

TMC | PULSE

THE OFFICIAL NEWS OF THE TEXAS MEDICAL CENTER — VOL. 1 / NO. 8 — DECEMBER 2014



2014
IN REVIEW

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END OF YEAR CLOSE OUT INCENTIVES!

Hermann Park Court

Medical Center

Free-standing homes
Convenient location
Private yards

from the
\$430's



Heights Place

Heights

Large decks with great views
Sleek finishes throughout
Free-standing homes

from the
\$590's



West U Court

West University Place

Roof terrace features a fireplace
Individually fenced yards
Free-standing homes

from the
\$710's



1755 Hawthorne

Upper Kirby

Private Backyard and Driveway
Incredible Chef's Kitchen
First Floor Library

\$1,299,000



Rosewood St Estates

Museum District

Fenced free-standing homes
Roof terrace with city views
Near museums and parks

from the
\$470's



Fairview Studio Homes

Montrose

Roof terrace with city views
Enclosed back yard
Private driveway

\$729,000



Encore at Lillian

Rice Military

Roof terrace with city views
Free-standing homes
Private driveways

from the
\$570's



Cambridge Park Court

Medical Center

Free-standing homes
Guest parking spaces
Gated community

from the
\$360's



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STUART YUDOFKY, M.D., IS MANY THINGS—AN AUTHOR, RESEARCHER, ACADEMIC AND PIONEER IN HIS FIELD. HE IS ALSO A COMPASSIONATE ADVOCATE FOR PATIENTS DEALING WITH MENTAL ILLNESS. HE AND HIS COLLEAGUES HOPE TO HELP DESTIGMATIZE PSYCHIATRIC DISORDERS, AND ENCOURAGE FAMILY AND PATIENT INVOLVEMENT IN MENTAL HEALTH CARE.

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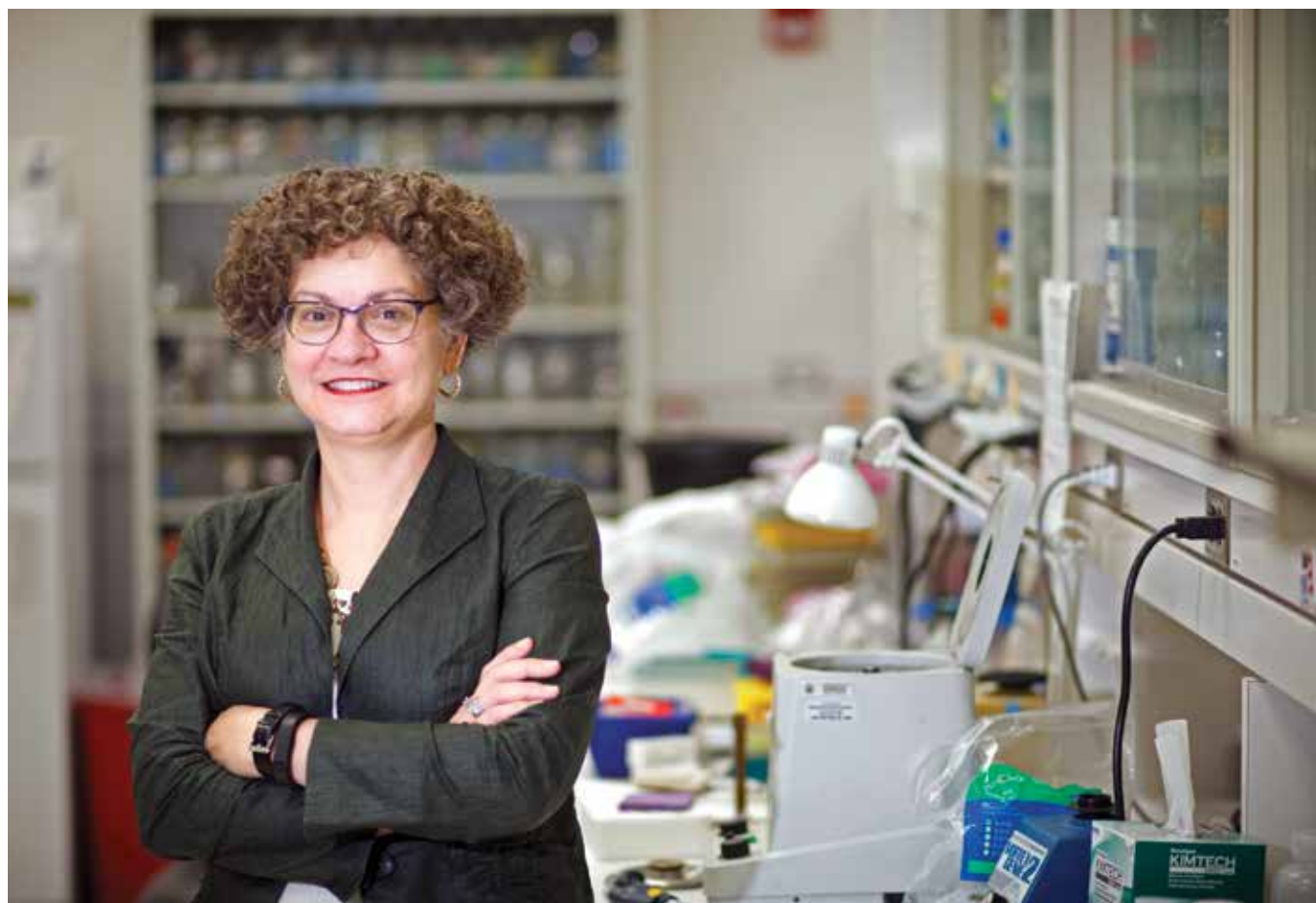
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Journey to the Institute of Medicine

Three new members of the prestigious organization share their groundbreaking discoveries

BY SHEA CONNELLY



Since the 1970s, the beginning of fall is marked each year by a prestigious honor for up to 70 leaders in biomedical science, health care, health policy and related fields: election to the Institute of Medicine of the National Academies. Most years, members of Texas Medical Center institutions can be found among the new inductees, and this year is no exception. Three of the 70 new members announced in October have ties to the medical center.

Guillermo Lozano, Ph.D., is chair of the department of genetics at The University of Texas MD Anderson Cancer Center, David Piwnica-Worms, M.D., Ph.D., is chair of the department of cancer systems imaging at MD Anderson, and Deepak Srivastava, M.D., the Younger Family Director of the Gladstone Institute of Cardiovascular Disease and director of

the Roddenberry Stem Cell Center at Gladstone, is the nonresident scholar for biomedical research policy at Rice University's Baker Institute for Public Policy.

A parameter for electing new members set by the Institute of Medicine is to build a diverse group of people from a variety of backgrounds, and these three new members embody that goal. They are all accomplished leaders in their respective fields, but each has arrived at this honor thanks to their own unique and groundbreaking body of work.

For Lozano, the path to the Institute is connected to a different path: the p53 tumor suppressor pathway. For years, her work has been focused on the protein known as p53. When p53 is functioning properly, it prevents tumors from developing.

"P53 is a tumor suppressor, and I would say every tumor somehow figures out how to inactivate p53," said Lozano. "Most of the time it does so by mutating the gene so it's not functional, but sometimes it overproduces inhibitors of the pathway." Inactivating p53 allows cancerous cells the opportunity to grow freely.

A discovery Lozano noted as particularly significant in her research was identifying the importance of MDM2 and MDM4 in inhibiting p53. "The very first mouse model we generated was a model that showed how crucial the relationship between MDM2 and p53 is," said Lozano.

The discovery of that relationship represents just one of the many accomplishments that led to Lozano's IOM membership, an honor she hasn't yet fully absorbed.

"It's just now sinking in," said Lozano. "I appreciate that the medical community has highlighted and rewarded our accomplishments with this honor."

While the election represents an acknowledgment of the work Lozano has completed thus far in her career, the research process never ends. There is still more to be done to achieve a full understanding of p53 and how it functions. "The pathway is a very complex and branched pathway," said Lozano. "We're trying to figure out what the missing pieces are."

Among her future goals is characterizing a new animal model to understand p53 somatic mutations.

"All of our models have really revolved around an inherited mutation in p53, so a big part of my lab now is moving towards generating a somatic mutation of p53," said Lozano. "There are some individuals who inherit p53 mutations but that's a rare population. Most people have normal p53, but the tumor specifically generates mutations in p53. We have some new models that are going to more faithfully recapitulate that inactivation of p53 in a single cell."

For Piwnica-Worms, also at MD Anderson, the path to the Institute of Medicine was illuminated by a glow familiar to most—firefly luciferase, the enzyme that causes fireflies to glow. As chair of the department of cancer systems imaging, Piwnica-Worms is focused on molecular imaging, which allows researchers to observe cancer cells at work in vivo, or inside the body.

"What molecular imaging is about is trying to visualize molecular and biochemical events within the context of the body using external imaging devices," said Piwnica-Worms, a pioneer in the development of the field. "Our particular area that we've emphasized for many years involves using genetically encoded reporters—using the tools of cell and molecular biology to insert a reporter enzyme that, just

like a reporter at a newspaper or on the Internet, can participate and observe something and then report out on it.”

This process involves inserting the firefly luciferase gene into live cells to make them glow and emit photons.

“Using specialized instruments that are very sensitive to those photons, we can map the process that we’ve linked that firefly luciferase reporter gene to,” said Piwnica-Worms. “When engineered into mouse animals with cancer we can observe these dynamic processes of cancer biology in vivo using the bioluminescence imaging approach.”

The field of molecular imaging represents a change in the way cancer research was approached in the past, because it offers the opportunity to observe how cancer cells interact and function while they are inside the body, as opposed to studying cells in culture, on petri dishes.

“We learned a lot from cells in culture, but there are some things you just can’t recapitulate with cells in culture on glass or plastic cover slips, because you’re not getting the same signals that they would be as if they were in the animal or in the human, ultimately,” said Piwnica-Worms. “The whole field of molecular imaging provides that opportunity to study molecular biochemical events in their native context in the whole body.”

A future goal for Piwnica-Worms and his team is to observe those events in the human body, as his team works toward translating the approaches they have used in cell and animal models into human patients.

“One reason I came to MD Anderson a year ago was the opportunity in the collaborative culture here and the huge patient base,” said Piwnica-Worms. “We are looking at some specific opportunities in our cancer metabolism and inflammation imaging to try to think about translating these. None are ready for primetime or clinical applications, in vivo, in the near term but we’re working towards that.”

As he makes plans for the future, the IOM election offers Piwnica-Worms the opportunity to look back at how much the field of molecular imaging has grown and acknowledge all who have contributed to his work.

“It truly represents decades worth of collaboration and wonderful trainees

that have been in the lab over time, that have done so much of the hard work,” he said. “It’s always nice to have some recognition and validation of all the hard work. It’s a team sport and I’ve had the good fortune of having some outstanding trainees, graduate students, and fellows over the years.”

As for Srivastava, the third new Institute of Medicine member connected to Texas Medical Center, the path to the IOM began right here in the medical center. Srivastava grew up in Galveston, where his father has worked as a professor and scientist at The University of Texas Medical Branch at Galveston (UTMB) for 40 years. He completed his undergraduate work at Rice University and attended medical school at UTMB. Although his current home base is at the Gladstone Institutes in San Francisco, he still serves as the nonresident scholar for biomedical research policy at Rice University’s Baker Institute for Public Policy.

“These experiences served as the foundation for all the work I have done subsequently,” said Srivastava.

That work includes discovering the gene networks that control the formation of the heart in an embryo, as well as identifying mutations in those genes that cause congenital heart defects in children.

“Most recently, we re-deployed embryonic heart muscle gene networks in scar-forming cells of the heart to regenerate new muscle, thereby repairing the heart after damage in animal models,” said Srivastava. “I am most excited about this latter work since it has the potential to offer hope to the millions of people worldwide suffering from heart disease and may serve as an alternative to heart transplants.”

For Srivastava, in addition to acknowledging his own achievements in medicine, the IOM election offers the opportunity to recognize those who have worked alongside him in the lab.

“There is no higher honor in medicine and I am honored and humbled to be part of this group of exceptional individuals dedicated to improving health worldwide,” he said. “I am also very proud of the former trainees from my lab who are making discoveries in academia and in industry and consider them the most rewarding aspect of my job.” ■



“It’s a team sport and I’ve had the good fortune of having some outstanding trainees, graduate students, and fellows over the years.”

— DAVID PIWNICA-WORMS, M.D., PH.D.
Chair of the Department of Cancer Systems Imaging at
The University of Texas MD Anderson Cancer Center



FACING PAGE: Guillermina Lozano, Ph.D., TOP RIGHT: David Piwnica-Worms, M.D., Ph.D.
LOWER RIGHT: Deepak Srivastava, M.D. (Credit: Chris Goodfellow/Gladstone Institutes)

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An Unexpected Threat to HPV

A nutritional supplement derived from mushrooms shows promise in treating the incurable cancer-causing virus

BY SHEA CONNELLY

Human papillomavirus, or HPV, is the most common sexually transmitted infection in the United States, affecting between 60 and 80 percent of sexually active adults. Despite its prevalence, there is no cure. A study at The University of Texas Health Science Center (UTHealth) Medical School at Houston, however, could provide hope for people with HPV. It comes in the form of a pill containing an extract derived from an unusual source: mushrooms.

The extract, Active Hexose Correlated Compound (AHCC), comes from shiitake mushrooms and is a readily available nutritional supplement. It has been used to relieve side effects of chemotherapy, which is what originally interested Judith A. Smith, Pharm.D., associate professor in the Department of Obstetrics, Gynecology and Reproductive Sciences at UTHealth Medical School. Smith began studying AHCC a decade ago.

“From a pharmacology perspective, I wanted to rule out any potential drug interactions with chemotherapy,” said Smith. “We then observed some antitumor effects and started digging deeper and learning more about its immune modulating effects.”

Smith and her team spent two years completing in vitro studies showing the effects of AHCC on HPV, largely because they were so taken aback by the results.

“We had a lot of healthy skeptics, and I’ve probably been the biggest of those skeptics. How could this nutritional supplement possibly eradicate one of the most difficult viruses we’ve been challenged with in the cancer arena?” said Smith.

There is no known cure for HPV, and strains of the virus also cause cancer, including cervical cancer, the second most common in women. Without a cure, women infected with HPV are left to wait and see if they develop cancer.

“If they’re tested and we tell them

they’re positive, right now there’s nothing we can do. We say, ‘We’ll check you in another year,’” said Smith. “When HPV testing became approved and recommended, I thought, ‘Wow, how frustrating for women.’ It creates a lot of anxiety and feelings of lack of control.”

Vaccines against HPV are available, but the low vaccination rate and the number of people beyond the age of vaccination mean vast numbers of women are infected and left in limbo.

The lack of options inspired Smith to begin researching HPV a decade ago. Despite the success of the in vitro studies, however, she and her team were not convinced of the possible positive effects of AHCC on HPV.

“We did mouse studies and, again, repeated the mouse studies in two models,” said Smith. “We were able to treat with AHCC and eradicate the HPV, then stop treatment and see a durable response.”

