genomics network on the continent, so that collaborative scientific relationships will develop in Africa and with the rest of the world."

Additionally, the CAfGEN team will be helping address social and ethical implications of genomics research in the region, explained Edward Pettitt, senior project coordinator with Baylor International Pediatric AIDS Initiative and co-investigator with the COE.

"It is imperative that a research endeavor such as CAfGEN address the complex ethical, legal, and societal implications of genomics research with a pediatric African population. Such issues center around respecting and protecting the interests of the research participants, communities, and researchers involved in the project, as well as effectively engaging with gatekeepers of the communities involved," he said. "To this end, we hope to conduct an extensive desk review of salient ethical and legal issues related to pediatric genomic research in Africa as well as form local community advisory boards in Botswana and Ugandaconsisting of representatives from child welfare, human rights, religious, and ethical bodies-to facilitate communication between the research team and the community.

"The community advisory boards will provide insights into the language, culture, and other context-specific factors that could affect the research process, and will provide a mechanism for the researchers to negotiate and address any challenges that may arise during the study with the relevant communities," he added. "We also hope to educate the general public in Botswana and Uganda on the value of genomic research and the links between human health and heredity."

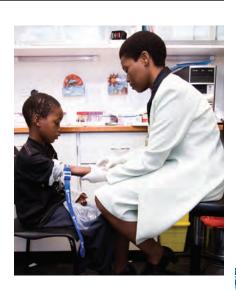


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— SAVANNAH MWESIGWA Makerere University Ph.D. student









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Battling Bone Disease

By Alex Orlando

A merica is graying; senior citizens represent the most rapidly growing segment of our population. As life expectancy increases, so does the necessity of preventing and treating degenerative processes, such as osteoporosis, that contribute to bone fractures. Since 2002, the Rolanette and Berdon Lawrence Bone Disease Program of Texas (Lawrence BDPT), a collaborative research, clinical and education program of Baylor College of Medicine and The University of Texas MD Anderson Cancer Center, has sought to improve bone disease research and convert scientific findings to more effective treatment and prevention options.

"We've created a program that has several goals. The first is to foster bone research across the Texas Medical Center," explained Robert Gagel, M.D., current director of the Lawrence BDPT and head of the Division of Internal Medicine at MD Anderson. "The second goal is to bring researchers interested in bone together to share and improve the quality of research. Finally, we want to improve the quality of care for patients with osteoporosis and other metabolic bone disorders."

Since the inception of the program in 2002, Baylor and MD Anderson researchers and clinicians have worked together to cover the entire spectrum of oncological and metabolic bone disease. Each institution has a particular focus. MD Anderson's Bone Healthcare Program has become an important resource for cancer patients who require specialized care for bone loss and other skeletal problems—frequently due to the very therapies that are saving their lives.

At Baylor, significant strides in research are being made in developing strategies to stimulate new bone formation. The Clinic for Metabolic and Genetic Disorders of Bone has become the primary referral center for patients with genetic conditions such as osteogenesis imperfecta, also known as "brittle bone disease," muscular dystrophies and neurofibromatosis where there is a significant involvement of the skeletal system.

"The members of the BDPT have made some of the most important discoveries in bone biology over the past decade," said Gagel. Gerald Karsenty, M.D., Ph.D., professor of Molecular and Human Genetics at Baylor, discovered a gene called RUNX2, the master transcription factor responsible for generating bone formation, and defined the role of the brain in the regulation of bone formation. Brendan Lee, M.D., Ph.D., professor of Molecular and Human Genetics at Baylor and the previous director of the BDPT, detected a new and important cause of osteogenesis imperfecta, a common disorder among children characterized by brittle bones that are prone to fracture. Another member, Benoit deCrombrughee, M.D., professor of Genetics at MD Anderson, identified an important transcription factor, Osterix, necessary for normal bone formation.

According to the American
Academy of Orthopedic Surgeons,
each year, 1.5 million bone fractures
in the United States are attributed to
osteoporosis, including 350,000 hip
fractures. Seventy percent of those
suffering from osteoporosis related
hip fractures do not return to their
pre-injury status. These fractures often
result in a cascade of complications
stemming from a loss of independence
and an inability to perform daily
living activities.

"The problem is that only twenty percent of patients who have an osteo-porotic related fracture ever get seen by a physician and receive treatment for vitamin D deficiency, calcium deficiency, or with drugs that are effective for preventing fractures," said Gagel. "We hope to increase the percentage of those patients to eighty percent or above through the development of a fracture liaison program that identifies patients with fractures and refers them for fracture prevention treatment."

Beatrice Edwards, M.D., associate professor of General Internal Medicine at MD Anderson, remains similarly optimistic about the prospects for reducing the gap in medical care among osteoporosis patients. "We have excellent treatment options.

