

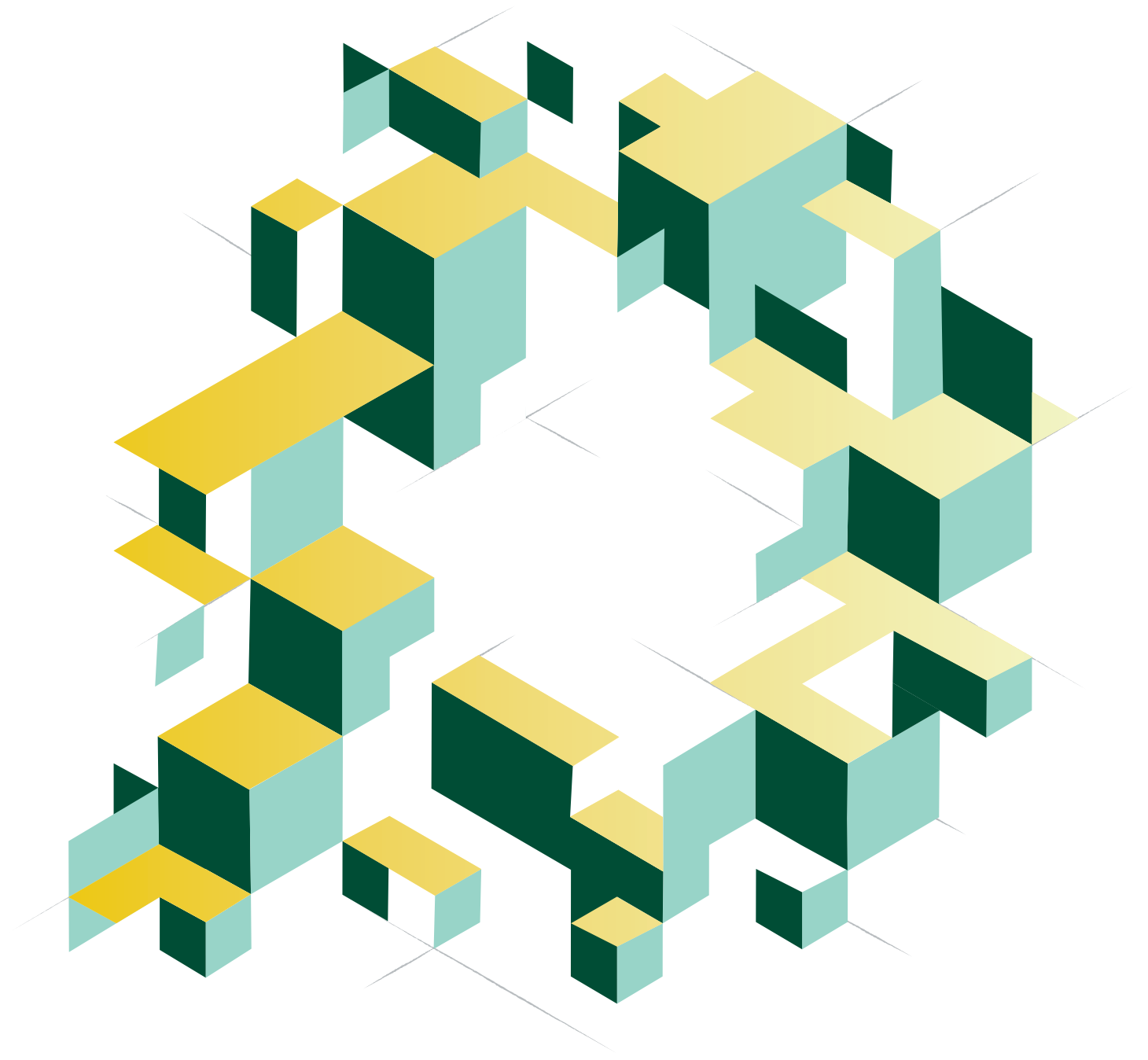
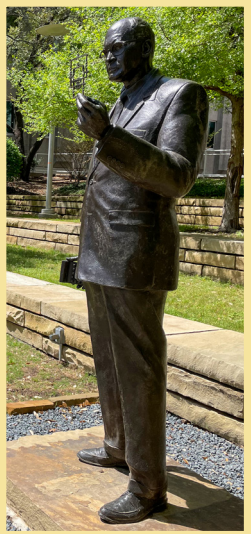
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UT DALLAS