That response was key to determining whether AHCC could be truly effective in treating HPV—it wouldn’t just suppress the virus, but eradicate it. Data from a third animal study enabled Smith and her team to tackle the next hurdle: testing the efficacy of AHCC in human patients. Thanks to philanthropic funds, they were able to complete a pilot study treating ten women with the nutritional supplement.

Each of the women in the pilot study was over 30 and had HPV positive persistent infections, meaning they had been infected for 18 months or more. None of the women had cancerous lesions. A main objective of the pilot study was to determine dosage and length of treatment.

Three patients showed complete eradication after stopping AHCC. Two have yet to complete their courses of AHCC, but have tested HPV negative. The remaining patients stopped taking AHCC before testing completely negative. The next step would be a Phase II



“We had a lot of healthy skeptics, and I’ve probably been the biggest of those skeptics. How could this nutritional supplement eradicate one of the most difficult viruses we’ve been challenged with in the cancer arena?”

— JUDITH A. SMITH, PHARM. D.

Associate Professor in the Department of Obstetrics, Gynecology and Reproductive Sciences at The University of Texas Health Science Center (UTHealth) Medical School at Houston

double-blinded, placebo-controlled trial to confirm the early results of the pilot study.

The regimen they determined involves taking three grams of AHCC on an empty stomach once a day for up to five months. It’s a course of treatment Smith gladly shares.

“It’s definitely in the category of ‘it won’t hurt you,’” said Smith. “Will it definitely help you? I can’t tell you that. I’m not in any position, nor do we have the data, to say yes. We’re not there yet, but we’re trying to get there.”

The success of AHCC so far has been a happy surprise. “We had been looking at this the whole time going, ‘If this works, the potential is huge,’” said Smith. “And now ten years later,

the potential could be more than I envisioned.”

Should AHCC studies continue to bring positive results, Smith’s vision is to make the treatment available to as many women as possible, eliminating that limbo between HPV infection and possible cancer diagnosis.

“If further studies confirm our early findings, my ultimate goal would be to be able to find the financial means to support bringing this to underserved patients throughout the world, and here in Texas. That’s where the HPV virus in women with no access to health care is kind of a perfect storm as to why people end up with cancer,” said Smith. “I really want to help those patients.” ■

Extreme Exposure

Two aerospace medicine residents are braving the cold during a clinical rotation in Antarctica

BY ALEX ORLANDO

When James Pattarini, M.D., MPH, an aerospace medicine resident at The University of Texas Medical Branch at Galveston (UTMB), stepped out of his Boeing C-17 transport plane and felt the crunch of Antarctic snow beneath his boots, he was blinded. As the sun reflected sharply off the blank canvas of snow extending in all directions, Pattarini struggled to pick out discernible shapes in the distance.

“My very first thought was, ‘This is so bright,’” he laughed. “Before we got out of the plane, they told us that we might want to put on sunglasses if we’re not wearing goggles. I thought, ‘Huh, that’s kind of a funny thing to say,’ but we walked out and my eyes were trying to pick out distinct shapes when I realized that there are no features. All I could see was people in bright red jackets, just like me. It looked like it could be the afterlife—just white and bright.

“But then your eyes adjust and you realize that there are actually a lot of features on the horizon,” he added. “We’re actually within visual range of a volcano, Mount Erebus, and it’s got a little bit of smoke coming out of it right now. You see that, when you land and your eyes adjust, and that’s pretty cool—you even see the mountain ranges in the distance.”

Pattarini’s excursion to our planet’s southernmost continent, a place so alien and unyielding that it’s considered analogous to the environment of space, is part of a clinical rotation for the UTMB Health/NASA Aerospace Medicine Residency Program. Designed to prepare physicians in aviation and space medicine, space biomedical research, aerospace medicine and manned space flight, the program doesn’t shy away from experiential learning.

“Our goal is to train physicians who already have clinical training—for instance someone who has a background in internal medicine, family medicine, or any kind of specialist from psychology to neurology,” explained Tarah Castleberry, DO, MPH, director of the UTMB Aerospace Medicine Residency Program. “We take these doctors and train them to work with patients that live and work in aviation and space environments.”

“It’s a very small but really unique and exciting field where you combine a lot of both medical and nonmedical skills to care for the aviator,” added Natacha Chough, M.D., MPH, who will serve on the ice in January and February 2015. “All of us come from a pretty broad foundation, and when we train in this secondary specialty of aerospace medicine, we have to integrate our medical knowledge with a lot of components, such as working in extreme environments,

interfacing with engineers and hardware, and the politics of space flight from funding to management—even the organization of the mission as a whole. It really challenges me to think about everything from a big picture standpoint while also having to care for the patient.”

Chough is on the more traditional track for aerospace residents—she has already completed a residency in emergency medicine and has earned a master’s degree in public health during her two-year residency in aerospace medicine. Pattarini, who touched down at McMurdo Station, Antarctica on Monday, November 3rd, is in a combined program, which takes four years. He is combining his internal medicine residency with an aerospace residency and also earned a master’s degree in public health. Both doctors will complete their training in June 2015.

“This program is a really exciting opportunity for our residents to practice in a real analogue environment, very similar to the types of places that astronaut patients would be living and working in,” reflected Scott Parazynski, M.D., former chief medical officer and director of the Center for Polar Medical Operations (CPMO) at UTMB. “They’ll be in the direct line of fire, taking care of scientists and researchers and technicians who live and operate at those bases. It’s an opportunity to work in a remote field station and get a feel for how deep space exploration might want to prepare itself.”

UTMB Health established the CMPO in Galveston to manage health services at the three Antarctica stations operated by the U.S.—McMurdo Station, Amundsen-Scott South Pole Station and Palmer Station—as well as numerous seasonal field camps and two marine research vessels operated year round.

“Practicing medicine down here is so different,” admitted Pattarini. “An obvious, off-the-cuff thing is that for basic blood work, we’re doing it ourselves—there is no such thing as sending it to the lab and having them send it back. You’re going to draw the blood, take it into the back room, boot up the machine, load it in the cartridge, and then run it yourself and wait for the results to spit out. There’s no middleman.”

In addition to the lack of a traditional support structure—nursing staff is present, but they’re often busy seeing their own patients—clinicians are also forced to take innovative approaches to standard problems.

“I’ve done five ultrasounds in the last 24 hours, which is unusual—I’m used to occasionally doing ultrasounds in internal medicine, but it’s one of many options when you’re in a modern medical facility,”

said Pattarini. “Here if anyone comes in with anything from belly pain to shoulder pain, they’re getting an ultrasound. That’s because it’s literally the only imaging modality that we have, with the exception of a plain film x-ray.

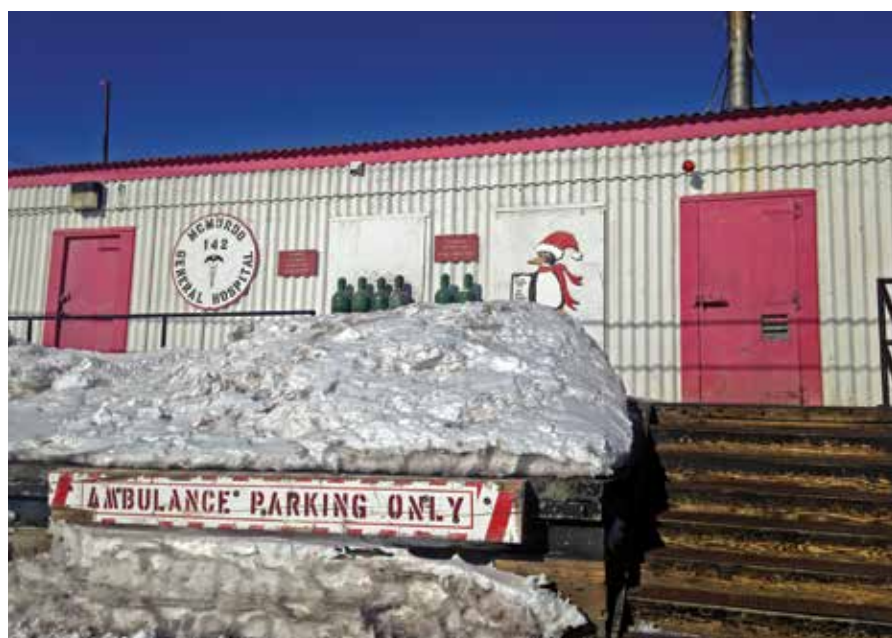
“Because you know that you’re limited, you make decisions that you maybe wouldn’t make back home,” he added. “You’re also aware that there are very big consequences for the decisions that you make. If I’m adamant that I want a CT scan, that means mobilizing the Air Force to evacuate someone to Christchurch, New Zealand, which means putting together a crew. Every time you fly there’s a little bit of risk and every time you fly in bad weather there’s a little additional risk. Our responsibility extends beyond the risk to the patient—it encompasses the risk to our emergency responders and aircrews in the event that an emergency evacuation is called for.”

While Pattarini is spending the majority of his six-week rotation at McMurdo General Hospital, the largest medical facility in Antarctica, he’ll be making short sojourns to field camps, as well as a longer stay at the Amundsen-Scott South Pole Station—a U.S. scientific research station, it is the southernmost location on Earth.

“I’m most excited about going out to these field camps,” said Pattarini. “Right now, McMurdo has a population of around 1,000, and there are a couple hundred people at the South Pole, but some of these field camps are locations that only a couple hundred people in the world have ever been to. When I go, I won’t be taking anything other than a few bags of saline, my stethoscope, and a handful of emergency drugs.”

That flexibility in navigating clinical problems with limited resources may prove invaluable in the future. UTMB aerospace residents are involved with research on the effects of space flight on average people, a new frontier in medicine as commercial launches approach reality.

“Before I came to Antarctica, I was flying in formation flight with retired Air Force pilots and I was being trained alongside Air Force flight surgeons even though I’m a civilian,” related Pattarini. “And then they sent me to the bottom of the world, in an environment that’s going to give me memories that I will have until the day I die. Before that, I was sitting and doing console training at mission control at Johnson Space Center. I can’t imagine another job on Earth that would let me do those things—that’s only possible because I came here to UTMB.” ■



“ Before I came to Antarctica, I was flying in formation flight with retired Air Force pilots and I was being trained alongside Air Force flight surgeons even though I’m a civilian. And then they sent me to the bottom of the world, in an environment that’s going to give me memories that I will have until the day I die. ”

— JAMES PATTARINI, M.D., MPH

Aerospace Medicine Resident at The University of Texas Medical Branch at Galveston



TOP LEFT: McMurdo General Hospital, the largest medical facility in Antarctica, provides both acute care and inpatient treatment. (Photo provided by James Pattarini)

TOP RIGHT: James Pattarini, M.D., MPH (right) originally from Buffalo, New York, doesn’t seem too deterred by the cold after touching down in Antarctica. (Photo provided by James Pattarini)

BOTTOM: Tarah Castleberry, DO, MPH, and Natacha Chough, M.D., MPH, identify McMurdo Station—a U.S. Antarctic research center located on the southern tip of Ross Island.

Hope for Izaiah

A family seeks relief from devastating seizures with the first worldwide trial of a pharmaceutical-grade marijuana extract

BY SHEA CONNELLY



“I said, ‘I want to try this. Anything to help him. Anything to have a normal life.’ I will stop the world and rearrange it to make sure we can get in the study.”

— LORI FOUNTAIN
Izaiah's Grandmother

In many ways, Izaiah is a typical six-year-old. He loves football and his favorite team, the Houston Texans. When he meets you, he'll give you a high five or a hug. He is quick to reach out his hand for a playful tickle. But since he was just two months old, he has suffered debilitating seizures. Things as simple as going outside on a hot and humid summer day or getting too excited over a big play on the gridiron can trigger them. Often they occur with no explanation or warning.

Izaiah has Dravet syndrome, a form of epilepsy that occurs in one out of every 30,000 births. The genetic

condition causes seizures, from minor twitching lasting seconds, to a life-threatening condition known as status epilepticus—seizures that can last for hours. Izaiah has suffered up to ten seizures in a day.

Now a clinical trial at Texas Children's Hospital is offering families like Izaiah's hope for a better life. It involves a drug called Epidiolex, derived from marijuana plants. The key ingredient is cannabidiol, or CBD, a chemical compound found in marijuana that has shown promise in patients with seizure disorders.

CBD oil is already used in Colorado,

where marijuana is legal. It comes from a strain called Charlotte's Web after a child with Dravet syndrome who has benefited from it. Once suffering 300 seizures a week, CBD reduced the frequency to a few per month.

Charlotte's story inspired a new kind of oil boom. Families are picking up their lives and moving to Colorado, hoping CBD could be the magic bullet their children need to stop the seizures. But there's a flaw in the unregulated oil.

“It's not a pharmaceutical, so every batch of CBD extract could have a different concentration of CBD. Who knows what other contaminants are

in it?” said Angus Wilfong, M.D., medical director of the Comprehensive Epilepsy Program at Texas Children’s Hospital and associate professor of pediatrics and neurology at Baylor College of Medicine.

Wilfong has worked with epilepsy patients for years. He developed a revolutionary MRI-guided laser brain surgery now in use throughout the country. The stories of Charlotte’s Web caught his attention, and when GW Pharmaceuticals developed the pharmaceutical-grade Epidiolex, they were eager to try it.

“My research team became very interested in getting access to it for some of our patients who are suffering desperately from epilepsy, because we knew that it was going to be pure CBD,” said Wilfong. “We know that if we give a child this formulation, it has exactly 100 milligrams of CBD in every milliliter and doesn’t have anything else in it.”

Becoming one of the ten sites to test Epidiolex worldwide, however, was not easy, particularly given that medical marijuana is not legal at the federal level or at the state level in Texas. Representatives of the United States Drug Enforcement Administration interviewed Wilfong and toured his pharmacy. The Epidiolex itself must be kept inside a locked vault.

“It’s a very rigorous process because marijuana and any derivative of marijuana is considered a Schedule 1 drug by the DEA and can’t be prescribed legally according to the federal government,” said Wilfong. “Only researchers can use it under very strict regulation and guidelines from the government.”

This trial is the very first worldwide research study on a medical marijuana product. The first stage, in which Izaiah is enrolled, is largely intended to determine dosage. Thirty patients between the ages of four and ten will be randomly assigned a low dose, a medium dose, a high dose or a placebo. Once that round is complete, at the beginning of 2015 a second round will begin covering a broader age range of two to 18 and a greater number of patients.

“We’re hopeful that after the studies are done, we’ll show it works for childhood epilepsy,” said Wilfong. “That it’s safe and doesn’t have abuse potential, and hopefully it will be taken off the Schedule 1 list.”

As Wilfong and his team fulfilled their obligations to the DEA and

prepared to seek out patients, Izaiah’s grandmother, Lori Fountain, had been doing her own research.

“I belong to a Dravet support group, so I have read and seen everything about Charlotte’s Web and how it has helped some of these children,” said Fountain. “I’ve seen these children be able to function better, to speak where they didn’t have so many words before.”

Fountain and her family contemplated moving to Colorado until they heard of the trial at Texas Children’s. She was instantly on board.