Osteoporosis medicines are some of the most effective medications available; they can prevent fractures up to seventy percent," said Edwards. "The most impressive aspect of the Bone Disease Program of Texas is that it has fostered collaborations between very talented clinicians and basic science researchers," said Sandesh Nagamani, M.D., assistant professor of Molecular and Human Genetics at Baylor and director of the Clinic for Metabolic and Genetic Disorders of Bone. "This synergy has not only helped provide a human context to some basic discoveries, but has lead to better care for patients seen at the various TMC institutions."

"What is unique about our program is that all of these medical facilities sit in a defined geographic area. We could build a fracture liaison center that services 6,900 hospital beds; in a single stroke, we could cover the largest number of patients anywhere in the United States," explained Gagel. "There are opportunities in the future for other medical institutions within the Texas Medical Center to join us."

At their recent ten-year anniversary celebration, the BDPT announced that The University of Texas Health Science Center will be formally joining the program after being informally involved for the past five years.

"We're trying to improve quality of care for all adults at the Texas Medical Center," said Edwards. "Even as America is graying, we intend to see individuals remaining independent in their own homes, with full mobility, so that they age with dignity."

Brian Dawson, MicroCT Core specialist, operates the Xradia MicroXCT imaging system, which allows Lawrence BDPT researchers to visualize bone and cartilage at a resolution never before achieved. (Credit: The Rolanette and Berdon Lawrence Bone Disease Program of Texas)



66 The members of the Bone Disease Program of Texas have made some of the most important discoveries in bone biology over the past decade.

— ROBERT GAGEL, M.D.

Director of the Lawrence BDPT and head of the Division of

Internal Medicine at MD Anderson Cancer Center

An Education in Entrepreneurship

Nearly \$2.9 Million Awarded in Rice Business Plan Competition

By Alex Orlando

The 2014 Rice Business Plan L Competition (RBPC), the world's richest and largest student startup competition, awarded nearly \$2.9 million in cash and prizes, a record amount, at this year's competition held on April 10-12 at Rice University's Jones Graduate School of Business. Medical Adhesive Revolution of RWTH Aachen University, Germany, which developed a high-strength biodegradable surgical adhesive that can be used inside the human body to seal wounds within seconds, emerged as the top startup company, winning \$507,500. This marks the first time an international team has won the competition and the first time two international teams finished in the top six.

The teams competed in four categories-energy, clean technology and sustainability; information technology, Web and digital media; life sciences, biotechnology and health care; and social-impact ventures—by presenting 15-minute investment pitches. They also competed in a rapid-fire 60-second elevator-pitch contest on the first night of the competition.

"The RBPC has been instrumental in several ways," said Brad Burke, managing director of the Rice Alliance for Technology and Entrepreneurship at Rice University, which hosts the RBPC. "We've created an entrepreneurial ecosystem around the Rice Alliance and around Houston. It's created a network and a culture that helps entrepreneurs be successful by providing a readily available base of investors, mentors and advisors."

Since the RBPC's inception in 2001, more than 155 competitors have successfully launched their companies and are in business today or have had successful exits. These competing teams have raised more than \$844 million in funding and have had successful exits of more than \$250 million, for a total market value of more than \$1 billion.

"The Rice Business Proposal Competition was the first startup competition to evolve from an academic exercise to a real world exercise," explained Burke. "In 2003, we made a conscious decision to tell the judges that they should pick the winners based on where they would invest their money as early stage technology investors. It changes the competition; it becomes about supporting these companies as viable startups."

Members of the forty-two competing teams, hailing from some of the world's top universities, came together to pitch their new technology businesses to more than 270 venture capital and investor judges.

"I've never seen such a large collection of people where everyone that I meet is so focused on helping you succeed. Even the other teams will suggest contacts that they might have, and the judges' comments and critiques were

SINCE THE RICE BUSINESS PLAN COMPETITION'S INCEPTION IN 2001, MORE THAN 155 COMPETITORS HAVE SUCCESSFULLY LAUNCHED THEIR COMPANIES AND ARE IN BUSINESS TODAY OR HAVE HAD SUCCESSFUL EXITS.

designed to propel our dream forward," said Jason Sandler, COO of Innoblative from Northwestern University, a medical technology company that came in fourth place and won \$20,000 in funding for developing a disposable radiofrequency probe to destroy residual cancer left after the removal of a breast tumor. "The potential of this competition, every year, is unbelievable on a global scale."

One of Rice University's competing teams, NanoLinea, a Houston-based medical company focused on developing innovative nanotube fiber technologies for heart rhythm disease, is a result of collaboration between Rice University and the Texas Heart Institute.

"Last January, we published a paper on the unique properties of this carbon nanotube fiber," said Colin Young, co-founder of NanoLinea. "Dr. Mehdi Razavi at the Texas Heart Institute realized that those properties represented a missing piece in treating heart rhythm diseases, and got in touch with us to start doing tests."