M A G A Z I N E



TEXAS INSTRUMENTS PLAZA is located on the east side of the Founders Building. The plaza is reminiscent of an integrated circuit when seen from above and honors the founders of UT Dallas — Eugene McDermott, Cecil Green and Erik Jonsson — who also founded Texas Instruments, the Dallas-based company that produced the first integrated circuit in 1958. A statue of Jack Kilby, the TI engineer who invented the integrated circuit and won the 2000 Nobel Prize in physics, overlooks the plaza.



NEWDIMENSIONS
THE CAMPAIGN FOR UT DALLAS



Alumnus Gets Kick Out of 1st Olympic Experience

ALTHOUGH HE HAS spent more than 13 years competing in high-level karate, Tom Scott MS'14 didn't expect to represent Team USA for karate's debut in the 2020 Tokyo Olympics, which were delayed until summer 2021 due to the COVID-19 pandemic. But when an Iranian world champion was sidelined for doping, Scott, who was an alternate on the Olympic roster, was next in line for the qualifying spot. Nicknamed Captain America, Scott said the last-minute announcement left little time for him to prepare to compete in kumite, the sparring form of karate. Pictured here in blue gloves, he competed in four bouts — winning two of them — in the elimination rounds, where he faced opponents from Japan, Hungary, Egypt and Ukraine. Although he led early in his third bout and finished pool competition with the second-most points in his category, Scott ended up losing the bout 2-1. "It was an honor to be there," said the Naveen Jindal School of Management graduate. "I understand now that the day can go your way or not. I took risks; I went for it; and at the end of the day, that's what you've got to be proud of." Scott is a 15-time national champion and a six-time Pan American champion. He teaches at and manages a karate school in Plano, Texas, and is Team USA's most-decorated karate athlete.

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UT Dallas Welcomes New VP for Diversity, Equity and Inclusion

AFTER WORKING TO increase opportunities in engineering for women, minorities, students from low-income backgrounds and people with disabilities as a longtime faculty

member and administrator, **Dr. Yvette E. Pearson** began a new role in fall 2021 as UT Dallas' new vice president for diversity, equity and inclusion.

She joined the University after serving as associate dean for accreditation, assessment and strategic initiatives in the George R. Brown School of Engineering at Rice University.

"Dr. Pearson brings 25 years of experience as an educator and administrator who has worked to expand access and success for diverse communities in engineering," said UT Dallas President Richard C. Benson.

Pearson, who is from Baton Rouge, Louisiana, earned her bachelor's and master's degrees from Southern University, and her PhD in engineering and applied science from The University of New Orleans.

She has received numerous honors, including the 2021 President's Medal from the American Society of Civil Engineers; the 2021 Distinguished Engineering Educator Award from the Society of Women Engineers; and the 2019 Claire L. Felbinger Award for Diversity and Inclusion from ABET.

In 2013 she received a UT System Regents' Outstanding Teaching Award as a senior lecturer at UT Arlington, where she taught from 2007 to 2016 and served as associate chair of civil engineering during part of her tenure.

Pearson also spent three years as a program director at the National Science Foundation. She created and hosts the "Engineering Change" podcast. - *Kim Horner*



"Creating greater diversity, equity and inclusion goes into the way we teach and research, the way we recruit and the way we create programs and initiatives," Pearson said. "It has to be baked into the fabric of who we are as an institution in order to have successful outcomes on the other end and to not continue to perpetuate the societal inequities that we see as a result of inequities in STEM."

Through SEA Change, universities develop individual action plans. The AAAS recognizes sustainable systemic change with bronze, silver and gold awards. - *Kim Horner*

RESEARCH

Study Examines Chess Experts' Visual Memory

CHESS EXPERTS ARE known for their ability to recall configurations of chess pieces on a board. For decades, neurological experts have investigated how this memory functions and whether it can be applied to information beyond the gameboard.