“I jumped. I said, ‘I want to try this. Anything to help him. Anything to have a normal life,’” said Fountain. “I will stop the world and rearrange it to make sure we can get in the study.”

Wilfong said her excitement is not unusual when it comes to CBD. People are “clamoring for it.”

“We’re really, really desperate for new treatments, so there’s been this groundswell of interest related to medical marijuana and derivatives of the marijuana plant,” he said.

Dravet syndrome is rare, but seizures and epilepsy are not. One in 10 people will have a seizure, and one in 100 have epilepsy. Despite how common it is, there is still no fail-safe treatment.

“Our current treatments for epilepsy only work about 60 percent of the time, so that means there’s 40 percent of children and adults living with epilepsy who have uncontrollable seizures,” said Wilfong. “Some of those people living with uncontrollable seizures can benefit from brain surgery. Lots of people that have uncontrolled seizures can’t.”

Izaiah’s seizures are relatively under control, thanks to medication. That control, however, comes at a price. Fountain says side effects make him drowsy and glassy-eyed.

“I don’t see the brightness in his eyes that some children have,” she said. “He always looks like he’s just tired and I would like to see that look go away.”

The prevalence of seizure disorders combined with a frustrating lack of options has made Colorado popular in the last few years, but the results are mixed. Given the lack of regulation there, however, a scientifically sound clinical trial using the pharmaceutical-grade Epidiolex is vital for determining the efficacy of CBD.

Wilfong’s team has already seen some success. The first patient began taking Epidiolex six months ago and



TOP: Angus Wilfong, M.D., evaluates patient Scarlett for the Epidiolex trial (Credit: Allen Kramer/Texas Children’s Hospital) **LOWER LEFT:** Izaiah with his grandmother, Lori Fountain **LOWER RIGHT:** Epidiolex (Credit: GW Pharmaceuticals)

has significantly improved.

“He was having over 200 seizures a day,” said Wilfong. “I just saw him in the clinic recently and he’s having one to seven seizures a day now.” Though promising, Wilfong cautions the full trial must be complete before drawing credible conclusions.

“We believe it was due to the CBD, but it’s not proof,” he said. “The only way you can prove something works is to study it in a scientific, controlled study.”

Still, for Fountain, any news of success brings hope. Fountain spends nearly every waking moment with her grandson. She is by his side at school and she sleeps in his room every night. She is fiercely protective of Izaiah and has an answer for anyone who questions using a medicine derived from marijuana.

“There are some people that have not been so nice about it and I’ve asked them to spend a day in my shoes,” she said. “Please come spend one day in my shoes and then tell me that you wouldn’t do everything you could possibly for your child.”

Stigma against marijuana has been an obstacle to researching drugs derived from the plant. Fountain and Wilfong are both quick to point out Epidiolex does not contain any tetrahydrocannabinol, or THC, the compound that gives users a high.

“The THC is what gets you high. The CBD does not,” Fountain said. “I don’t want to get my grandson high. That’s not the point.”

The point of taking part in this study, Fountain’s greatest wish, is simple: to give her grandson a normal childhood. Ask her to talk about him and her voice immediately softens; her devotion to Izaiah is clear.

“Every day that we wake up is a good day, because that means he’s in my life one more day. He could have that one seizure that could kill him, and that’s on a daily basis,” she said. “I just want to give my little boy a normal life. He may not make it to be a teenager. He may not make it to be an adult. But to give him a quality life, to be a normal little child as best as he can be with Dravet syndrome would be priceless.” ■



*FROM ADVOCATES PASSIONATELY FIGHTING TO DESTIGMATIZE MENTAL ILLNESS, TO PROFESSIONALS COMMITTED TO A MULTIDISCIPLINARY APPROACH TO MENTAL HEALTH, PSYCHIATRY TODAY IS, IN MANY WAYS, MUCH DIFFERENT FROM THREE DECADES AGO. BUT **STUART YUDOFSKY, M.D.**, KNOWS THERE IS STILL MUCH MORE TO BE DONE. THE DISTINGUISHED SERVICE PROFESSOR AND CHAIRMAN OF THE MENNINGER DEPARTMENT OF PSYCHIATRY AND BEHAVIORAL SCIENCES, AND DRS. BETH K. AND STUART C. YUDOFSKY PRESIDENTIAL CHAIR IN NEUROPSYCHIATRY AT BAYLOR COLLEGE OF MEDICINE DISCUSSES THE FIELD OF NEUROPSYCHIATRY, AND HOW HIS OWN CHALLENGES WITH DYSLEXIA HELP HIM CONNECT WITH PATIENTS AND THE STRUGGLES THEY FACE.*

Q | *Can you tell us about your formative years?*

A | I was born and attended public schools in Louisville, Kentucky, where my older sister and I were blessed with devoted, kind parents. Both our mother and father worked tirelessly in a family business and were, in every way, wonderful role models. They taught us never to take for granted the opportunities that America has afforded us, and of our responsibilities to work hard and be contributing citizens. In Kentucky, we lived at the junction of

two beautiful public parks—Seneca Park and Cherokee Park—where there were acres and acres of beautiful, old-growth woods and creeks that were teeming with wildlife. Growing up, I spent much of my free time outdoors and was enthralled by the beauty, miracles and mysteries in nature. These experiences quite ‘naturally’ led to a passion for biology and other natural sciences.

My interest in medicine also blossomed in Louisville when I was very young. The principle influences of my aspiration to become a physician

derived from two of my neighbors who were general surgeons and exemplary human beings. My best friend’s father, Dr. Clyde H. Foshee was born in a small town in Alabama and attended Harvard Medical School, where he also took his surgical residency at Massachusetts General Hospital. He would take me and his son, Clyde, on trips to their farm in Indiana and explain, with clarity and precision, the co-mingled life cycles of mosquitoes and dragonflies as well as how the bodies of his Hereford cows and human beings worked in similar

fashions—both in health and disease.

On one occasion when I was eight years old, Dr. Foshee was driving us across a very high bridge spanning the Ohio River that separates Kentucky and Indiana. I asked him why we would feel so anxious when we looked down into the water from the bridge—even though we knew we were safe on the sturdy bridge. Dr. Foshee answered by detailing Freud's theory of a 'death wish' that he had learned while a medical student in Boston. It was my first introduction to the world of the unconscious mind and how repressed conflicts manifested as fears, wishes and symptoms. I was enthralled and wanted to learn so much more about how the mind works, and to grow up to be just like Dr. Foshee.

Although it remained undiagnosed for decades, one other primary influence of my childhood is that I have a dyslexia. Letters and numbers that I see somehow lose their sequence in my brain, with the result that I could and still cannot 'sound out syllables' when I read. I reverse the letters of words and numbers in columns when I write them down. The net result was that I was a very poor student throughout elementary and middle schools, and for most of high school. Around the 10th grade, things started to change for me. By complete accident, I stumbled upon a new way to read and calculate. I would recognize how a whole word looked—without having to sound out the letters and syllables, as I had been taught to do. If I knew the meaning of that word, I could fly forward. So I made a big effort to learn what a lot of words mean. I also learned to solve mathematics problems in my head, where, for some reason, the numbers and columns didn't 'jump around' until I tried to write them down. By college, I was no longer held back by my dyslexia.

Paradoxically, along with the abundant upset and frustrations associated with dyslexia, my self-perception of being 'pretty stupid' held some

unexpected advantages. For example, by being a slow, labored reader, I learned to appreciate much more than the content of writing—particularly the quality of how words are expressed by excellent writers. And when I began to read rapidly through my new method, I felt like a blind person who could suddenly see. My perceived 'stupidity' taught me how to recognize and appreciate the exceptional abilities and qualities of others: people with abilities and knowledge that I do not have. Valuing what other people have to say about a vast array of subjects, I began to read nearly everything I could get my hands on—and still do. Thinking of myself as 'stupid' also taught me how to be very persistent and how to overcome my being slow by working longer and harder than many others. It taught me not to give up easily. I learned to pursue creative approaches to escape the confining box of my dyslexia. Finally, I also know how it feels to struggle and be 'down and out,' which affords me empathy and a credential with my patients when they say, 'You have always had it so easy, Dr. Y. How could you possibly understand what I am going through?' No one who is suffering wants to accept help from someone who they think is pretty close to being perfect.

Q | What did you do after you completed your residency?

A | When I completed my residency, I was asked by my Psychiatry Chairman at Columbia, Dr. Lawrence Kolb, to work on an inpatient psychiatry teaching service that was located in the Neurological Institute (NI). The NI is a specialized hospital for patients with neurological disorders that is operated by the Columbia Department of Neurology. The patients at the Neurological Institute suffer from such disorders as brain tumors, traumatic brain injury, Parkinson's disease, multiple sclerosis, intractable seizures; and, for many years, I cared for patients

with the psychiatric concomitants of these conditions. As a result, I became very interested in a field called neuropsychiatry, which focuses on the psychiatric aspects of neurological disease and the neurological aspects of psychiatric disease. For example, we treat the depression of patients with Parkinson's disease, the psychosis associated with stroke, the aggression and irritability associated with traumatic brain injury, and the psychological, interpersonal, family and occupational life disruptions that these devastating illnesses invariably lead to. I did research associated with the impulsive aggression, violence and irritability that often is associated with brain lesions. My team and I focused on developing standardized scales to measure aggression, violence and agitation, and we have used these scales to do outcome research on the effectiveness of a broad range of medications in treating these disorders.

Q | What would you say are the proudest moments of your career?

A | My proudest moment is when a patient says, 'I've been suffering for such a long time, and now I feel better. I just never thought I would feel any better.' Patient care is at the very center of my professional identity and gratification. I had another moment of pride yesterday when I received, out of the blue, a simple, single-paged note from someone whom I taught when he was a medical student on my

neuropsychiatry service at Columbia/Presbyterian, 40 years ago. He said that what he learned during that experience has helped him take better care of patients throughout his career.

For many years a dear friend and colleague, Robert E. Hales, M.D.—a West Point graduate, psychiatrist, and current chairman of the Department of Psychiatry at University of California, Davis Campus—and I have collaborated on two textbooks—'The American Psychiatric Press Textbook of Psychiatry'; and also the 'American Psychiatric Press Textbook of Neuropsychiatry and Behavioral Neurosciences.' Published by the American Psychiatric Association, both will soon be in their 6th editions and are published in many languages. They are considered standard textbooks in psychiatry and neuropsychiatry for medical students, residents and practicing psychiatrists. I also take some pride in two hybrid books that I have written for both mental health professionals and the general public. Both are—to my surprise—well received and quite successful. 'Fatal Flaws' is a book about personality disorders—like borderline personality disorder, narcissistic personality disorder, antisocial personality disorder, obsessive compulsive personality disorder, histrionic personality disorder, etc.—from the perspectives of people in close relationships with people with those conditions.

“My proudest moment is when a patient says, 'I've been suffering for such a long time, and now I feel better. I just never thought I would feel any better.' Patient care is at the very center of my professional identity and gratification.”



“In college I had several excellent teachers who, to my great surprise, determined that I was a good writer. They went so far as to encourage me to become a writer instead of a physician.”



My most recent book, ‘Fatal Pauses,’ is about people who get stuck in life and are terribly unhappy. Examples include people in dysfunctional relationships; and those with problems of overeating and obesity; with alcohol and substance abuse; with wasting time surfing the Internet or playing video games; with eating disorders; with over-pleasing others, etc.

Finally, I will probably be remembered for helping—along with many, many others—to spearhead the move of the legendary Menninger Clinic from Topeka, Kansas, to Houston. Prior to their move, Menninger had flourished in Kansas for over 75 years. However, about 15 years ago, Menninger realized that they needed to transition to a new, much larger city in order to be affiliated with a great research-oriented medical school and an outstanding teaching general hospital. Many other cities, medical schools and hospitals actively sought to recruit Menninger; but the Houston Community, Baylor College of Medicine, the Houston Methodist Hospital and the Texas Medical Center prevailed. We all believe that Menninger’s move here is working well, as the Menninger Clinic continues to offer outstanding care to patients regionally and around the nation. On this very day, Menninger Clinic’s beds are full with long waiting lists on each service. Additionally, the teaching and research at the Menninger Clinic are excellent. As a result, Menninger has returned to being ranked among the nation’s top five psychiatric hospitals, and is blessed with a beautiful new facility near the Texas Medical Center.

Q | How have you seen things change through your career in terms of patient diagnoses and treatment today versus 20 or 30 years ago?

A | Very similar to many other types of medical illnesses like hypertension, diabetes and seizure disorders,

most psychiatric illnesses are chronic conditions that must be managed over a lifetime. That being said, now that psychiatry has returned to its roots in medicine and neurobiology, the advances over the past several decades in our ability to treat the symptoms and reduce the suffering of those among us with mental illnesses have been revolutionary. Accordingly, the pervasive stigma that has historically been associated with having a psychiatric disorder is also reduced. This means that people are much more willing to trust psychiatrists and other behavioral health professionals.

Over the past decades, we have been working much more effectively as multi-disciplined teams in our care for people with mental illnesses. Although we have a very long way to go in this regard, diagnosis and treatment are far more evidence-based. This will dramatically improve in the future when we discover valid and sensitive biological markers for psychiatric disorders and as we learn more about the genetic bases for these conditions. We shouldn’t guess as much as we do now when we, for example, choose a medication to treat depression. We now involve families in our care, and that’s been a change. Prior to the 1970s, there was widespread belief that parents and spouses were responsible for many mental illnesses, and that they should be excluded from the psychiatric care of their family members or loved ones who are ill. As a field, we could not have been more wrong. Most often, families are loving and want to participate in and facilitate the care and recovery of their loved ones with mental illnesses. We must work in partnership with families to provide optimal care of people with psychiatric disorders.

Another major change is the rise of advocacy groups—largely comprised of people with mental illnesses and their families—who work in tandem with

mental health professionals to provide essential information about the nature and treatment of mental illnesses. Advocacy groups are now in partnership with mental health professionals in generating resources to support research, clinical services, and fighting stigma on every front. They proclaim unabashedly, ‘Yes, people in my family have mental illnesses; Yes, I have suffered from depression; Yes, I have abused substances. This condition is a brain disorder which tragically affects me and my family; and I am not a criminal nor am I ashamed of it.’

Psychiatrists are now sharing information with our patients and having them as informed as we are in all elements of their care. This did not happen in the past. If you read ‘Fatal Pauses,’ you will get a sense of how a modern psychiatrist works in partnership with his patients and their families in exploring and solving mysteries associated with mental disorders. Each holds vital clues and information requisite to solving the problems, which can’t be solved by keeping either ‘side’ in the dark. So the participation of patients in their own care in psychiatry is a major important advance, and that includes patients’ families and their communities.