"Every year, we have teams say that this is the best education in entrepreneurship that they've ever received," said Burke. "Regardless of the length of their program, many of them come away saying that they learned more about starting a company in this weekend than throughout the rest of their program."

Last June, the Rice Alliance was named the top global university business incubator of 2013, according to the first in-depth study by the University Business Incubator Index, based in Sweden.

"Once you compete in the Rice Business Plan Competition, the message to you is that you're part of the RBPC family, and we adopt you. We reach out to all of the companies, every year," said Burke. "In recent years, we've really scaled up the competition. We have touched 42 teams, and a number of them will be changed, in a transformative way, through their experience here."







LEFT: Brad Burke, managing director of the Rice Alliance for Technology and Entrepreneurship, addresses the crowd at the 60-second elevator-pitch contest on the first night of the competition. MIDDLE: EcoBreeze of National Taiwan University, Taiwan, a company based on researching and commercializing innovative green cooling technology for customers in the ICT/LED field, stand tall; they finished in third place for \$22,000. RIGHT: Medical Adhesive Revolution of RWTH Aachen University, German, relax after a long day. The team emerged as the top startup $company, winning \$507,500, marking \ the \ first \ time \ an \ international \ team \ has \ won \ the \ competition. (Credit: Slyworks Photography)$

Soto: The Houston Penetrable

The Museum of Fine Arts, Houston

Thousands of feet of tubing, like the kind you see in the Texas Medical Center, will make an artistic debut in Houston this summer at the Museum of Fine Arts, Houston. Soto: The Houston Penetrable, a site-specific installation by Venezuelan artist Jesús Rafael Soto, takes advantage of the durable material used every day in patient care for a dynamic display that is completed only by the viewer's experience.

The Houston Penetrable is a vast, floating sea of strands suspended from the ceiling of the Museum's Cullinan Hall, designed by Ludwig Mies van der Rohe in 1958. The 24,000 polyvinyl chloride (PVC) tubes hang 28 feet from ceiling to floor and encompass nearly 2,600 square feet. At rest, the hand-painted strands compose a three-dimensional golden orb on a transparent background, but the real magic comes in participation. Intended to be touched, handled and waded through, the *Houston Penetrable* attempts to transform the way viewers think of and experience the surrounding space. Visitors are also encouraged to take photos in the Penetrable to post on social media with the hashtag #sotosummer.

"When I came to the Museum, one of my ambitions was to provide programming of contemporary art that was truly participatory, which only happened when the visitor completed the work of art, and that's the case with Soto," said Gary Tinterow, director of the Museum of Fine Arts, Houston. "I know that our audience is going to truly enjoy running through the piece, holding onto the strands, perceiving that enormous elliptical orb glowing in space."

"Jesús Rafael Soto stands out as a pioneer of 20th-century avant-garde in Europe and Latin America, and his Penetrables are his signature works," said Mari Carmen Ramírez, MFAH curator and organizer of the project. "The Houston Penetrable brings Soto's playground indoors, with a fully sensorial experience of light and color."

Born in Ciudad Bolívar, Venezuela, Soto (1923–2005) was a landmark figure in Latin American art. Formally trained as a painter at the Escuela de Bellas Artes de Caracas in the 1940s, Soto relocated to Paris in 1950. There, he quickly became integrated into a community of international artists interested in geometric abstraction. Early on, Soto experimented with the visualization of movement, using dots, lines, planes and chromatic vibrations to transform the visual object into a fully mechanical body that appeared to move before the viewers' eyes. In the late 1950s, Soto brought his exploration of kinetic vibrations into three-dimensional space. His works eventually became architectural in scale, and Soto displayed his first Penetrable in 1967 at the Galerie Denise René in Paris. The resulting series, which he initially spoke of as "enveloping works," embodies the synthesis of the artist's investigations into light, movement and space.

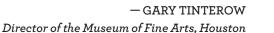
In the 50 intervening years, these iconic, immersive Penetrables have been sited around the world, from the Museo Soto in Ciudad Bolívar (1973), to the rotunda of the Guggenheim Museum in New York (1974), to MALBA – Fundación Costantini in Buenos Aires (2003). The Museum of Fine Arts, Houston, displayed Penetrable amarillo (Yellow Penetrable) (1973/95) outdoors from 2004 to 2006 as part of the exhibition Inverted Utopias: Avant-Garde Art in Latin America, and that piece then traveled to the Los Angeles County Museum of Art (LACMA) (2011). At once optical, tactile and kinetic, Soto's Penetrables have come to define the fully immersive art experience for generations of participants.