To further probe this topic, researchers from UT Dallas' Center for Vital Longevity (CVL) turned to the University's chess team. The researchers tested 14 chess team members, along with 15 chess novices, on rapid-fire processing of visuospatial information in working memory.



"Prior studies have shown that chess experts' advantage in visual memory is limited to chess pieces on chessboards," said **Dr. Chandramallika Basak**, associate professor of psychology in the School of Behavioral and Brain Sciences. "We wanted to see whether the expertise generalizes beyond chess pieces to unfamiliar, new stimuli, and where does this expertise break down for immediate memory?"

Chess masters' visual short-term memory for arrangements that can occur in chess has been of particular interest to cognitive scientists, said Basak, director of the Lifespan Neuroscience and Cognition Laboratory.

"It's almost like chess experts have snapshots of these positions; they demonstrate remarkable visuospatial working memory, given that the information is presented for less than half a second," she said.

In each test, participants saw a two-dimensional chessboard with a number of pieces displayed for three-tenths of a second. After a one-second pause,

they saw a second chessboard and had to decide if there had been a change. The tests were conducted with standard chess pieces and with unfamiliar symbols.

"One series of tests asks about changes in location; the second asks if the objects – the pieces themselves – have changed," Basak said. "A third test incorporates changes in location or changes in object, or both, or no change at all. Finally, the grid of the board is removed."

The researchers found that while both chess experts and novices performed better with chess stimuli than with the unfamiliar symbols, the experts outperformed the control group for both chess stimuli and for the new objects – particularly when detecting positional changes. When changing the identity of the objects, however, but not location, the chess players' advantage was limited to the chess pieces.

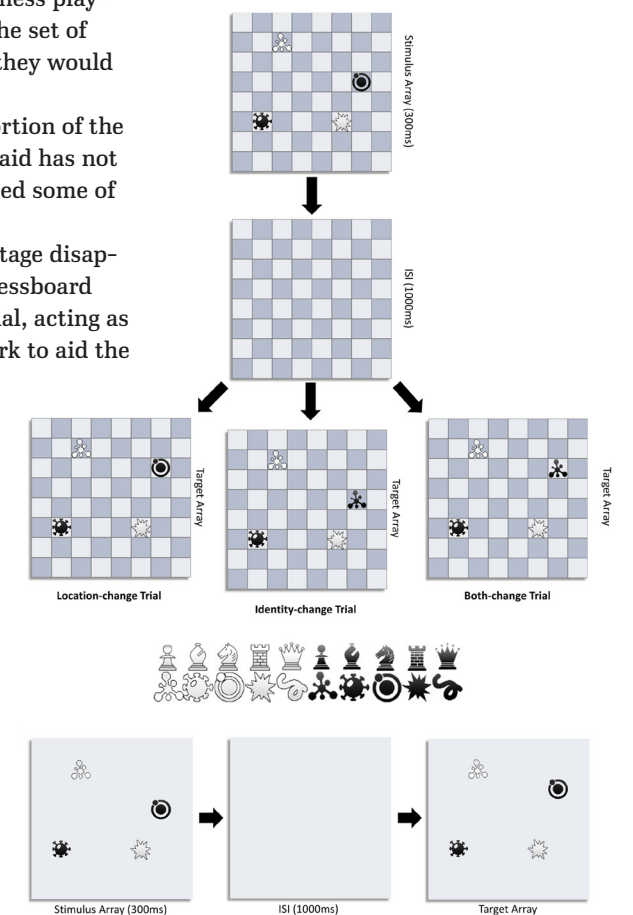
"We observed an eight-item working-memory capacity for chess experts," Basak said. "We assume that ties back to the idea that chess players are viewing the board and the set of positions as a single object, as they would recognize a face."

The "grid-versus-no-grid" portion of the study – something that Basak said has not been examined before – produced some of the more striking results.

"Any expertise-related advantage disappeared in the absence of the chessboard display. It appears to be essential, acting as a road map, a familiar framework to aid the memory," she said.

The results indicate that visuospatial memory advantages associated with chess expertise extend beyond chess stimuli in certain circumstances, but the grid appears to be necessary for experts to leverage these advantages.