Our field now embraces a biopsychosocial-spiritual approach to understanding and helping people with mental illnesses. Each of these aspects must be integrated in care and addressed to have good therapeutic outcomes. We commonly combine treatments—cognitive behavioral therapy with medications, for example—and do not embrace a reductionistic, single theoretical model. Nonetheless, it is important to recognize that the somatic organ of all behavioral disorders is the brain. Just like the organ of a nephrologist is the kidney, and the organ of a cardiologist is the heart, the organ of a psychiatrist and other mental

health professionals is the brain. We must know as much as we can about the role of the brain in every behavioral disorder. Consequently, I do not believe that it makes conceptual sense for neurology and psychiatry to be separate disciplines. (I confess to be in a small minority in this view.) I strongly believe and advocate that psychiatry and neurology they should be integrated into a single discipline, ‘the Clinical Neurosciences.’ I see very few patients with psychiatric illnesses without neurological elements. And I see very few patients with neurological illnesses who do not have psychiatric concomitants.

Q | You treat people who come from a variety of different backgrounds and income levels. Would you say that mental illness is an equalizer?

A | Yes, mental illness is an equal opportunity affliction. Using the most conservative diagnostic criteria and statistics, one in four adults and one in 10 children have a diagnosable mental disorder in any given year. Elderly people have a higher prevalence of neuropsychiatric disorders; so, with the aging of our population, mental illnesses will be even more common. When serious mental illness does occur, it has profound implications for the individual and his or her family. People have greater difficulty in school, in carrying out their responsibilities at work, and in caring for their families. The economic effects of psychiatric illness can, therefore, be profound—with lost hours at work and with the high costs of professional care. Thus with severe and persistent mental illnesses, people’s incomes and socioeconomic status tend to drift downward. The good news is that effective psychiatric care can be very helpful in mitigating the pain and suffering of our patients, as well as the long-term financial consequences of mental illness.

“Over the past decades we have been working much more effectively as multi-disciplined teams in our care for people with mental illnesses. Although we have a very long way to go in this regard, diagnosis and treatment are far more evidence-based.”

Q | What should we be doing to support those facing mental illness?

A | The first thing is to listen closely to what our patients and their families are telling us about their conditions. About what and how they are feeling; about what bothers them the most; about what they believe ‘caused’ their suffering; about what they believe will be helpful in alleviating such. Secondly, as caregivers, we must be available when they are suffering and call on us. Access to care and early intervention is essential to reduce the neurobiologic morbidity and patient suffering associated with all psychiatric disorders. Third, we must allocate sufficient time for our patients to communicate with us and to address their needs. Hospital lengths of stay and outpatient appointments are much too brief to provide optimal care. Much of this is a result of government and insurance reimbursement standards, and we must all work to change this abomination that is a consequence of stigmatization of the mentally ill. Fourth, we must not shame or blame people for their psychiatric disorders—such as by saying to a person with depression: ‘Shake it off; pull yourself up by your bootstraps.’ When patients tell me that’s what a family member or friend has said to them, I reply, ‘I know that your brother was well intentioned. But what if you have hypothyroidism? Can you pull your thyroid levels up by its bootstraps? Could you shake off a low thyroid level? There are neurobiological changes associated with depression that must be addressed in order for you to feel better. You will also

have to do everything in your power to help out—such as with diet, exercise, pushing yourself to be with people, etc.’

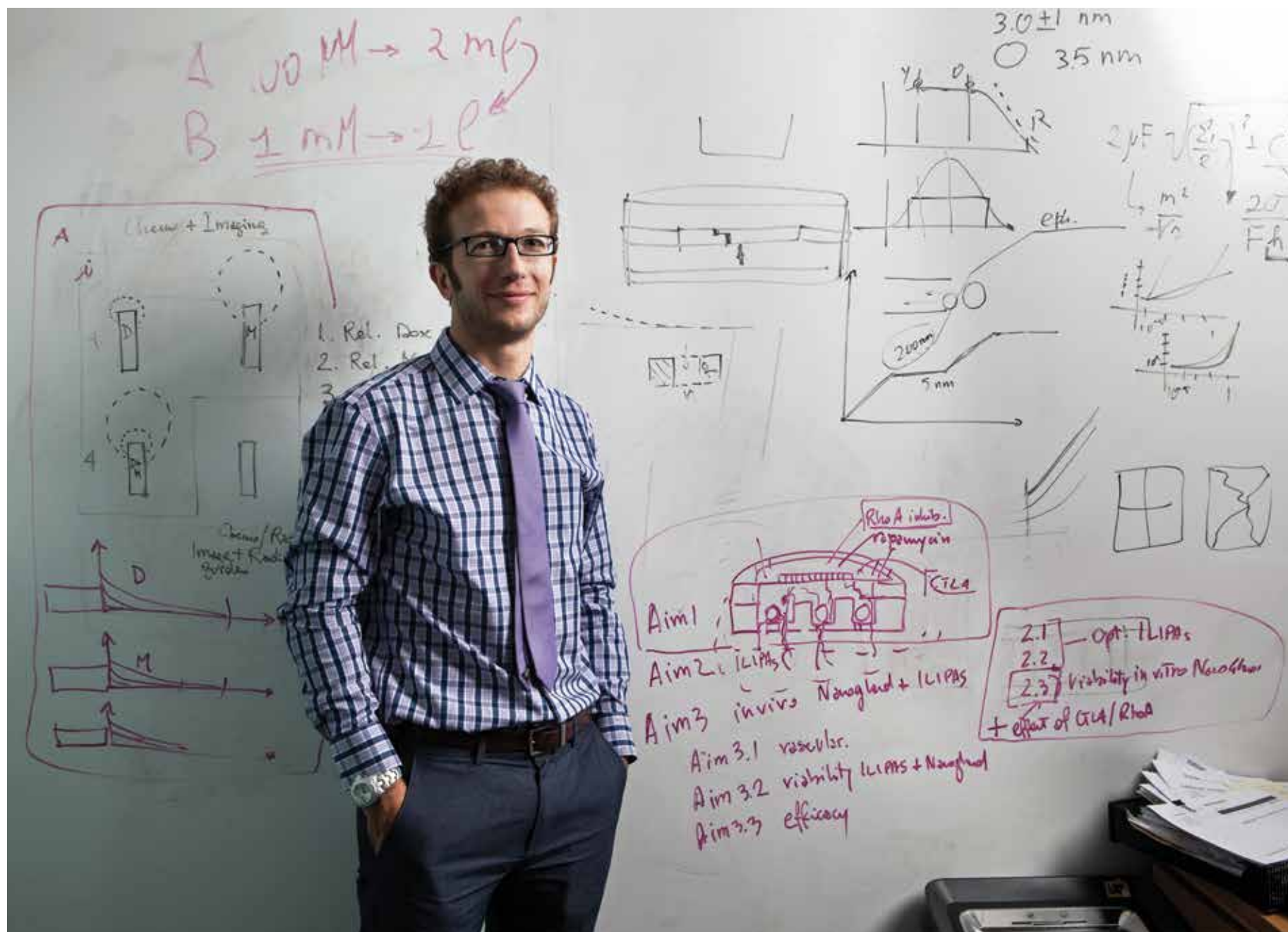
Q | Do you have any upcoming projects or things you are working on that you are excited about?

A | Yes, this is such an active and exciting time in our field. Everywhere I look there is an opportunity to participate in great breakthroughs in our understanding of psychiatric disorders and in the delivery of effective psychiatric care. All of our many outstanding institutions in the Texas Medical Center already work together closely to care for people with mental illnesses, and we will continue to do so. One current project that we are working on as a community is to build a neuropsychiatric research institute on the beautiful new Mental Health Epicenter Campus of the Menninger Clinic. Our plan is to provide groundbreaking research in that facility that will be translated rapidly and directly into respectful, compassionate and effective patient care. In that proposed facility, which is a joint project of Menninger Clinic and Baylor College of Medicine, a new generation of medical students, residents and mental health professionals will be educated in behavioral health. The architectural plans for the new institute have been completed, and we have raised from the generous Houston community—and far beyond—over \$12 million dollars towards the \$25 million goal. ■

Exploring Telemedicine in Space

Scientists at the Houston Methodist Research Institute receive a unique opportunity to test their devices in outer space

BY ZOE QUEZADA



“Imagine a patient who has just undergone surgery or is suffering from chronic pain; the doctor needs to evaluate the level of pain and adjust the drug recommendations. Many times the patient may be debilitated. It would be much better for the patient to stay at home, call the doctors and the doctor could remotely control the administration of the pain medication and the dose.”

— ALESSANDRO GRATTONI, PH.D.

Department of Nanomedicine Interim Co-Chair and Assistant Professor
at the Houston Methodist Research Institute



The Houston Methodist Research Institute (HMRI) was recently awarded \$1.25 million dollars to develop an implantable drug device that may produce radical changes in both space research and patient care. The grant, which was provided by the Center for Advancement of Science in Space (CASIS), will help scientists aboard the International Space Station (ISS) conduct experiments by giving them the technology to perform in vivo studying, as well as potentially provide future opportunities that would benefit doctors in administering drug treatment for patients remotely.

Keeping in line with the mission of the CASIS organization, the HMRI was chosen for this unique opportunity to conduct experiments on the ISS because of its dual functioning goal. As the sole management team for the ISS U.S. National Laboratory, CASIS awards grants to those who have a clear concept of what they can test at the ISS and how those results can be translated into medical or commercial practice on Earth.

This unique opportunity to test new medical technology in space will be led by Alessandro Grattoni, Ph.D., the Department of Nanomedicine interim co-chair and assistant professor at the HMRI, and Mauro Ferrari, Ph.D., president and CEO of HMRI. Grattoni, Ferrari and their team have over 25 years of experience working on nanotechnology. Together they have created several implant model devices that preceded this device, which Grattoni says is the first they have created to use a tunable release nanochannel membrane.

Over the next five years Grattoni and his team will test their device in the lab as well as aboard the ISS. In space, the scientists who work aboard the station often have practical limitations in handling and administering treatment to the test animals in the ISS. By creating an implantable device that allows the scientists to administer the drugs remotely, more tests are able to be done and the speed with which the scientist can administer and analyze the data is greatly improved.

"On the ISS, you can test on rodents such as rats and mice, but they are enclosed in an animal enclosure module," said Grattoni. "You don't have easy access to them for doing all the things you would do in an animal experiment here on Earth. So the limited access doesn't allow you to dose them frequently with drugs or administer different types of therapeutics."

In addition to overcoming accessibility issues, the project also expects to take advantage of the unique environmental changes aboard the ISS.

"The benefit to doing research in microgravity is because natural convection doesn't occur," said CASIS Scientific Research and Communications Analyst Emily Roberge. "Things like buoyancy can be dependent on gravity. So when you remove gravity you can reduce the amount of movement within a fluid. You can actually study larger-scale systems, but they behave the way smaller-scale studies do. So instead of studying nanofluidics at the nanoscale, you can study nanofluidic-type behavior on a microfluid scale. You're bringing it up a magnitude in size, which makes it easier to evaluate what is occurring and perform different

“We can foresee telemedicine approaches where the doctor doesn't necessarily need to be in direct contact with the patient. Doctors can serve remote geographical places, as well as harsh environmental areas, difficult to reach, such as war zones.”

— ALESSANDRO GRATTONI, PH.D.

types of tests to look at how the fluid and particles behave. Additionally, several pathologies progress more acutely and rapidly in space, as in the case of osteoporosis or muscle atrophy. If you are going to test a treatment for such diseases, you can test it more rapidly in space. It's the intention of this team to take advantage of that process for testing this device."

Pending the successful outcome of the device, Grattoni and his team believe there are countless possibilities of what this could mean for clinical application. Using the same concept on Earth could allow doctors to administer medicine to their patients remotely.

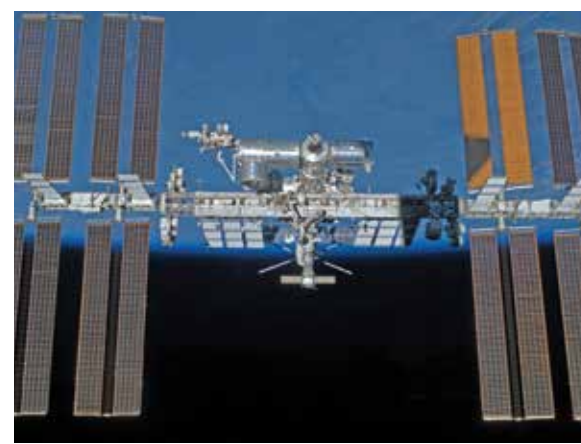
"We can foresee telemedicine approaches where the doctor doesn't necessarily need to be in direct contact with the patient," said Grattoni. "Doctors can serve remote geographical places, as well as harsh environmental areas, difficult to reach, such as war zones."

In addition to reducing the need for doctor and patient travel, implantable drug devices could also be beneficial for those suffering from chronic illnesses that may require careful dosage instructions in order for the treatment to be most effective.

"Imagine a patient who has just undergone surgery or is suffering from chronic pain," said Grattoni. "The doctor needs to evaluate the level of pain and adjust the drug recommendations. Many times the patient may be debilitated. It would be much better for the patient to stay at home, call the doctors and the doctor could remotely control the administration of the pain medication and the dose."

In another example, Grattoni discussed how some prescriptions work best when they are taken during certain times of the day and are very dependent on the biological circadian cycle. Certain drugs, he says, work best in the morning and others in the evening. But it's not uncommon for patients to not follow the suggested schedule or to forget doses. With the use of an implantable device, doctors could ensure that the treatments could be administered without interrupting the patient's schedule and doses would not be missed, increasing the likelihood of a successful recovery.

"The way we give drugs today is still rudimentary," said Grattoni. "Once medications are given orally or through injections, the concentration of drug spikes in the plasma and then little by little decays below



Astronauts aboard the International Space Station help researchers on Earth conduct experiments in space through coordination with the Center for Advancement of Science in Space (CASIS).

therapeutic levels. In numerous instances, what you really want is to maintain the drug concentration in the plasma at a the therapeutic level until you are finished treating the patient."

Grattoni believes his new device exceeds the abilities of the state-of-the-art and clinically available implantable drug delivery systems. In his opinion, these systems are still critically flawed due to their inability to give consistent dosages.

"All of the polymer degradable technologies are designed, in theory, to give you a constant dosage, but as a matter of fact they aren't capable of doing so because of the way the polymer degrades," said Grattoni. "So they have the capability of delivering a drug for a long period, but never maintaining it on the level that you would actually want."

"In some instances, such as in testosterone replacement therapy, urologists prescribe little degradable pellets of testosterone and these are supposed to deliver constantly for months," he continued. "Due to the inconsistent delivery rate of degradable polymeric systems during the first days after implantation, patients may experience a surge of testosterone, above what they really need. They will feel like lions, but then the levels will drop day after day until they are back below physiological level. With our device, this would not happen, as constant drug delivery will be tightly controlled for the duration of the treatment."

As he prepares to begin his five year project with CASIS, Grattoni is confident that what he is developing will help further research aboard the ISS, as well as have an enormous impact on drug administration. For now, only time will tell the impact of this partnership.