Although Soto created some 25 to 30 different Penetrables over the course of his career, the Houston Penetrable—designed by the artist on commission from the Museum of Fine Arts, Houston, in 2004—is one of very few site-specific Penetrables in the series, and the only one intended for permanent or semipermanent interior display. And although his other works are solid and monochromatic, typically made from yellow or blue tubing, the Houston Penetrable presents two colors and



An interior view of the central section of Jesús Rafael Soto's Houston Penetrable, at the Museum of Fine Arts. Houston. (Credit: Museum of Fine Arts. Houston)

I know that our audience is going to truly enjoy running through the piece, holding onto the strands, perceiving that enormous elliptical orb glowing in space.



the effect of a hovering, three-dimensional ellipse.

Unprecedented in its size and its complexity, the $Houston\ Penetrable$ was Soto's final project and his most ambitious work of all. It has taken almost a decade to produce. The Museum worked closely with the Atelier Soto, along with Paris-based architect Paolo Carrozzino and producer Walter Pellevoisin, who oversaw a team of artisans and ironworkers in the French village of Vielle-Tursan and Houston to bring this monumental work to life. The ceiling of the Museum's Cullinan Hall had to be reinforced with steel in preparation for the installation of 240 individual panels, each strung with 100 two-story-tall strands of PVC tubing. Houston companies Balfour Beatty Construction, Berger Iron Works, Bury CHPA, Cardno Haynes Whaley, Warehouse Associates

Development and Kendall/Heaton Associates were also instrumental in the realization of this great marvel of contemporary art.

Soto: The Houston Penetrable opens May 8, and will remain on view at the Museum of Fine Arts, Houston, through September 1, 2014. It is accompanied by an exhibition of eight exemplary pieces from the various phases and series of Soto's career. This installation is organized by the Museum of Fine Arts, Houston, in collaboration with the Atelier Soto, Paris. The presenting sponsor is Mercantil Commercebank.

General Information: The Museum of Fine Arts, Houston 1001 Bissonnet St., Houston, TX 77005 www.mfah.org | 713-639-7300



RANDOLPH EVANS, M.D., clinical professor of neurology at Baylor College of Medicine, has received the Lifetime Achievement Award from the 750-member Texas Neurological Society in Austin, Texas. Evans is board-certified in Neurology and subspecialty certified in Headache Medicine and a Fellow of the American Academy of Neurology, the American Headache Society and the Texas Neurological Society. He specializes in headache medicine and has published numerous books and articles and gives lectures on the topic.



JOHN T. GREER has been named director of development for Texas Heart Institute. A 25-year veteran in the fundraising field, Greer comes to Texas Heart Institute from the University of Texas School of Dentistry at Houston, where he served for more than seven years as executive director of development. Previously, he fulfilled roles in the field of development at Rice University, the Leukemia Society of America, and CHRISTUS Foundation for Healthcare.



CARINE M. FEYTEN, PH.D., has been named chancellor and president of Texas Woman's University (TWU) by the board of regents. Feyten holds a Ph.D. in Interdisciplinary Education, Second Language Acquisition from the University of South Florida, and is fluent in five languages. Feyten joins TWU after serving as dean of the College of Education, Health and Society at Miami University in Oxford, Ohio, since 2006. She will begin her tenure as TWU's second chancellor and 11th president on July 1. She succeeds Dr. Ann Stuart, who is retiring after 14 years as chancellor and president of the university.



BAHA M. SIBAI, M.D., professor in the Department of Obstetrics, Gynecology and Reproductive Sciences at The University of Texas Health Science Center at Houston (UTHealth) Medical School, has been awarded the Lifetime Achievement Award by the Society for Maternal-Fetal Medicine. Sibai directs UTHealth's maternal-fetal medicine fellowship program and has active clinical practices at Memorial Hermann-Texas Medical Center and Lyndon B. Johnson Hospital, part of Harris Health System. He is a founding member and past president of the North American Society for the Study of Hypertension in Pregnancy and past president of the International Society for the Study of Hypertension and Pregnancy.



JEFF GENTRY assumed the role of chief financial officer for DePelchin Children's Center. He replaces Peggy Pugh, who is retiring after 13 years in the position. Gentry will be responsible for all financial administration, risk management and treasury operations with leadership over the accounting, information technology, facilities and plant management and clinical services departments. He has served in various leadership roles for the National Multiple Sclerosis Society over the past eight years and was recently the National CFO for the Society located in New York City.



HARDEEP SINGH, M.D., M.P.H., has been named a recipient of the prestigious Presidential Early Career Award for Scientists and Engineers (PECASE). Singh is the chief of the Health Policy, Quality & Informatics program at the Houston VA Health Services Research and Development Center for Innovations in Quality, Effectiveness and Safety, and associate professor of medicine at Baylor College of Medicine. He will receive the award from President Obama at a White House ceremony later this year. PECASE awards are the highest honor bestowed by the United States government on science and engineering professionals in the early stages of their independent research careers.