The findings were published June 14, 2021, in *Memory and Cognition*. - *Stephen Fontenot*



ON CAMPUS

History Students Try To Uncover Untold Stories of 19th-Century House

STUDENTS IN A public history graduate course at UT Dallas are hoping their research will help enhance the narrative of a local house built in the 1840s.



The purpose of the 2021 project was to dig deep into historical sources to find untold stories about the Gano Farmstead at Dallas Heritage Village (DHV) at Old City Park, said **Dr. Whitney Stewart**, assistant professor in the School of Arts and Humanities.

“These students had a great opportunity to do practical hands-on public history research that otherwise they would not have been able to do,” she said. “I saw it as a chance for both DHV and my students to gain something.”

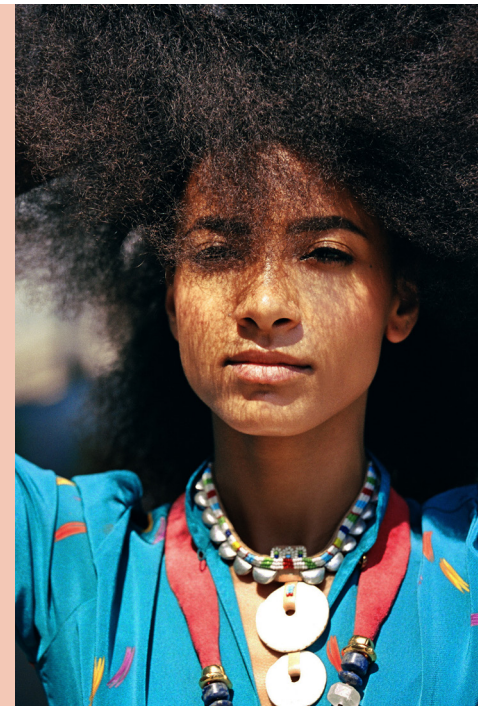
Previously located near Grapevine, Texas, the house, which was designated as a Texas Historic Landmark in 1975, was moved to the historical village, as were the 20 other North Texas 19th-century homes and commercial buildings that comprise DHV. The dwelling is named for one family that lived there – the Gano family. The patriarch, Richard M. Gano, was a doctor, minister and Confederate general who moved his family and several enslaved laborers to Texas around 1857 and lived in the house until after the Civil War.

The UT Dallas students wanted to look into various aspects of the farmstead, such as the natural environment and the lives of others who lived on the property.

“Through documentation, we knew that Gano — and other owners of this building and the site — had owned enslaved individuals. But we wanted to dig deeper and find more information to help DHV paint a more inclusive picture of those who lived and worked at this farmstead,” Stewart said.

One group of students from Stewart’s class in public history — the practice of historical research and interpretation outside of the academic realm — reviewed interviews conducted in the 1930s with a formerly enslaved woman who lived at the Gano Farmstead. Harriet Mason was born in the late 1830s or early 1840s. Her interviews, along with other records, provided significant information about life on the Gano farm.

- Phil Roth



ARTS AND CULTURE

Spalding Receives 2021 Richard Brettell Award in the Arts

GRAMMY WINNER AND jazz bassist, singer, songwriter and composer **Esperanza Spalding** received the 2021 Richard Brettell Award in the Arts at UT Dallas.

Established in 2016 with a gift from Margaret McDermott, the award recognizes the work of individuals in visual arts, music, literature, performance or architecture/design. It includes a \$150,000 prize and a three-day campus residency. As part of her Dallas visit this spring, Spalding performed a concert in Annette Strauss Square in the Dallas Arts District.

Called “the 21st century’s jazz genius” by NPR, Spalding has won five Grammys, including best new artist in 2011 – the first jazz artist to win that award. Spalding’s latest album, “Songwrights Apothecary Lab,” won a 2022 Grammy for best jazz vocal album.

Dr. Nils Roemer, interim dean of the School of Arts and Humanities and the School of Arts, Technology, and Emerging Communication, said the selection committee comprises arts leaders from UT Dallas and the community, including the CEOs of the Dallas Symphony and the Dallas Opera.