"I think it's very easy to see the applications (of this work) for personalized medicine," said Roberge. "Implanting a drug device that will be targeted in a certain area, as well as being able to control the timing and amount of drug release will change the way we are able to treat people. I think that is really exciting and a big move towards the future of personalizing medicine." ■

year IN review

“ If I had one thing to say about the state of the Texas Medical Center,
it's that it is vibrant—it is moving forward, just like this city. ”



By Robert C. Robbins, M.D.
President and Chief Executive Officer
Texas Medical Center

What an exciting year it has been! As I look back on 2014, we really have so much to be proud of. It was an amazing year, marked by noteworthy achievements and promising collaborative endeavors. To sum it all up in just a few pages is difficult. The Texas Medical Center continues to grow and change, in no small part due to the coming together of visionary leaders—like those we are fortunate to have in the medical center—and the belief that our medical center has what it takes to stand alongside some of the world's best. Our community continues—as it always has—to deliver exceptional patient care, but more than that, researchers are making long-term investments in human health. The fruits of their labor will transform the landscape of health care.

You really don't need to look very far on this campus to find someone with bold, audacious ideas. We want to harness that passion and drive, and elevate it—ingrain it in the TMC culture, collectively working towards solutions.

And any one of our member institutions is already doing that, and then some. Look at MD Anderson, for example. Their Moon Shots program has committed to 'make cancer history.' They have bold, game-changing goals, and there is no question that they have what it takes to see that through. Can you imagine a world without cancer? They do, every day in their labs.

Look at the work being done by Baylor in Genomics. They recently announced their deal with Miraca Holdings, enhancing Baylor's position as a leader in DNA testing and genome sequencing. The Harris County Institute of Forensic Sciences recently broke ground on a new state-of-the-art medical examiner and forensic science building. Texas Children's Hospital is expanding to The Woodlands and adding 19 additional stories to the tower next to Texas Children's Pavilion for Women. Memorial Hermann is planning an exciting expansion to their campus, adding over a million square feet. Houston Methodist is also expanding, adding a new facility in The Woodlands, and another in Houston, which will be a fantastic addition to the Methodist campus.

The Michael E. DeBakey High School is moving from our Leland Anderson campus to be embedded right in the middle of the Texas Medical Center. This is an exciting new development as they expand their ability to educate young people interested in the life sciences. It's a tremendous opportunity, and unparalleled anywhere in the world, that I know of, to have a high school embedded in the largest medical center in the world. Houston Community College Coleman College is doubling the size of their campus.

Texas Medical Center Chief Executive Officer and President Robert C. Robbins, M.D., and Chief Strategy and Operating Officer and Executive Vice President William F. McKeon speak to visitors during the grand opening of the TMCx.



“The work that we have done over the past year, and that planned for the years ahead, is all in an effort to fulfill our founding charter. Seventy years ago, the founding members of the Texas Medical Center agreed that this land was being purchased for three reasons: research, education, and the health of Texas.”

I also want to offer congratulations to Dr. Bob Ivany and the University of St. Thomas, officially named the 55th member of the Texas Medical Center. In this tremendous time of growth and opportunity, we are pleased to have St. Thomas join us as a partner in research and education.

If I had one thing to say about the state of the Texas Medical Center, it's that it is vibrant—it is moving forward, just like this city. It is an exciting time to be in the medical center, and I think these projects demonstrate that.

In the midst of so much change, we have also taken the time as a community to reflect on the founding vision of the Texas Medical Center. What does it take to compete as a global leader in research, education and life science?

We have no shortage of expertise and passion. Each institution excels in its field of expertise. For us to have 21 renowned hospitals, eight academic and research institutions, six nursing programs, three public health organizations, three medical schools, three universities, two pharmacy schools and a dental school, we are beyond fortunate. Individually, there is no question that our members represent the best of the best. Imagine, then, how game changing we can be together.

I was very pleased by the involvement of our Strategic Plan Steering Committee, a group of 25 of our partner CEOs, presidents and research leaders from member institutions—all dedicated their time and insight into the plan that has ultimately guided our work over the past 10 months.

The strategic plan offered up the end goals for a number of collaborative projects and initiatives behind which TMC leaders have stood in support. We looked critically at where we were as a campus—a medical city—and where we would like to be. And then we established this framework for that vision. What emerged was a clear desire to rebrand and refocus the TMC around collaboration, research and education. We are also moving forward in the establishment of five institutes in horizontally-integrated areas of focus—innovation, genomics, health policy, clinical research and regenerative medicine—all fields that not only represent the needs of the future, but are also areas in which TMC researchers and physicians are already gaining traction.

Earlier in the year, we took an exciting first step in getting the Health Policy Institute up and running. We welcomed Dr. Tim Garson as the director of the institute, and with his help have begun to set the tone for a collaborative dialogue around health policy within the medical center.

In October, we officially kicked off the Innovation Institute and opened the doors to TMCx, an accelerator designed to help startup companies see novel ideas and innovative products through to commercialization. We took another bold step in working with Johnson & Johnson Innovation, LLC., as they expand J-Labs to include an incubator within the Innovation Institute. Their space will



accommodate as many as 50 life science startups.

Beyond the five institutes, we also have a bold and exciting vision to transform a large parking lot in the center of campus into a life science research building unlike any we have on this campus. TMC³, or “The Third Coast,” would incorporate state-of-the-art, multi-institutional research space, hotel, conference space, retail and restaurant space, as well as mixed-use housing. We hope it will ultimately serve as a real epicenter for the Texas Medical Center, and yield transformative collaboration and research.

Earlier this year, we also took part in some engaging new programs and events that we hope will help position the Texas Medical Center as a destination for academics and researchers. In April, we were pleased to have Houston selected as the host city for Medical World Americas, a three-day conference and exposition that offered health care professionals a cross-disciplinary forum for addressing issues and exploring solutions to enhance patient care. More than 50 speakers from within the Texas Medical Center took part. Also this year, we welcomed Harvard Business School professors, Drs. Michael Porter and Robert Kaplan, as guest speakers for a Value-Based Health Care Delivery course. These are the kinds of events that I believe the Texas Medical Center has a great opportunity to not only compete in, but to lead.

With so many exciting ventures underway, and many more planned for the future, we have redesigned the Texas Medical Center communications platforms—print and digital—to give our community of patients, staff and visitors the information they need to stay connected and informed of current happenings across campus. We also recently launched the Texas Medical Center app, which offers access to transportation information, a virtual campus tour, and the latest news and events, from wherever you are. This will also serve as an invaluable platform for emergency communications.

Emergency preparedness is a major priority for the Texas Medical Center, and will continue to be in the future. The emergence of Ebola in the national consciousness shined a spotlight on the need for an effective emergency preparedness system, and highlighted the importance of cross-institutional communication. Again, we are more than a collection of buildings located near one another. We have over 100,000 employees and 60,000 students on our campus at any given time. Our facilities are integrated and connected in ways that require we come together and prepare for a large-scale emergency.

We recently launched a campus wide notification system, using the Public Information Emergency Response (PIER) system. The mass notification system is utilized to globally broadcast emergency incidents—such as weather, traffic



A concept drawing for the proposed TMC³ life science research building. (Credit: Gensler)

and criminal activity—that occur on campus. With the mass notification system, we are also able to incorporate these emergency communications in an RSS feed on the Texas Medical Center mobile app. Roughly 2,000 people have already subscribed to receive PIER notifications, and we hope to have many more than that in the coming months. Ultimately, we would like to be able to connect the entire campus through a single alert system, fed by notifications from all of our member institutions.

The work that we have done over the past year, and that is planned for the years ahead, is all in an effort to fulfill our founding charter. Seventy years ago, the founding members of the Texas Medical Center agreed that this land was being purchased for three reasons: research, education, and the health of Texas. We have been able to provide infrastructure in the past, but these efforts—individually and collectively—represent us actually moving closer to our original founding mission.

Our plans are not small. Fulfilling them will not happen overnight. But if there is one thing I know about this city, and this state as a whole, it's that it doesn't matter where you come from as long as you're willing to roll up your sleeves to work hard and make things happen. And that is truly the spirit of the Texas Medical Center. We see it every day, and in unique ways: innovation, research, education and patient care. We are blessed with an abundance of resources and passion, and I feel so privileged to be even a small part of the medical center. ■

An Entrepreneurial Ecosystem

Johnson & Johnson Innovation is expanding to the Texas Medical Center in their efforts to translate scientific discoveries into commercialized medical solutions

BY ALEX ORLANDO

The path that unfolds before aspiring entrepreneurs pursuing innovations in health care isn't always a smooth one. Between clambering up the monumental summit of acquiring funds, ducking and weaving through the logistical hurdles of facilities operations, and navigating the necessities of everything from equipment to expertise, there's no shortage of obstacles to overcome. These problems are often frustratingly divorced from the mechanics of the actual science involved, which can become mummified by the realities of a conventional business trajectory. The chasm between the core concept and the end goal of a patient solution can seem expansive.

In an effort to bridge that divide, Johnson & Johnson Innovation, LLC., recently announced plans to expand J-Labs (formally known as Janssen Labs), Johnson & Johnson's network of life science incubators, to include a new facility located within the Texas Medical Center's Innovation Institute. Adjacent to TMCx—the new accelerator and a core component of the Innovation Institute—the 30,000-square-foot J-Labs facility will accommodate up to 50 life science startups.

"The arrival of J-Labs @TMC creates a resource-rich environment that will not only support new

startups fueled by the numerous medical and research institutes in the region, but will also be attractive to investors and entrepreneurs in the strong Texas life science industry," said Robert C. Robbins, M.D., president and chief executive officer of the Texas Medical Center. "We look forward to launching the life science incubator in our space with J-Labs and supporting their efforts to help bring innovation in the region to market."

Helping great ideas cross that threshold between a viable concept and a commercial product has defined the aspirations of Melinda Richter, head of J-Labs. "We believe that great science is just as likely to come from outside the walls of a big company," she affirmed. "The fact of the matter is that great science that comes from outside of those confines has many more hurdles to get over to become a patient solution. Much of that science dies not because it's not great science, but because it has so many other things it has to deal with. We want to liberate that science—we want to elevate it to have a shot at being a patient solution because the science behind it is great, rather than having it fail for all of those other reasons.

"Houston is a flourishing life science hub in which we see great potential for an incubator to enable the talented scientists in the region to take their

innovation to the next level," added Richter. "The continued demand for our J-Labs model fueled our decision to expand with J-Labs @TMC, which furthers our goal of helping entrepreneurs advance science that has the potential to become transformational solutions for patients."

The flagship location, J-Labs in San Diego, opened its doors in January 2012, offering emerging life science companies a seemingly bottomless arsenal of resources. Within a 40,000-square-foot research and development site, half of the available space was designated as either common business space—including a business center, conference room, kitchen and library—or shared research areas brimming with specialized equipment ranging from core chemistry labs to tissue culture rooms. The remaining space offers fledgling companies modular wet lab units and office space—they pay only for the space they need while still preserving the option to expand, depending on the resources available to them.

"You could have something as small as a cube and a five-foot bench, where you could get started in literally 24 hours and pay as you go," explained Richter. "Alternatively, you could grow all the way up, in incremental units, up to 5,000 square feet. The whole point



LEFT: J-Labs San Diego opened its doors in January 2012, offering emerging life science companies modular wet lab units and office space. TOP AND LOWER RIGHT: At J-Labs San Diego, scientists strive to transform innovative research into medical solutions. (Credit: J-Labs)



“ We believe that great science is just as likely to come from outside the walls of a big company [...] We want to liberate that science—we want to elevate it to have a shot at being a patient solution because the science behind it is great, rather than having it fail for other reasons. ”

— MELINDA RICHTER
Head of J-Labs

of that is to say, ‘You will need space depending on the resources that you have, and we want to give you an opportunity to start small and grow as you have the resources to grow.’”

That philosophy of nourishment and support underlines all of J-Labs efforts to allow the science that drives these companies to bubble to the surface. An operations team allows visionaries to focus on molecular biology and digital technology rather than drowning in a cascade of licensing paperwork and equipment maintenance. Business acumen isn’t exactly an inherited trait, and an on-site business services team guides entrepreneurs by providing access to education, experts and funding partners.

The flagship incubator has since expanded to add a concept lab, offering single bench spaces, as well as an open collaboration office area designed to provide a high-energy space where entrepreneurs can interact and exchange ideas. J-Labs regularly holds events designed to strengthen an entrepreneur’s tool kit, and is committed to expanding their presence in Houston to provide a network of support that extends beyond the walls of their new facility.

“Companies come in, with no strings attached to us, and they pay for their play, which is whatever they need to help their company build the best value that they can,” said Richter. “We’ll work with them along the way, in terms of providing them with the things that they need to help them grow—whether it’s related to infrastructure, services or expertise.”

“Along the way we hope to get to know each other better and help the entrepreneurs tap into the many resources we offer to help them drive their innovation forward,” she added. “Eventually, if it’s right for them and it’s right for us, hopefully we’ll do a deal together.”

The J-Labs network currently hosts 70 life science companies across its three active facilities. Located

in San Diego, San Francisco and Boston, they attract companies that span a broad spectrum of prospective technologies. Redefining the perceived boundaries of the phrase, ‘life science,’ J-Labs accepts applications from biotechnology, pharmaceutical, medical device, diagnostics, consumer and digital health companies. Working with both enthusiastic, ‘rock star’ startups with no prior experience and prolific, scientific CEOs, and everyone in between, J-Labs has a similarly expansive gamut of expertise. The unifying thread woven throughout a tapestry of diverse technology sectors and an eclectic assortment of talent? Passion.

“The people who are passionate, but also have done it before, bring a certain amount of capabilities and competence that comes from experience, wisdom and confidence—it’s very grounding for those who may not have that experience,” she added. “Those who haven’t done it before come in with such enthusiasm and such excitement. It’s so invigorating for everyone, even those who have been around the block, to be around that sense of wonder, imagination and dedication to doing things differently. That combination is very powerful, but the underlying piece beneath it all is that passion and commitment to make a difference.

“We’ll bring our model to the Texas Medical Center, but what’s different in Houston is that we are already starting to recruit the team that will be stationed there,” she added. “It’ll take us about a year to get the site up and running, but we’re going to start hiring the team that will be on the ground as soon as we find the right people. We want to be a part of the community so that we can start to identify the high-potential science over the year that we’re building the facility.” Applications for prospective companies are currently being accepted at all J-Labs sites, including the Houston incubator.

Aligned in both philosophy and the scope of their ambition, the overlapping values between J-Labs and the Texas Medical Center makes the partnership seem almost inevitable.

“There are some really natural synergies here,” reflected William F. McKeon, executive vice president and chief strategy and operating officer of the Texas Medical Center. “With the way that we set up TMCx, we don’t dilute companies by forcing them to give up equity in their company, which is usually around 5-10 percent. With J-Labs, as well, they don’t take any equity in the companies that they support.

“We’re really about creating an ecosystem here for Texas,” he added. “There’s no silver bullet—this is a long term strategy. A lot of people are asking, ‘How many companies do you have?’ The focus is not to fill it with a lot of companies just for the sake of volume—if there are only five stellar, worthwhile companies who want to be involved, then we’re only going to have five companies at the start. We want to represent to the outside world, both within the Texas Medical Center and throughout the state of Texas, that a vehicle exists to propel the very best companies forward.”