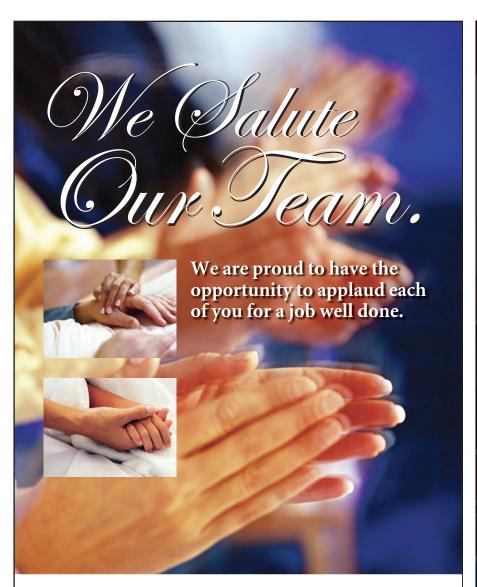


YOHANNES GHEBREMARIAM, PH.D.,

assistant member at the Houston Methodist Research Institute, Department of Cardiovascular Sciences, has been awarded a 5-year K-grant from the National Heart, Lung, and Blood Institute to investigate the therapeutic potential of a generic drug for the treatment of Idiopathic Lung Fibrosis (IPF). Ghebremariam and his team will use in vitro and in vivo models to understand the mechanism by which a commonly used generic drug might regulate the disease process in IPF, a rare but deadly lung disease. Ghebremariam has been training with Dr. John Cooke at Stanford University and jointly established the Department of Cardiovascular Sciences at the Houston Methodist Research Institute in 2013.



HUDA ZOGHBI, M.D., founding director of the Jan and Dan Duncan Neurological Research Institute at Texas Children's Hospital and professor of molecular and human genetics at Baylor College of Medicine, is the winner of the Edward M. Scolnick Prize in Neuroscience. It is awarded annually by the McGovern Institute for Brain Research in Cambridge, Mass., to recognize outstanding advances in the field of neuroscience. Zoghbi is perhaps best known for her pioneering work on Rett syndrome, a genetic neurological disease that affects young girls.



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Hydrogel Invented at Rice University May Help 'Nuanced' Healing of Surgical Wounds

Synthetic collagen invented at Rice University may help wounds heal by directing the natural clotting of blood.

The material, KOD, mimics natural collagen, a fibrous protein that binds cells together into organs and tissues. It could improve upon commercial sponges or therapies based on naturally derived porcine or bovine-derived collagen now used to aid healing during or after surgery.

The lab of Jeffrey Hartgerink, a chemist and bioengineer based at Rice's BioScience Research Collaborative, developed synthetic collagen several years ago. The lab's analysis of KOD for use as a hemostat, or clotting agent, appears this month in the American Chemical Society journal Biomacromolecules.

Hartgerink and lead author Vivek Kumar, a postdoctoral researcher at Rice, viewed clotting as a good avenue of investigation for practical application of KOD, a synthetic protein made of 36 amino acids that self-assemble into triple-helix nanofibers and hydrogels.

"We showed we can make small peptides that we can easily synthesize chemically, which means we can purify them for a completely homogeneous material," said Hartgerink. "Those peptides self-assemble into fibers that in turn become a hydrogel. This hierarchy of assembly—from a peptide to a triple helix to a fiber to a hydrogel—mimics much of the hierarchy of assembly of natural collagen."

Hartgerink said collagen's importance goes beyond its role as a scaffold for cells. "How a cell determines what it's going to do depends in large part on the chemical surface it's attached to," he said.

"We've been thinking about KOD for hemostasis for a while. Natural collagen is used in a variety of on-the-market products for hemostasis, but there are benefits to a synthetic system. We can avoid the immune problems associated with using collagen from cows, for example. The ability to synthesize KOD chemically gives us a pure product."

Lab tests showed KOD hydrogel traps red blood cells to stop bleeding and, unlike commercial barriers, binds and activates platelets that form clots to promote healing. The tests also determined KOD does not promote inflammation.

"We wouldn't envision using KOD for major trauma, because there are conventional methods like tourniquets or using clay-based materials that are much more effective in that immediate situation," said Kumar, who often used his own blood to test the hydrogel against commercial hemostats. "We see using this for more specific, site-directed applications, like to stop surgical bleeding."

While validation is needed for KOD to be used in operating rooms, the researchers are already considering

We see using this for more specific, site-directed applications, like to stop surgical bleeding.

— JEFFREY HARTGERINK

Chemist and Bioengineer
for RiceBioScience
Research Collaborative

applications for wound healing and graft support. "We have the flexibility to incorporate higher levels of complexity within our peptide matrix," Kumar said. "We can incorporate cell adhesion or degradation sites to recruit cells or draw in different components from native tissue."