“Esperanza already has a reputation as a jazz visionary,” said Roemer. “She is so creative, pushing boundaries and taking chances.”

As part of her visit to the campus, Spalding answered questions from a panel of UT Dallas professors, as well as from the public.

The 2021 Brettell Award is the first one to be given since the death of its namesake in July 2020. Brettell was the founding director of UT Dallas’ Edith O’Donnell Institute of Art History. - *Phil Roth*



AI Vehicles Driving Autonomous Technology Research

THOSE FOOD-DELIVERY ROBOTS aren’t the only self-driving vehicles on the UT Dallas campus.

You might also see Voltron, an electric vehicle that looks like a cross between a golf cart and a minibus, cruising around. In the Engineering and Computer Science West building, you might get a glimpse of Super COMO, a toy-sized truck, navigating the halls.

These autonomous vehicles are part of research projects in the Erik Jonsson School of Engineering and Computer Science to advance autonomous vehicle technology.

Voltron’s home is the lab of **Dr. Justin Ruths**, assistant professor of mechanical engineering. The vehicle is part of the hardware testbeds used to study the security of control systems. Ruths and his team are coordinating the network of sensors and implementing algorithms to enable the vehicle’s growing capabilities.

“All of the development of this platform has been done by undergraduates, and that makes me excited about the kinds of exposure these students are getting and the expertise we’re building,” Ruths said.

Ruths’ group also works on the theory needed to understand how to detect, quantify and mitigate attacks that could compromise the vehicle’s sensors.

Super COMO is another type of artificial intelligence (AI) vehicle, designed in the Control, Optimization, and Networks Lab run by Dr. Tyler Summers, associate professor of mechanical engineering.

UTDesign teams added sensors and an onboard computer that help the vehicles avoid collisions, drive along a line or a wall, and recognize and respond to stop signs.

- *Kim Horner*



RESEARCH **Making Sense of Risky Financial Behavior in Older Adults**



UNDERSTANDING THE PSYCHOLOGICAL mechanisms that lead some older adults to make riskier financial decisions than younger adults underlies a UT Dallas researcher's investigations, funded by a \$560,000 grant from the National Science Foundation.

"I'm interested in the shifts that happen in terms of motivation and how that influences decision-making," said **Dr. Kendra Seaman**, assistant professor of psychology in the School of Behavioral and Brain Sciences. "We hope to understand which older adults are most vulnerable to making poor decisions, why they are more vulnerable and how we can intervene."

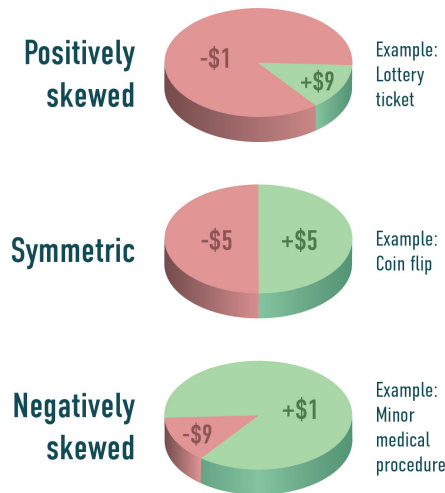
Each year more than 5% of older Americans are victims of financial fraud, estimated to be as high as \$36 billion. The reasons why older adults might make poor decisions are often attributed to cognitive decline or misunderstanding of technology. Seaman, who is the principal investigator for the Aging Well Lab in the Center for Vital Longevity, suspects that changes in decision-making capabilities over time also reflect evolving priorities of older adults based on life experiences.

One situation in which older adults seem more susceptible to financial fraud involves positively skewed risks: decisions involving options that juxtapose large but unlikely gains

against small, likely losses. This is a scenario presented by many financial scams.

"When there's a small chance of something big happening, like winning the lottery, people in general are drawn in – older adults even more so," she said. "My research is trying to figure out why." - *Stephen Fontenot*

Skewed Gambling Task Conditions



RESEARCH

Connecting Air Routes and Organ Transplants

EACH YEAR NEARLY 5,000 patients die while waiting for kidney transplants, and yet an estimated 3,500 procured kidneys are discarded.