While Houston still has yet to prove itself through a track record of commercial success, the depth of available research, wealth of talent, and variety of creative funding vehicles paint a portrait of a city brimming with possibility. “We want to be there to help make an impact,” asserted Richter. “Houston has a spirit about it that made it compelling for us to come there. It has all of the critical elements that you need to think about to get bright, new solutions directly to the patients. That’s what matters. We’re guided by the desire to do the right thing for those patients, and that’s just good business.” ■

Initiatives for Change

Embracing the enormous potential within Houston's life science community, the Texas Medical Center Health Policy Institute searches for solutions to improve the health of Texans

BY ALEX ORLANDO

From the micro to the macro, at some level, health policy influences each of the member institutions within the medical center. Health policy requires a broad spectrum of legislative and regulatory efforts, from improving the efficiency of public programs to preparing health professionals to meet those patient needs. For the budding Texas Medical Center Health Policy Institute, on the cusp of rolling out a series of six evidence-based policy solutions to advance the health of Texans statewide, that may be a daunting task, but it's one well worth striving for.

"Our mission is to provide value to the member institutions, the city and the state," announced Arthur Garson Jr., M.D., MPH, director of the Texas Medical Center Health Policy Institute. "Every one of our programs, whether focused on the Texas Medical Center or beyond, was not here a year ago; that provides us with a blank slate, but one we have to draw upon carefully, as we only get to do 'new' once. By collaborating across the vast and unique talent housed here, the Texas Medical Center Health Policy Institute will become a source of unbiased information, helping to develop policies that reduce barriers to health.

"We had a tremendous kickoff with the Texas Medical Center health policy design team and have used their strategy as an important guide," he added. "Many of the design team members are on our Institute Executive Committee."

With an emphasis on drawing from rigorous data-driven approaches and real world experiences, these initiatives reflect the Texas Medical Center Health Policy Institute's broad scope and aspirational mindset. Their first project, known as "Decision Support," aims to solidify their status as a source for accurate, unbiased data that can help support legislative decision-making. While culling large swaths of information and presenting it in accessible terms is no easy feat, the Texas Medical Center Health Policy Institute is setting a high standard with their turnaround time—72 hours for both data and analysis.

"In the typical academic world, that's 72 days or even 72 months," laughed Garson. "This will be a service for state and local legislators and the government relations representatives from the medical center institutions, for free, and they'll have the option to keep their information confidential. Otherwise, it'll be archived for others who might want to see the question and their response." In preparation for the

“The amazingly unique thing about the Texas Medical Center, in the realm of health policy, is that if you have 55 institutions, you have 55 approaches to health policy. Rather than emphasizing our differences, it's about embracing the different approaches that we can utilize—that's an opportunity that nobody else in the world has.”

— ARTHUR GARSON JR., M.D., MPH

Director of the Texas Medical Center Health Policy Institute

upcoming legislative session, an online submittal system will be in place, where requests can be made and logged, beginning January 10, 2015. No more than three days later, the submitter will receive what data exists, any necessary sources, graphs and commentary for interpreting the information, and two to three brief analyses from Texas Medical Center experts.

"A lot of what influences policy is based on people's personal experiences, or the experiences of people close to them," reflected Stephen H. Linder, Ph.D., associate director of the Texas Medical Center Health Policy Institute. "As a consequence, there needs to be an alternative source to provide evidence based on a wide variety of experiences that has some validity in terms of how the data was gathered and interpreted. We want to provide a part of that.

"The legislature is such a fast moving process, once it begins, and it takes some twists and turns that aren't predicted ahead of time," added Linder, who is also associate director of the Institute for Health Policy at The University of Texas Health Science Center at Houston (UTHealth) School of Public Health. "The big thing about this kind of service is that it functions so quickly, which is essential when you're providing some neutral basis on which to make decisions."

That inventive, large-scale approach is evident in another of the Texas Medical Center Health Policy Institute's ambitions—developing a program to improve access to care throughout the state. "We've been working with other groups, both locally and nationally, to help further the idea of improved access to Texas," said Garson. "Ultimately, this is about creating plans that the state can utilize to improve access for the uninsured, and there are over 6.2 million uninsured citizens in Texas.

"We may think that being employed takes care of

health insurance—and Texas has twice the percentage of full-time workers in the U.S. average—but we still have the highest rate of uninsured in the country, due to the high cost of health insurance and the fact that individuals and small businesses have difficulty affording it," he added. "The cost of health care is way too high and those of us in the medical profession need to do our part to figure out how to reduce the cost as well. There is a lot of waste out there—the estimate is about one third of all our health care dollars." Furthering that goal, the Texas Medical Center Health Policy Institute will be working with other groups, both in the state and nationally, to develop uniquely Texan approaches for improving access to care.

Cultivating unique approaches necessitates an understanding of the people that you're trying to help. Taking the pulse of citizens throughout Houston and Harris County, the Texas Medical Center Health Policy Institute will be initiating a yearly survey on what health consumers want. Providing data of interest to the medical center, the city and the state, it has the added benefit of potentially generating new research in the process.

"It's something that will not only inform us," said Garson, "but since we're going to repeat it yearly, it will be something that we can use to watch trends develop about how the attitude of Texas consumers changes over time. That way, we can ensure that we deliver what people need and want." Appropriately named "What Matters Most to the Health Care Consumers of Texas," the survey strives to provide context, clarity and purpose to efforts throughout the medical center, and beyond.

Providing the scaffolding to support the development of emerging policy, the Texas Medical Center Health Policy Institute has cultivated a grants



LEFT: Stephen H. Linder, Ph.D. RIGHT: Arthur "Tim" Garson Jr., M.D., MPH

program for influencing health policy work in a tangible, measurable way. "Our intent is to provide research grants for work that can have some demonstrated impact," explained Linder. "We'll be asking the grantees to provide some metric to be able to show prospective impact. With some of the projects, you won't be able to see the impact for 3-5 years, while others will be quicker. Our portfolio will include both short and long-term studies, with some of them answering complex questions and others acting as impact studies that attempt to assess prospective health policy.

“A lot of what influences policy is based on people’s personal experiences, or the experiences of people close to them. As a consequence, there needs to be an alternative source to provide evidence based on a wide variety of experiences that has some validity in terms of how the data was gathered and interpreted. We want to provide a part of that.”

— STEPHEN H. LINDER, PH.D.

Associate Director of the Texas Medical Center Health Policy Institute

“The Texas Medical Center Health Policy Institute is really about focusing on the balance between preventative care and health care delivery. In some respects, I think it’s tackled some of the more challenging aspects of health care and research. It’s aspirational, but we have a lot of talent involved with the institution. All of us think that it’s better to be far reaching and accomplish as much as we can, rather than to limit our goals and objectives.”

— CAROLYN BELK

Vice President of Government Affairs for Houston Methodist Hospital

“We’ll be looking for some awareness on the part of the grantee about who the potential beneficiaries of this information are, whether or not they’ve made contact and what are the plans for dissemination,” he added. “Having some sense of follow through is critical. Just producing research isn’t enough—they’ll also need to have plans to ensure that this research is utilized and that there’s uptake on the other side by decision makers. With a first call for proposals going out next spring and the review of those proposals coinciding with the end of the legislative session, I expect we’ll be very busy.” With an emphasis on fostering a climate of collegiality that also allows submission to be prioritized, applicants will receive a science-based score in addition to a collaboration score—the greater the number of collaborating institutions, the higher the score.

Educating the next generation of leaders in health policy has always been a priority for Garson, who developed the STAR course at the University of Virginia (U.Va.). Continuing as a joint program between U.Va. and the Texas Medical Center, the STAR course is a semester long course beginning in January, currently taken for credit at Cornell University, U.Va., Vanderbilt University and the UTHealth School of Public Health. A lineup of 16 renowned national health policy experts, each of the “stars” (such as Mark McClellan, the former administrator of the Center for Medicare and Medicaid Services and administrator of the FDA, as well as Uwe Reinhardt, the noted health economist from Princeton) is given a designated week to address health policy issues in an interactive format.

“Every Sunday, the star sends us articles for the students to read, and the students generate questions

with their local professors before sending them back to me,” explained Garson. “I’ll select a group of questions, and on Thursday night, the star goes live on television using a webinar that’s open to not only the students from the universities, but to the public, as well.”

This past year, over 200 people from all over the country dialed into the webinar as listeners. Garson aims to modify the national STAR program to fit into the framework of the medical center, allowing viewers to interact with the webinar in a live format—potentially at the Texas Medical Center’s newly launched Innovation Institute.

“These are the top experts, either in the United States or in Houston, who will bring their perspective in a way that, hopefully, is accessible,” said Garson. “This is not somebody writing some big, highfalutin paper, this is at a very personal level where students and those tuning in get to not only listen, but also get an idea of the people behind the words. It’s about the hope that these people will allow students and audiences to understand that these concepts are not as complex as one would think—it makes them bite sized. These people are amazingly great teachers, and it gives students access to people and ideas in ways that are more lasting and less formal.” In addition, the Texas Medical Center Health Policy Institute is hosting a separate, local course within the next year based on a similar format, involving policy experts from our own community.

For Garson, leading by example is the best instructional model available. In a similar vein, the Texas Medical Center Health Policy Institute’s final project (at least for now), “Population Health,” aims to incubate novel approaches to addressing population-wide

issues, using the outcomes as the foundation for evidence-based policy.

“We have 55 institutions here, each of whom are employers, and many of who take care of patients,” said Garson. “The idea here is to create one or more programs that address a population issue, such as obesity, and will hopefully allow each institution to approach that problem in a way that we learn from, as employers. We’re trying to find approaches that work, using the medical center as a test bed for both employers and patients.

“The amazingly unique thing about the Texas Medical Center, in the realm of health policy, is that if you have 55 institutions, you have 55 approaches to health policy,” he added. “Rather than emphasizing our differences, it’s about embracing the different approaches that we can utilize—that’s an opportunity that nobody else in the world has.”

“The Texas Medical Center Health Policy Institute is really about focusing on the balance between preventative care and health care delivery,” noted Carolyn Belk, vice president of government affairs for Houston Methodist Hospital. “There’s a lot of proactive work involving education, best practices and population management. In some respects, I think it’s tackling some of the more challenging aspects of health care and research—it’s aspirational, but we have a lot of talent involved with the institute. All of us think that it’s better to be far reaching and accomplish as much as we can, rather than to limit our goals and objectives.” Given the deep well of potential that exists within the Texas Medical Center, it’s hard to disagree. ■



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Friday, Feb. 27, 2015

Program Coordinator:

Meagan Sam, BBA

Program Directors:

Blaizie Goveas, MSN, RN, AGACNP-BC

Nicole Twine, MSN, APRN, ACNP-BC

Nicole M. Fontenot, MSN, APRN, ACNP-BC, CCNS

Stephen Jones, MD, MS

7 a.m. - 4 p.m.

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Research Institute

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PROGRAM OVERVIEW

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Q | Can you tell us about your formative years?

A | My childhood is best characterized by living in many places in different countries in different environments. I think it contributed to me being more open to different ways of living and seeing that there are multiple ways a society can be organized. I believe this played a role in me being open to different approaches and appreciating differences.

Q | Where did you grow up?

A | I was born in Singapore and I lived in my early childhood in Kenya in Africa. In my teenage years, I lived in the Caribbean on a small island, so I had a lot of different experiences. I'm Dutch, as you can hear from my accent, but I think living in many locations shaped me in looking at many situations with different eyes.

And I still travel a lot today. The Netherlands is a small country, so you are almost forced to travel because as you turn around, you are at the border. I've been to many countries and I really enjoy experiencing different cultures and seeing how societies are organized in different ways. People approach problems in different ways. It's kind of cool.

Q | What brought you to Shell?

A | I studied chemistry and got a Ph.D. in organic chemistry. Actually, my original ambition was to become a medical doctor. But in the Netherlands, there was a lottery to determine access to med school, since a small country can only accommodate a relatively small amount of doctors. So I decided to study chemistry and I enjoyed it so much that I never went back to enrolling in the lottery again. I really enjoyed understanding how molecules interact with each other and how that can be influenced.

What attracted me to Shell compared to other companies was the opportunity to post for a variety of positions within the company. Once the assignment length is met, you can apply for a totally different position. It is extremely compelling to me because after a few years there is a risk that a job becomes a routine and that is, for me, the time to look for new and exciting work.

Q | Your current job title interesting.

A | It's GameChanger. It's a game-changing title which opens many doors, because people are anxious to know what this is all about. My current role in Shell is to invest in people with unproven ideas that have the potential to drastically impact the energy future.

Q | What different jobs or responsibilities have you had during your 25 years with Shell?

A | Half my career has been in research roles and always at the edge of what Shell was doing. It was often very innovative and exciting. The other half of my career was in business development and strategy type of roles but, again, always on the leading edge. I had roles in Shell Hydrogen, where I worked on a hydrogen economy plan in close cooperation with car manufacturers. I worked in the bio-space of Shell for a while, and I even was the CTO for a start-up company for Shell, where we made a new building product that could really store lots of CO₂.

Q | So can you tell us where the idea for GameChanger was born and how it evolved?

A | Shell GameChanger is pretty unique. Shell has long practiced open innovation, inviting ideas from outside the company and working with others. It started in 1996 when Shell management realized that if you wanted to do something really revolutionary, if you have a revolutionary, maybe disruptive idea, you have to protect it from the immune system of an organization. You have to keep it separate and give it a chance to prove its concept. The GameChanger program identifies and nurtures unproven ideas and works to prove the technical and commercial viability of that idea quickly and affordably. A budget was set apart from the research budget to allow GameChanger to be nimble in decision making and quick in funding. It combines the benefits of support from Shell with freedom for the team to make its own decisions. This is important when you are asking people to come up with revolutionary ideas that may seem too risky for our normal businesses to invest in. Today, we have worked with over 1,500 innovators and brought over 100 ideas into reality, with sometimes very big impacts. Many GameChanger projects fail and that's actually okay. It means we are working on difficult and high-risk opportunities.

We often work with innovators whose revolutionary ideas are high-risk, high-rewards type of opportunities. When an innovator or proponent brings forth an idea, we work with them to determine proof of concept. It's here that ideas are stress-tested and proved to have merit or not. Many of them will fail. We are often asked, 'How do you measure success?' In GameChanger, it's about quickly determining proof of concept, moving forward ideas and opportunities that would not have existed otherwise. It's okay to fail as long as you do so fast and affordably. We're actually

“ Revolutionary innovation is changing the way we live, work and learn. Technology is becoming more complex and we need the right combination of traditional R&D and open innovation to help drive, develop and deploy new solutions. ”

looking for those very difficult ideas where the normal business can't take that risk or where the idea is outside the current business strategy. We are creating the conditions in which innovation is supported within the industry.

Q | Can you talk a little bit about the importance of disruptive ideas and thinking outside the box?

A | Solving today's energy challenges requires all of us to make a collective effort; energy companies can't do it alone. These challenges need diverse and multifaceted solutions involving many different kinds of thought and expertise. So we need to think differently and more creatively in how to solve today's problems.