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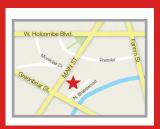
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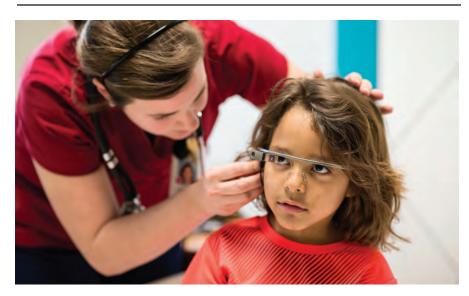
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Pediatric Patients Visit the Houston Zoo Without Leaving the Hospital Thanks to the Google Glass Explorer Program



Six-year-old Jayden Neal tours the Houston Zoo with Google Glass. (Credit: John Lynch, Memorial Hermann)

hildren's Memorial Hermann
Hospital, together with the help of
the Google Glass Explorer program, is
enhancing the patient experience in a
way never before possible. The hospital
recently allowed kids of all ages to virtually "visit" the Houston Zoo, located
across the street from the hospital,
without ever leaving their hospital beds.

"We are thrilled to be able to leverage this exciting new piece of equipment to bring a virtual escape and some much needed happiness and distraction to our youngest patients during their stay with us," said Susie Distefano, CEO of Children's Memorial Hermann Hospital. "The unique opportunity to team up with the Houston Zoo, using state-of-the-art technology to literally bring their animals to our bedsides, has placed smiles on countless faces."

We are thrilled to be able to leverage this exciting new piece of equipment to bring a virtual escape and some much needed happiness and distraction to our youngest patients during their stay with us.

— SUSIE DISTEFANO CEO of Children's Memorial Hermann Hospital Patients at Memorial Hermann were among the first in the nation to participate in the highly exclusive Google Explorer program. This groundbreaking new piece of "wearable" technology allows users to easily take videos and pictures from a direct point of view and take part in video calls via Google Hangout, all in a hands-free, voice command experience.

Six-year-old Jayden Neal was diagnosed with type 1 diabetes about a year ago and, since then, has been a regular patient of Memorial Hermann. "Because of Jayden's condition, we come to the hospital often," said Jayden's mom, Raquel Neal. "On our way to the hospital the other day, we drove by the Zoo and Jayden said, 'Mommy, I just want to go to the Zoo!' So, now that's all he's been talking about: getting to go to the Zoo after all!"

Going forward, Memorial Hermann plans to continue in the Google Explorer program and identify the endless opportunities for applications. For example, a new study released just this week indicates that Google Glass may help calm patients during surgery.

Memorial Hermann is no stranger to breaking technological boundaries. The health system has made international headlines for its live-tweeting of major operations, including an open-heart surgery, a brain operation, and the world's first live-tweeted Caesarean section.

Pharmacy Tech Program Offers High School Students Certification

Coleman College of Health
Sciences and Houston Independent
School District are partnering to train
high school graduates to be certified
pharmacy technicians through an innovative program at Jane Long Academy.
The School of Pharmacy Technology
teaches students the clinical and business skills they need to work alongside
pharmacists and physicians. Students
completing the four-year program
receive certification as a pharmacy
technician.

Students in the Allied Health
Futures program at Jane Long begin
taking program classes as freshmen.
After their first year in the program,
they attend a "white coat ceremony"
and receive their white lab coat to mark
their achievement and motivate them
to continue succeeding. The extra

motivation is working. The first class of 75 has lost only two students, and many of the program participants are looking further ahead in their academic careers past high school and college to medical school and beyond. The first class of sophomores will begin taking college courses this summer, in pharmacy law and drug classification.

"After the students graduate from high school, all they will need to do is finish their clinical rotations with HCC, take the national certification exam, and then they will be employable as a pharmacy tech," said Jeff Gricar, program director for HCC Coleman College. "Because of this partnership, these students will be credentialed for full-time employment with benefits when they are 18 or 19 years old, and ready for a career in health care."

After the students graduate from high school, all they will need to do is finish their clinical rotations with HCC, take the national certification exam, and then they will be employable as a pharmacy tech.

 $- {\tt JEFF\ GRICAR}$ Program Director for HCC Coleman College



HCC Coleman College President Dr. Betty Young and HISD Jane Long Academy students at the White Coat Ceremony celebrating success in the pharmacy technician program. (Credit: HCC Coleman College)

UTMB Collaborates with U.S. Navy to Study Infectious Diseases in Peru

Modern-day travel has made the world more easily accessible. Within 24 hours, you can fly from Houston to Peru and then back to Houston again. But with that convenience, diseases once found in isolated areas are now appearing at hospitals in Texas.

To better understand infections that might spread to the United States, researchers at The University of Texas Medical Branch at Galveston (UTMB) are collaborating with the U.S. Navy and the Universidad Peruana Cayetano Heredia (UPCH) at Lima, Peru, to study infectious diseases in Cusco, Peru.