In a study published online July 9, 2021, in the *INFORMS* journal *Management Science*, a UT Dallas researcher investigated how introducing new airline routes impacts the sharing of cadaveric kidneys.

"This mismatch between supply and demand of donor organs and the time-sensitive nature of kidney transplantation made us wonder whether better airline logistics infrastructure could help match that supply and demand," said Dr. Guihua Wang, assistant professor of operations management in the Naveen Jindal School of Management.

Wang and co-authors created a unique sample that tracked the evolution of

airline routes connecting all U.S. airports, and kidney transplants between donors and recipients connected by these airports.

The researchers merged monthly air-carrier traffic information from the U.S. Bureau of Transportation Statistics and individual-level data for all U.S. kidney transplant candidates, donors and recipients from the United Network for Organ Sharing.

The study estimates that each new airline route led to a 7.3% increase in the number of kidneys sent to U.S. transplant centers. The findings also suggest that introducing new airline routes reduces the discard rate of kidneys.

"An increase in the organ transplant rate, coupled with a decrease in the organ discard rate, means a better use of organs

that would otherwise be discarded," Wang said. "These findings suggest the introduction of new airline routes ... helps match supply and demand." - *Brittany Magelssen*



RESEARCH



Researcher Seeks Better Picture of Lyme Disease Cases in Texas

MORE THAN 30,000 new cases of Lyme disease are reported each year to the Centers for Disease Control and Prevention (CDC), but the actual number of affected patients may be more than 10 times higher.

In a study published June 21, 2021, in the journal *Healthcare*, a researcher from UT Dallas employed new approaches to tick-borne disease surveillance in Texas with the goal of linking differing forms of surveillance data into one comprehensive picture.

Dr. Sarah Maxwell, corresponding author of the study and associate professor of public and nonprofit management in the School of Economic, Political and Policy Sciences, and her co-authors found that mapping the geographic locations of self-reported tick bite encounters with CDC-confirmed Lyme disease cases could offer a granular-level surveillance method and aid in assessing Lyme disease risk in areas perceived to be nonendemic to the tick-borne pathogen.

Lyme disease, which is caused by a bacterium that is transmitted through the bite of an infected tick, is the fastest-growing vector-borne disease in the country. It can be difficult to diagnose, and many cases go unreported to county health agencies.

"Human disease risk from all tick-borne diseases is truly unknown and underreported, making it difficult for physicians to receive important information that could help in diagnosis and for public health officials to engage in prevention," Maxwell said. "This is especially true in states such as Texas, where the

state overall may have a low incidence of tick-borne diseases, but where individual counties have higher risk."

In the study, the researchers explored tick-borne disease surveillance patterns in geographic areas perceived to be at low risk for human tick-borne disease.

Through multilayer thematic mapping, the researchers compared data, including reports of canine Lyme, patient self-reported diagnoses and tick-bite recall, CDC reports of Lyme disease, and ecosystem habitat suitability.

They focused their efforts on Texas and used data from the Texans and Ticks Survey, a social media-based questionnaire that Maxwell developed to collect state, county and ZIP code information self-reported by Lyme disease patients. The responses included the geographic location of any tick bite recalled by the individuals.

Using data from 95 respondents, the researchers found overlap between tick-bite location and CDC-confirmed human cases of Lyme disease and canine tick-borne diseases.

"Our findings suggest that tick-bite location may serve as an indicator or proxy for human disease risk in areas often perceived to be nonendemic," she said.

- *Brittany Magelssen*



RESEARCH

Scientists Develop Promising Vaccine Method Against Recurrent UTI

RESEARCHERS AT UT Dallas are investigating the use of whole-cell vaccines to fight urinary tract infection (UTI). It is part of an effort to tackle the increasingly serious issue of antibiotic-resistant bacteria.

Dr. Nicole De Nisco, assistant professor of biological sciences, and **Dr. Jeremiah Gassensmith**, associate professor of chemistry and biochemistry, recently demonstrated the use of metal-organic frameworks (MOFs) to encapsulate and inactivate whole bacterial cells to create a “depot” that allows the vaccines to last longer in the body.