Shell GameChanger is there to invest in revolutionary and disruptive ideas. Not all of our projects are highly disruptive, we work with a portfolio of ideas and yes, some of them can be really disruptive to our current business. In GameChanger, we use four criteria to look at new ideas. The potential value—could the idea create substantial new value if it works? We look at novelty—is the idea fundamentally different—revolutionary and not evolutionary? Does someone have a doable plan to prove the concept quickly and affordably? It needs to be more than just a thought or concept; we are investing in people with great ideas and the capability to bring those ideas forward. The last is relevance—why Shell? Shell is not in the chocolate business, but in the energy business. Ideas must be energy-related, but they can be very disruptive to Shell's current business. That's okay. We might even work on ideas which might make the current way of producing energy laugh-worthy after a couple of decades. Disruptive is okay. This is not easy because disruptive ideas, by definition, also trigger the immune system. So how can you navigate rapidly towards proof of concept, and show that an idea might actually work? We are working closely with our proponents both inside and outside our industry to speed up their development and deployment. We are looking for the moment that experts say, 'Oh, I never thought that could work but it actually seems to work, tell me more.'

Q | Why is Shell investing in innovation in this way?

A | Revolutionary innovation is changing the way we live, work and learn. Technology is becoming more complex and we need the right combination of traditional R&D and open innovation to help drive, develop and deploy new solutions. Most of the change that we do is evolutionary and it's very important to have incremental improvements. Think about the digital camera that suddenly became a breakthrough after being invented quite a while ago. Initially it looked awful, like a large box that took 30 seconds to take a picture—and who wants to have something like that? Really big breakthroughs are often revolutionary, changing how we share information and communicate. We have seen great value in our open innovation programs and the opportunities for revolutionary ideas. Shell GameChanger is there to give those ideas a chance in the energy space.

Currently, we are seeing that many of the best and brightest ideas are generated from unlikely partnerships across different industry sectors and that's a space that GameChanger likes to play in. But you really have to look deeply at how innovative you are and how to become more innovative. Innovation is quite often connecting the dots. I think that innovation starts with combing through different ideas. I believe strongly that combing through unusual ideas and unusual approaches will lead to better innovation. Building on that, we can see how possible solutions for the challenges in the energy industry may not come from the energy experts. The best truly revolutionary ideas might come from experts of entirely different disciplines or industries. This will also work for the health or medical industry. I think there will be fantastic solutions for medical problems that come from non-medical experts. Experts from another field will ask the 'stupid' questions, come up with unusual approaches and think out of the box, not hindered by paradigms. I am convinced that Shell specialists may have solutions for certain medical challenges right now. The problem is how we connect those challenges and solutions.



“ The GameChanger program identifies and nurtures unproven ideas and works to prove the technical and commercial viability of that idea quickly and affordably. ”



(Credit: Top Left, Seokyong Lee/Shell; Top Right, Taco van der Eb/Shell; Bottom, Thomas Fasting/Shell)

I do think Houston is uniquely positioned with energy, health and aerospace expertise. There are huge silos where a lot of innovation is going on with the opportunity to improve the exchange and connection between the silos. There are a few examples of where there has been very successful cooperation and cross-fertilization. Can you imagine what could happen if these silos connected in a much better way? So if innovation is connecting the dots, and you can do that in a better way within Houston, huge things will happen. Many people in Houston share this feeling. It's time that we start to connect those dots and make it happen.

Q | What's the process like for GameChangers? Where do these ideas come from and how do you bring people in?

A | Shell GameChanger is a global program. Our team running the program consists of 12 dedicated technical and scientific experts within Shell. The majority of our team sits in Houston or in the Netherlands. We combine the benefits of support from Shell with the freedom to make our own decisions. Our innovators or proponents, as we call them, can come from anywhere and can be anyone. Some great networks and partnerships have started with submitting ideas on our website.

Every GameChanger is working with a portfolio of proponents and their projects. We have about 60 projects in execution phase. Projects are distributed among the GameChanger team. In addition to being a sponsor for our portfolio of projects, part of the job is finding alignment among innovators and creative community beyond our industry. How do you find these innovators that have unusual ideas that can have a drastic impact? It's searching. It's hunting. It's being active in unusual places.

I think the initiative in the medical center to create an innovation space and an open collaborative space is great. Putting people together is only part of the solution. The real challenge is to make people interact with each other and really try to connect challenges and solutions. That's quite difficult. You can put people in the same room, and put them in line for the same coffee machine, but nothing happens. You need to do more to really catalyze this dot connection. It often happens by serendipity, that 'wow' moment when suddenly things click together and something beautiful starts to happen. Too often, this is just a coincidence. It's just a matter of luck to find revolutionary solutions for the large problems in this world. The question is thus, how can you catalyze serendipity? How can you create an environment where this is more likely to happen? The new innovation space in the medical center that was just created is an excellent start and more may be needed.

Q | So how is GameChanger doing that?

A | About 90 percent of our projects are from external parties from outside Shell. Shell GameChanger is trying to experiment with ways to connect with external parties in a different way. There are two difficulties in connecting to external parties. The first one is—where to look? How do you find people who are open to working on our challenges? And secondly, how to communicate the challenges we have in our industry to external parties. Where we look is not at the typical energy conferences. We experiment with using clever search tools to find 'unusual' parties with expertise or solutions that might be relevant to our problems. We also try to organize events. For example, we host a speed matching session, which is sort of speed dating for experts or scientists. You force people to very rapidly dive into the challenges and the issues behind the challenges. In this dot connection on steroids, we hope to come up with completely different solutions that were not on our radar screen. We've done this with medical experts, for instance MD Anderson experts and Shell experts, which was very exciting. The Shell experts didn't know anything about cancer and the cancer experts didn't know anything about an oil reservoir. It led to fantastic collaboration opportunities and led to a project that may generate mutual value.

Q | Can you tell me a little bit more about that connection between energy and medicine?

A | There are similarities between our business and the medical business. If you look at an oil or gas reservoir, our business is trying to find where oil and gas are located, how to access it, and how to remove it safely. If you compare cancer in a human body to oil in a reservoir you see some similarities—location, access and safe removal. The scale is very different. In the human body you are talking about inches and in a reservoir you are talking about miles. But on a molecular level there are interesting analogues, also, in the techniques we use. We both use imaging to find where certain spots are. It is not only about sharing these practical approaches; it's connecting different ways of thinking, different backgrounds, approaches and fields of expertise. More importantly, the exercise removed some perceived differences between the parties involved and opened the door to future collaboration.

Q | So what does it take to find those people who may have a good idea but don't know where to go with it?

A | A lot of efforts in the innovation space are focused on entrepreneurship. Many universities have entrepreneurship programs and incubator spaces seem to pop up everywhere. How can you help small startup companies? How can you help them test their ideas in the market? That is all very relevant, but there's

relatively little effort to address how to come up with out-of-the-box solutions to certain problems. When it comes to making connections, we still seem very dependent on chance and the efforts of some inventors. The space in which GameChanger operates is often not on the radar screen. How can you, in a fast and affordable way, test and prove a concept before starting to burn money on development? How people invent and innovate and how people rapidly test an idea is hardly being taught at universities. If you ask the best innovators 'How did you learn to innovate?' It's often by trial and error. There are many entrepreneurship classes, but very little on teaching people to invent and be innovators. We are collaborating with Professor Ness from the UT School of Public Health to see if we can define methods to improve invention and innovation. The same applies at Rice University; we are collaborating to see if we can make students much better inventors and innovators.

The big problems of this world—food, energy, water, health and education—scream for big solutions. I believe many people are working hard on more evolutionary types of solutions. I am not saying that this isn't important and valuable. But what we really need are these out-of-the-box revolutionary solutions. You can't just depend on chance; we need to use methods to get more impactful solutions much faster. This must be very relevant for TMC as well.

Q | How does one teach innovation?

A | It seems that the current paradigm is that either you are an innovator, a kind of super-creative human, or you're not. There's some evidence that you can train people to be more innovative. Our collaboration with Professor Ness is very insightful. She uses the following example: We believe it is ridiculous to ask someone not trained in statistics to do statistics. But we believe it is normal to ask someone to be innovative without training. I believe there is a lot to be gained in innovating to innovate and training to innovate. ■

For the full interview, visit TMCNews.org

Gaming for a Cause

Extra Life fundraiser raises it to the next level for children's hospitals

BY ZOE QUEZADA



Each fall, Extra Life hosts an official game day for participants around the world to gather their friends, family and fellow gamers for an all-day gaming marathon.

Imagine running a marathon, except in this marathon not everyone is running and you don't have to either. You can walk, jump, crouch, crawl, swim, climb, kick, or punch your way through. In this course, you can race against others and vie for first place, or you can run by yourself and explore mountains, forests and maybe even rescue a princess or two.

Extra Life is not your average marathon. Participants do not have to train months in advance for physical endurance and there's no official starting or ending point. This marathon is doable and accessible for those of all ages and abilities.

Extra Life is a 24-hour video gaming marathon that hosts an annual event each fall to raise money for Children's

Miracle Network Hospitals. Since the marathon's inception in 2008, gamers from all over the world have come together to give back to their communities and show their support by doing what they truly love to do: gaming.

Inspired by the passing of a young girl named Victoria "Tori" Enmon, Extra Life began as a simple in-house fundraiser for Texas Children's. In 2008, Jeromy Adams, managing director and founder of Extra Life, had the idea to reach out to his friends in the online gaming community to spread the word about the needs of children's hospitals. Adams received an overwhelming amount of support.

"I had been working at Texas Children's for a while now in helping get the radio-thon up and running, so I took it very personally when Tori passed away," said Adams. "So I worked with some friends of mine in gaming. I loved video gaming and we got something off the ground for Texas Children's. It raised \$120,000 in its first year in 2008. That's when we realized that there was something here that we could use to grow Tori's legacy and to help other kids."

After two years, Adams decided to expand Extra Life's reach by joining forces with the Children's Miracle Network Hospital group. He was happy to see firsthand how the money being raised went directly to hospitals across the country.

"I decided that I was going to donate the intellectual property of Extra Life

to the Children's Miracle Network Hospitals in agreement with the CEO to help us grow it, and they did," said Adams. "Now my all day, every day job is to help Extra Life gamers help more kids on a local basis. Extra Life has grown from a \$120,000 fundraiser for Texas Children's Hospital to becoming a fundraiser that may raise \$6 million this year for 170 children's hospitals in the United States and Canada."

Now that Adams' responsibilities have greatly increased, volunteers in the Houston area have come together to help raise local awareness about Extra Life and maintain strong support for Texas Children's. As part of the Extra Life Guild Program, volunteers work year-round by sharing the story of Extra Life, recruiting new gamers, visiting comic book stores and conventions, as well as planning fun events, such as the annual marathon day.

"It's one of the greatest charities I have been a part of," said Extra Life Houston Guild Secretary and member Gerardo Pineda. "There truly is a positive energy amongst the gamers. Being involved has allowed me to connect with fellow gamers who are also passionate about helping others. It is a good feeling knowing that there are others like you who care about video games, comics, pop culture and also about helping children."

"I think a big highlight for us this year has been the rampant success of the guild program in terms of helping us recruit people to join Extra Life,"

“We all seem to have a story about how a children's hospital has affected us. Whether that's our kids, a sibling, a nephew or a niece, you're very hard pressed to find an Extra Lifer who doesn't have a story about why they are doing this and they usually have a very personal one.”

— JEROMY ADAMS
Managing Director of Extra Life

said Adams. “Recruiting is very essential to us. As a program, we don’t ask for money or donations. We ask people to donate their time and their connections. We let them do the asking. So it works a lot like a run, walk or bike ride fundraiser that we are all really familiar with either participating in or sponsoring someone else in. Except there’s not the caloric output of having to go run, walk or bike. You do what you like to do. You use your passion and you do it to help kids.”

Additionally, Adams noted Extra Life does not require its participants to commit to playing just video games. Participants can also play tabletop games, board games, card games or

whatever other game they choose. They can even have their marathon on alternate days or split it up into two. The point, he says, is to find something you love to do and use that passion to help others.

“Extra Life is an open-source platform,” said Adams. “I’ve never actually heard a good excuse of why somebody couldn’t participate. Yes, we do have a game day every fall, but Extra life is designed in such a way that if that day doesn’t work, you can do it on a day that does work. If you don’t like video games, you can do anything you want.”

As a reflection of how hard the Houston Extra Life Guild worked this year, Texas Children’s raised more than

\$83,000 and had four times as many participants as the previous year’s event. Nationwide the event has raised more than \$5,000,000, so President of the Houston Extra Life Guild, Dixie Dismukes said she was glad to see how many gamers came together for the cause, especially those who may not be video gaming fanatics.

“We all volunteer our free time to spread the word about Extra Life and get more people involved,” said Dismukes. “As a volunteer, you get to meet new people with varied interests and backgrounds who all have a common goal—to raise money for kids in the hospital. It’s neat to meet people whose path you may not have crossed

otherwise and work together for something so great.”

Despite the fact that this year’s big event has passed, Adams and the Extra Life Crew will still be fundraising and encouraging gamers to join the cause. Donations are accepted year round. Adams says he feels proud of how far Extra Life has come.

“I want to continue growing my friend’s legacy,” said Adams. “Tori was a fighter and a positive person. She had a profound impact on my life and now she is having a profound impact on tens of thousands of people all over the country.

“I think as a person, I am more aware of how many great people there are in this world,” he added. “I’ve gotten the chance to meet families who participate in Extra Life ferociously who I would have never met before and have these amazing stories. I’ve learned that children’s hospitals are only a couple of points of separation away from any of us. We all seem to have a story about how a children’s hospital has affected us. Whether that’s our kids, a sibling, a nephew or a niece, you’re very hard-pressed to find an Extra Lifer who doesn’t have a story about why they are doing this, and they usually have a very personal one.” ■



Extra Life has grown exponentially since its first year. What started as a small in-house fundraiser for Texas Children’s has grown into a worldwide fundraiser for Texas Children’s and other Children’s Miracle Network Hospitals.



JOSEPH COSELLI, M.D., professor of surgery and chief of the division of cardiothoracic surgery at Baylor College of Medicine Michael E. DeBakey Department of Surgery, was the 25th John W. Kirklin Visiting Professor in Cardiac Surgery and Related Problems at the Mayo Clinic Oct. 2-3. He presented the Kirklin lecture Friday, Oct. 3, at the Mayo Clinic Hospital, Saint Mary's Campus. Titled Thoracoabdominal Aortic Aneurysm Repair in the Endovascular Era: Possibilities, Perils, and Perspectives, it was the lead lecture for a morning of clinical and research presentations. Coselli also presented an evening talk titled "My Surgical Heroes: DeBakey, Cooley and Crawford."



KEVIN P. LALLY, M.D., A.G. McNeese Chair in Pediatric Surgery, Richard Andrassy Distinguished Professor and Chairman of the Department of Pediatric Surgery at The University of Texas Health Science Center at Houston (UTHealth) Medical School is being recognized by the Houston Surgical Society as the Distinguished Houston Surgeon for 2014. Annually, the Houston Surgical Society nominates and honors a fellow surgeon for their contributions to the surgical profession. Lally is on the Board of Governors for the American Pediatric Surgical Association and the Past Chair of the Surgical Section of the American Academy of Pediatrics. He is internationally known for his work of diaphragmatic hernia and extracorporeal membrane oxygenation.