As the home of the former Inca Empire and the closest city to Machu Picchu, Cusco has been declared a World Heritage Site and is a major hub for tourism. With millions of visitors each year, Cusco is an ideal location to study diseases affecting travelers.

"A major goal of the UPCH-UTMB Collaborative Research Center – Cusco is to study infectious diseases and illnesses that have been neglected by the research community," said Clinton White, M.D., director of the Infectious Diseases Division at UTMB.

UPCH and the U.S. Navy's Medical Research Unit No. 6 were key collaborators in the setup of the research center.

"We have a joint research project with the Navy, which is funded by the U.S. Department of Defense, to study the causes and severity of travelers' diarrhea," said Miguel Cabada, M.D., director of the research center and UTMB adjunct instructor of infectious diseases. Travelers' diarrhea is a travel-related illness caused by eating contaminated food or water in developing nations. In addition to diarrhea, the illness can cause abdominal pain, cramping and dehydration, which can last for more than a week.

While travelers' diarrhea may seem like a common and minor consequence of traveling abroad, for soldiers



A major goal of the UPCH-UTMB Collaborative Research Center – Cusco is to study infectious diseases and illnesses that have been neglected by the research community.

- CLINTON WHITE, M.D.

Director of the Infectious Diseases Division at UTMB

deployed for combat, the illness can be debilitating.

The research center's studies have helped identify the various causes of travelers' diarrhea and will soon begin examining interventions to help prevent the illness.

The center is also concentrating on leishmaniasis, a parasitic disease that causes a disfiguring skin ailment, which can destroy the nose and throat. While unusual in the United States, nearly 1,400 military personnel who served in Iraq and Afghanistan were infected with the disease. Cabada works with a neighboring clinic to improve the diagnosis and treatment of leishmaniasis.

In addition, a grant from the National Institutes of Health is supporting studies of fasciolasis, a parasite that affects the liver. The disease can cause anemia and malnutrition in children. Diagnostics and treatment are not routinely available in Cusco. "Through our studies, we brought diagnostics to hundreds of children, and we are working on testing new treatments," said Cabada.

Since the research center opened in 2012, more than 80 children have been treated for fasciola.

More than a dozen medical students have trained at the research center, including a Navy Fulbright Scholar, trainees from UTMB, UPCH and Rice University. The UPCH-UTMB Collaborative Research Center and its partners have submitted additional grant applications to expand their efforts.

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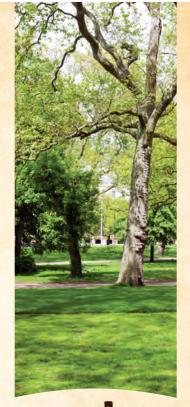
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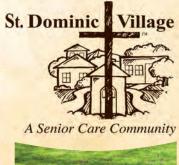
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May 201

The Business of Private Medical Practice and the New History of the American Medical Profession

Wednesday, Noon-1 p.m. MD Anderson Cancer Center's Mitchell Basic Sciences Research Building, Onstead Auditorium www.hhom.org

Evolutionary Reconnaissance: Forecasting Future Mechanisms of Antibiotic Resistance

Presented by Yousif Shamoo, Ph.D., professor of Biochemistry & Cell Biology and Ecology & Evolutionary Biology at Rice University

Thursday, 10:30 a.m.-11:30 a.m. The University of Texas Medical School at Houston, 6431 Fannin Street, MSB 2.135

lyska.morrison@uth.tmc.edu 713-500-5500

Tissue-Engineered Nerve Grafts for Peripheral and Central Nervous System Repair

Featuring D. Kacy Cullen, Ph.D., assistant professor of Neurosurgery, Center for Brain Injury and Repair at the University of Pennsylvania Thursday, Noon-1 p.m. Houston Methodist Research Institute, Boardroom R2-311 amunoz@houstonmethodist.org

12 Tanks to Bedside: High-throughput Gene Targeting in Zebrafish to Model Rare Human Diseases

> Presented by Shawn Burgess, Ph.D., senior investigator at the National Genome Research, Institute National Institutes of Health

Monday, 4-5 p.m.

The University of Texas Medical School at Houston, 6431 Fannin Street, MSB 2.135

catrina.m.stevens@uth.tmc.edu 713-500-7536

The Houston Seminar: Matters of the Heart

> Guest speaker Doris Taylor, Ph.D., director of regenerative medicine at The Texas Heart Institute Tuesday, Noon-1:30 p.m. The Health Museum 713-666-9000

1 ___ Responsible Conduct of Research Seminar Series

> Wednesday, Noon-1 p.m. MD Anderson Cancer Center, **Onstead Auditorium** tjcostello@mdanderson.org 713-563-9194

Electrical and Computer Engineering Neuroengineering Seminar Series

Thursday, 4-5 p.m. Rice George R. Brown School of Engineering, 1064 Duncan Hall ece@rice.edu 713-348-4020