The resulting study, published in print Nov. 23, 2021, in the American Chemical Society’s journal *Nano*, showed that in mice this method produced substantially enhanced antibody production and significantly higher survival rates compared to standard whole-cell vaccine preparation methods.

“Vaccination as a therapeutic route for recurrent UTIs is being explored because antibiotics aren’t working anymore,” De Nisco said. “Patients are losing their bladders to save their lives because the bacteria cannot be killed by antibiotics.”

If not successfully treated, a UTI can lead to sepsis, which can be fatal.

Recurrent UTI, De Nisco said, is primarily regarded as a women’s health issue, and although it’s common – especially in postmenopausal women – it’s something many women don’t talk about a lot.

Vaccines work by introducing a small amount of killed or weakened disease-causing germs, or some of their components, to the body. These antigens prompt

the immune system to produce antibodies against a particular disease. Building vaccines against pathogenic bacteria is inherently difficult because bacteria are significantly larger and more complex than viruses. Selecting which biological components to use to create antigens has been a challenge.

“Vaccines using whole-cell dead bacteria haven’t succeeded because the cells typically don’t last long enough in the body to produce long-term, durable immune responses,” Gassensmith said.

“That’s the reason for our MOF antigen depot: It allows an intact, dead



pathogen to exist in tissue longer, as if it were an infection, in order to trigger a full-scale immune system response.”

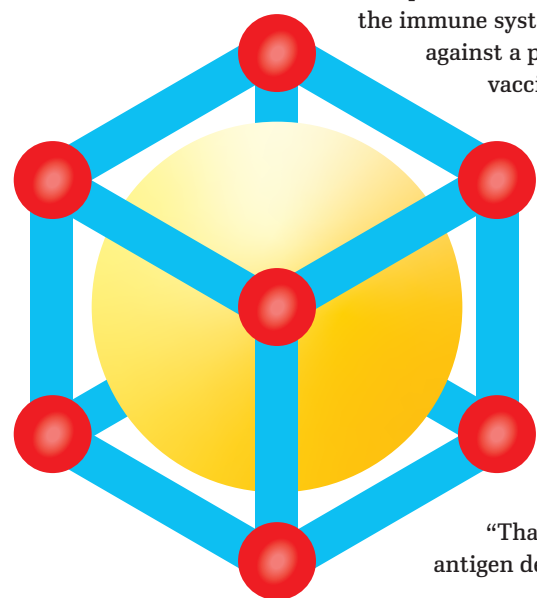
In their experiments, the researchers used a strain of *Escherichia coli*. There are no vaccines against any pathogenic strain of this bacterium. Uropathogenic *E. coli* causes about 80% of all community-acquired UTIs.

“When we challenged mice with a lethal injection of bacteria, after they were vaccinated, almost all of our animals survived, which is a much better performance than with traditional vaccine approaches,” Gassensmith said.

Although the method has not yet been tested in humans, De Nisco said it has the potential to help millions of patients.

“This study on UTI was a proof of concept that whole-cell vaccines are more effective in this extreme, lethal-sepsis model,” De Nisco said. “Showing that this works against recurrent UTI would be a significant breakthrough.”

De Nisco’s continuing exploration of how UTIs progress and recur in older women is funded by a \$1.3 million grant from the National Institutes of Health. The researchers also are funded by grants from the National Science Foundation and The Welch Foundation. - *Stephen Fontenot*



ON CAMPUS

New Education Degrees Expand Training of Future Teachers

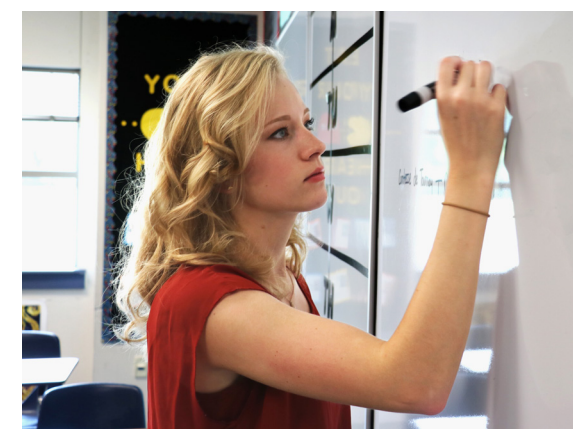
UT DALLAS HAS added two new bachelor’s degrees in education to prepare greater numbers of students to become classroom teachers.