SALLY W. HARRIS, senior occupational therapy assistant at Harris Health System-Ben Taub General Hospital, has been appointed to the Texas Board of Occupational Therapy Examiners by Texas Gov. Rick Perry. Harris, the only clinically based member from Houston, joins the nine-member board in charge of overseeing the statewide professional standards and licensure of occupational therapists. In Texas, only occupational therapy practitioners licensed by the board can practice. Harris is completing a vacancy term through February 2015 and is expected to be reappointed for a six-year term.



GERALD M. LAWRIE, M.D., a cardiothoracic surgeon at Houston Methodist Hospital, was a visiting professor at the Cleveland Clinic on May 2. Lawrie met with surgeons and gave Cardiovascular Grand Rounds titled, "100 Percent Reparability of the Mitral Valve. The Importance of an Engineered Approach." Lawrie developed a technique for mitral valve repair called the American Correction, which has resulted in a 100 percent success rate over a ten-year period. In 2007, Lawrie was the first to use a surgical robot to successfully repair a mitral valve using this advanced technique.



DIANE HAYNER, RN, a registered nurse at Houston Hospice, was awarded the prestigious Good Samaritan Foundation's Bronze Excellence in Nursing Award on September 3, 2014 at a luncheon ceremony at Houston's Royal Sonesta Hotel. Hayner is a full-time registered nurse at Houston Hospice's 33-bed inpatient unit, located in the heart of the Texas Medical Center. She has served as a registered nurse for Houston Hospice for two years, providing a full-spectrum of physical, emotional, psychological and spiritual care with the goal of preventing suffering and relieving symptoms of the patients and families in her care.



MATTHIAS LOEB, M.D., chief in the division of Transplant and Assist Devices at Houston Methodist DeBakey Heart and Vascular Center, director of thoracic transplantation at Houston Methodist J.C. Walter Jr. Transplant Center and professor of cardiothoracic surgery at Weill Cornell Medical College at Cornell University, has been honored by the German Association of Transplant Recipients (BDO) for 25 years of dedicated service in the field of solid organ transplantation. The association promotes organ transplantation and supports transplant recipients and their families in Germany. The association has more than 800 members.



LARRY H. HOLLIER JR., M.D., FACS, chief of plastic surgery at Texas Children's Hospital and a professor in the division of Plastic Surgery and program director for the plastic surgery residency program at Baylor College of Medicine, has been appointed chairman of the medical advisory board of Smile Train, the largest cleft lip and palate charity in the world. In his role as chairman of the medical advisory board, Hollier supervises a group of physicians and health care providers assembled from countries around the world to ensure Smile Train provides the safest care for these children.



M. HOSSEIN TCHARMTCHI, M.D., associate professor of pediatrics in the Department of Pediatrics and program director of the Pediatric Critical Care Medicine Fellowship Training Program at Baylor College of Medicine, was named a fellow of the American College of Critical Care Medicine for his commitment to the ideals and practice of multi professional critical care and dedication to education and research. The American College of Critical Care Management is part of the Society of Critical Care Medicine and serves as the society's consultative body.

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Memorial Hermann-TMC Achieves ‘Gold Medal’ of Nursing

Memorial Hermann-Texas Medical Center (TMC) recently announced that it achieved one of the highest levels of recognition a hospital can receive—Magnet® recognition for excellence in nursing services by the American Nurses Credentialing Center’s (ANCC) Magnet Recognition Program.

Magnet recognition is the highest possible organizational credential granted by the ANCC, the largest and most prominent nursing credentialing organization in the United States, and less than seven percent of hospitals in the country have achieved Magnet status since the program’s inception in 1994. In order to earn Magnet status, hospitals must excel in several areas, including nursing standards and practices, patient care, and innovations in nursing leadership and management.

This is Memorial Hermann-TMC’s first Magnet recognition.

“This is a major milestone for our campus and we are delighted and so proud to add Magnet recognition to our growing list of achievements,” said Victoria King, Chief Nursing Officer at Memorial Hermann-TMC. “This status is the top honor in nursing. It not only recognizes the excellent work our nursing staff does every day, it also rewards their unwavering commitment to provide the highest quality care possible for our patients.”

Before a hospital is selected for Magnet recognition, ANCC completes a rigorous, extensive evaluation process that includes on-site visits, reviews of written documentation, staff and patient satisfaction surveys and interviews. Initial Magnet recognition is valid for four years and, during that

time, hospitals and nursing staff are closely monitored, evaluated and surveyed to ensure they remain in compliance with the program’s high standards. At the end of the four-year period, hospitals must re-apply and again undergo the challenging evaluation process.

Studies have demonstrated that Magnet-recognized hospitals typically provide a higher quality of patient care, including lower mortality rates and better patient satisfaction. Magnet hospitals also experience lower turnover and lower rates of burnout among nursing staff. The recognition is also directly linked to a hospital’s ability to attract and retain qualified, highly educated nursing staff.

Craig Cordola, CEO of Memorial Hermann-TMC, says the recognition is also linked to increased consumer confidence. “Magnet status is synonymous

with innovative, high-quality health care,” he said. “When patients see that your campus is Magnet-recognized, they know they are going to be in good hands. But Magnet is also more than just a nursing credential; it is an honor given to the entire team, working collaboratively with our nursing staff, in order to reach this impressive level of achievement.”

Of the 5,000+ hospitals in the United States, only 391 are Magnet facilities. Memorial Hermann-TMC now shares its Magnet status with two other hospitals in the Memorial Hermann Health System: Memorial Hermann Memorial City Medical Center and Memorial Hermann The Woodlands Hospital. ■

— Kathryn Klein,
Memorial Hermann-TMC



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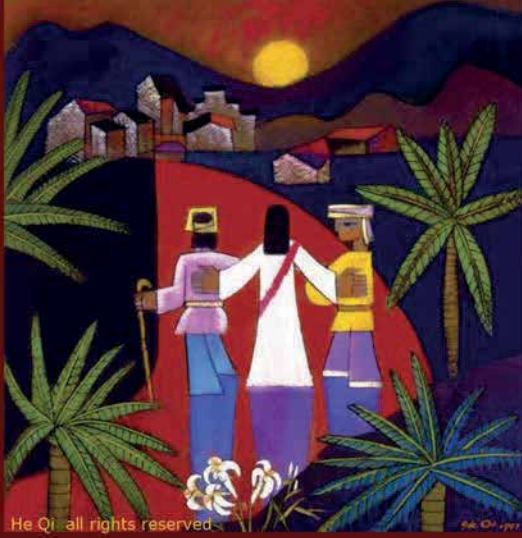
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Shopping for Holiday Gifts without Leaving the House at Ronald McDonald House Houston

The holidays are a stressful time of year no matter the situation. Battling the lines at shopping malls for the perfect presents is an experience many would like to forget. However, for the kids and families who call Ronald McDonald House Houston home, shopping for holiday presents is as simple as walking downstairs.

Each year, RMH Houston volunteers and staff members open the doors to the Santa Store at the beginning of December. The Houston community plays a huge role in the success of Santa Store since all of the items kids and their parents can “purchase” are donated.

“Many families staying with us are struggling to find the time and resources to make it to the mall for presents, so it’s incredibly important for us to bring the holidays inside our House,” said Matt Woodard, Director of Operations at RMH Houston. “We rely heavily on the support of the Houston community that is always so giving during the holiday season to fill our Santa Store with presents for all ages.”

The staff at RMH Houston has even created a mailbox for children to drop their letters to Santa in. From there, the “elves” (or volunteers) will better know what toys and gifts the families prefer.

“When a child is critically ill, we aim to take the pressure off of the parents as much as possible by providing things like warm meals, a bed to sleep in, and a supportive and safe community to live at,” said Leslie Bourne, Executive Director at RMH Houston. “The Santa Store is our way of taking the stress of the holidays away from the parents and turning it into a huge joy for everyone at the House.”

The Santa Store will open its doors on December 8 to the families and children who call RMH Houston home. Kids will be able to shop for their parents and siblings, and the parents will be able to shop for their kids—all at no cost and without leaving the House. RMH Houston will accept Santa Store donations through December 7. ■

— Danielle Dunn,
Ronald McDonald House Houston



(Credit: Ronald McDonald House Houston)

“Many families staying with us are struggling to find the time and resources to make it to the mall for presents, so it’s incredibly important for us to bring the holidays inside our House.”

— MATT WOODARD
Director of Operations at Ronald McDonald House Houston

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Trafigura Run for the House
Saturday, 8:00 a.m.
Sam Houston Park
fbroussard@rmhhouston.org
713-795-3585

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6th Annual Metal & Muscle Expo
Saturday, 9:00 a.m.-5:00 p.m.
George R. Brown Convention Center,
Hall B
charles.french@houstontx.gov
713-562-4089

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21st Annual Neuroscience Poster Session
Saturday, 9:30 a.m.-12:00 p.m.
UTHealth Cooley University
Life Center
7440 Cambridge St.
NBA-NRC@uth.tmc.edu
713-500-5538

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Rethinking the Product: A Path to More Effective Competition in Health Care
Monday, 4:30 p.m. reception,
5:30 p.m. lecture
Rice University, Baker Hall
bipprsvp@rice.edu
713-348-2735

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Postdoctoral Winter Science Symposium: How to Succeed in Academia
Tuesday, 8:00 a.m.-5:00 p.m.
Houston Methodist Research Institute
6670 Bertner Ave.
events@houstonmethodist.org
713-441-9392

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Pharmacology in ASD & ADHD
Tuesday, 11:30 a.m.-1:00 p.m.
Behavioral and Biomedical Sciences
Building
margaret.thornsborg@uth.tmc.edu
713-486-2783

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Presentation by Howard Rootenberg, Expert on Rare Books in Medicine and Science
Thursday, noon-1:00 p.m.
The Texas Medical Center Library
1133 John Freeman Blvd.
pmontgomery@exch.library.tmc.edu
713-799-7145

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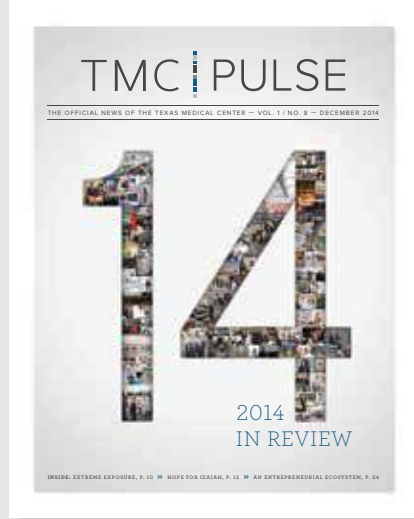
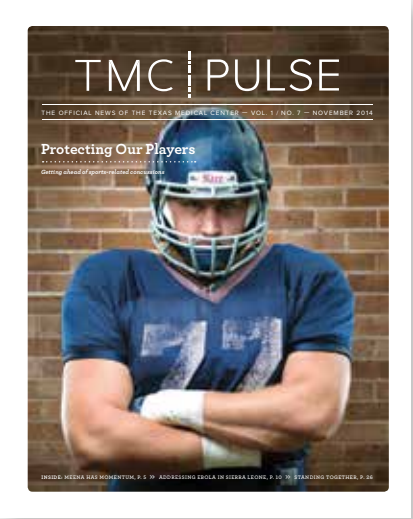
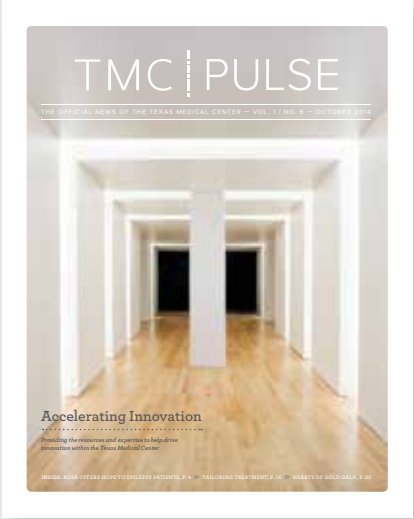
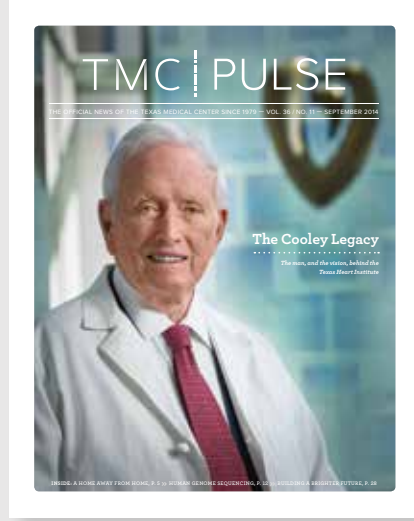
14th Texas Update in Cardiovascular Advancements & 5th Annual Symposium on Cardiovascular Disease in Women
Friday, 7:30 a.m.-5:00 p.m.
Texas Heart Institute, Denton A. Cooley
Building Auditorium
cme@texasheart.org
713-218-2200

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WE ARE HONORED AND GRATEFUL THAT YOU CHOSE TO SUPPORT US IN THE INAUGURAL YEAR OF TMC PULSE. We look forward to working with you in 2015 as we continue to share the inspiring stories of the Texas Medical Center community.

The logo for the Texas Medical Center (TMC) is located in the bottom right corner. It consists of the letters "TMC" in a large, white, sans-serif font, followed by a vertical dashed line, and then the words "TEXAS MEDICAL CENTER" in a smaller, white, sans-serif font, stacked vertically.

EMBRACE FREEDOM

LEAD TIRELESSLY

LIVE COMPASSIONATELY

AMPLIFY UNITY

“LEADERSHIP ALWAYS DETERMINES OUTCOMES — NOT SOME OF THE TIME, BUT ALL OF THE TIME.”

— MARK A. WALLACE, PRESIDENT & CHIEF EXECUTIVE OFFICER

CELEBRATING THE 2014 / 15 MARK A. WALLACE CATALYST LEADERSHIP AWARD WINNERS

Each year, the program honors outstanding individuals who lead by example, make the biggest possible difference, ensure the best possible outcomes and uphold Texas Children's mission and Guiding Principles.

2014 / 15 CATALYST LEADER OF THE YEAR

TRENT JOHNSON

DIRECTOR, SURGICAL SERVICES

Trent exhibits the ability to smoothly lead physician and administrative teams in a manner that recognizes each member's strengths and makes each participant believe they are a valued member of the group. Trent is a trusted colleague who chases down problems, promotes consensus among all stakeholders and develops solutions that are sustainable. These are characteristics that President and CEO, Mark A. Wallace brought to Texas Children's 25 years ago and has embedded in the philosophy and soul of our organization.

MY DEFINITION
OF LEADERSHIP

Leadership is the ability to step into any situation and improve results by focusing on people and processes.

2014 / 15 WINNERS



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**JEANINE
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