Oral Oncology: Oncologic Dentistry & Maxillofacial Prosthetics Symposium

Thursday & Friday MD Anderson Cancer Center Dan L. Duncan Bldg., Floor 8 Conference Center register@mdanderson.org 713-792-2223 www.mdanderson.org/conferences

Simulation in Health Care Training Education Symposium

> Guest speaker Elliott Silverman, PA-C, MSHS of Walter Reed National Military Medical Center Friday, 8 a.m.-5 p.m. Galveston Island Convention Center 409-747-0203 www.utmb.edu/amt/Educational_ Symposium 2014.html

Adenylyl Cyclase 6-mediated Signaling in Renal Transport

> Presented by Timo Rieg, M.D., Ph.D., assistant professor of medicine at the University of California, San Diego Monday, 4-5 p.m.

The University of Texas Medical School at Houston, 6431 Fannin Street, MSB 2.135

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10-20 Translational Biophotonics

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 $\bigcirc\bigcirc$ Consequences of An euploidy

Guest speaker Angelika Amon, Ph.D., Kathleen and Curtis Marble Professor of Cancer Research Investigator, Howard Hughes Medical Institute at MIT

Tuesday, 4-5 p.m. MD Anderson Cancer Center, **Onstead Auditorium**

skkassardjian@mdanderson.org 713-834-6337

Understanding the Late Effects of Cancer Treatment: Host Factors and Personal Vulnerability Guest speaker Patricia Ganz, M.D.

Tuesday, 10-11 a.m. MD Anderson Cancer Center, Cancer Prevention Building, Rooms 1, 2, 7 & 8 spatterson@mdanderson.org

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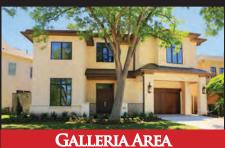




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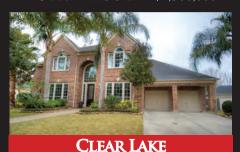
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Thank you Nurses and Medical Professionals for all you do!

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SETH CAPLAN LEUKEMIA & LYMPHOMA SOCIETY'

Seth Caplan was selected as a candidate for Man of the Year by the Leukemia and Lymphoma Society (LLS). LLS raises funds for research and awareness in the fight against leukemia, lymphoma, and other blood cancers. Funds raised will help find a cure and develop treatments that save lives.

To contribute to finding a cure, please visit:

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THE **HEIGHTS**

3/4 BEDROOMS 3.5 BATHROOMS \$1,175,000

Gorgeous 4000+ sq ft home boasting gourmet kitchen, wine storage and an oversized yard!

SHAYNE STINSON







Texas Medical Center SALUTES OUR NURSES

NATIONAL NURSES WEEK • MAY 6-12, 2014

Our outstanding nurses and the care they provide help make Houston Methodist Hospital one of the nation's leading health care providers. Through our I CARE values, our nurses create a positive, uniquely Houston Methodist experience for each of our patients and their families.

- MARC L. BOOM, M.D.

President and CEO, Houston Methodist Hospital

Nurses are our lifeline; they are the frontline caregivers, and represent an invaluable and precious resource that we depend on for care continuity and superior service. It is a source of great pride that we were the first Magnet-designated hospital in Texas and the Southwest for nursing excellence.

WAYNE KEATHLEY
 President, CHI St. Luke's Health/
 Baylor St. Luke's Medical Center

I have seen our nursing staff do some amazing things: quickly jump into action to save a life, rock a newborn baby to sleep, or spend hours at a critical patient's bedside. I've even experienced their brilliance first-hand when my son was a patient. The role of a nurse may be varied, but the difference they make in the lives of our patients and families is immeasurable.

- CRAIG CORDOLA

CEO, Memorial Hermann-Texas Medical Center

Every day at Baylor College of Medicine, our nurses show compassion and dedication in the care of their patients. All of the physicians and leaders at Baylor College of Medicine, myself included, are impressed daily by the commitment of our nurses and proud to call them our colleagues.

- PAUL KLOTMAN, M.D.

President and CEO, Baylor College of Medicine

Nurses play a crucial and integral role in overall patient experience and outcomes, especially in cancer care where patient anxiety is often high and interactions during treatment often occur over many months. They are on the front line of care, and we are deeply appreciative for all they do to help ensure patient care, safety and comfort remain our top priorities.

RONALD A. DEPINHO, M.D.
 President, The University of Texas
 MD Anderson Cancer Center

I see the impact nurses make in the lives of our patients every day as I walk the halls of Texas Children's Hospital. Nurses, like no other health profession, spend the most time with our patients and families delivering expert compassionate care. That is how our more than 2,000 extraordinary nurses touch the lives of children, women and their families across every practice setting. I congratulate and honor our nursing staff during this special week.

- MARK A. WALLACE

President and CEO, Texas Children's Hospital

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