The Bachelor of Arts in education and Bachelor of Science in education give students the opportunity to choose from a range of specialties, including early childhood through sixth grade core subjects; fourth through eighth grade core subjects; fourth through eighth grade English, language arts and reading; fourth through eighth grade social studies, math or science; and seventh through 12th grade social studies with concentrations in economics, geography, history or government. The degrees are offered through the School of Interdisciplinary Studies.

The new degrees augment teacher preparation programs that UT Dallas has offered for nearly 50 years. Since 1975 the Teacher Development Center has prepared more than 4,000 students for teaching careers by providing education coursework, field experience and preparation for state exams, with a 100% passing rate. Students will continue to have the option of earning teacher certification as part of any bachelor’s degree. Since 2008 the School of Natural Sciences and Mathematics has offered a program called UTeach Dallas that allows students to combine a degree in a science or technical field with a certification to teach mathematics, science and computer science at the secondary level.

Last fall, the Toyota USA Foundation donated \$750,000 to the University to create a scholarship program designed to increase the number of certified science, technology, engineering and mathematics teachers in the Dallas Independent School District.

- *Kim Horner*



COMMUNITY



Summer Science Program Makes Splash With Texas Teachers



A UT DALLAS program is helping teachers spark curiosity and provide real-world applications to scientific concepts via a small addition to their classrooms – zebrafish.

Dr. Vinita Hajeri, assistant professor of instruction in science/mathematics education in the School of Natural Sciences and Mathematics, started the Zebrafish Summer Institute in 2018 to give K-12 teachers a low-cost method to drive home science lessons.

Zebrafish are at the forefront of biological research, helping scientists understand complex diseases, including cancer. According to the National Institutes of Health, 70% of human genes are found in these fish; for instance, Duchenne muscular dystrophy and melanoma have been successfully modeled in zebrafish.

Zebrafish are also ideal for classrooms. They are freshwater fish that can be found in pet stores; they can be easily maintained in a classroom aquarium; and students can practice scientific concepts while studying them – from collecting data and monitoring the tank habitat, to developing hypotheses and writing about their findings.

“One of the struggles teachers have is engaging students with authentic scientific experiments with no access to research-grade equipment. To mitigate this problem, our lab is involved in creating zebrafish apparatus using recyclable materials and simplified methods that allow teachers to teach with zebrafish,” Hajeri said.

Sixteen Texas teachers attended the 2021 summer program, which received \$6,500 from a State Farm Enterprise Technology Priority School Grant. The funds helped purchase aquariums for attendees so they could set up zebrafish in their own classrooms. - *Paul Bottoni*

ON CAMPUS



Actuarial Program Named Center of Excellence

THE ACTUARIAL PROGRAM at UT Dallas has been recognized by the Society of Actuaries (SOA) as a Center of Actuarial Excellence (CAE), joining a group of 19 programs in the U.S. with the society's highest designation.

UT Dallas is the first institution in Texas and the only one in the Southwest to earn the distinction.

The Department of Mathematical Sciences within the School of Natural Sciences and Mathematics (NSM) has offered a bachelor's degree in actuarial science since 2009. The master's degree program accepted its first students in 2013 as the first such program in Texas.

"This honor is outstanding evidence of the highest academic standards that have developed in the short lifespan of our program," said Dr. Vladimir Dragovic, department head of mathematical sciences.

Actuaries use their proficiency in statistics, probability and mathematics to address business problems involving cost projections of contingencies. Those entering the field must obtain professional recognition by taking qualifying exams, several of which the SOA oversees.

To qualify for the CAE designation, programs must meet specific requirements. These criteria include appropriate degree and curriculum offerings; number and quality of graduates; faculty composition; appropriate integration with other areas of study; connection to industry; and research and professional involvement.

Dr. Natalia Humphreys, actuarial program associate head, said she expects the CAE designation to bolster the program's recruitment.

"Hopefully, we are going to have elite students flock to our school from all over the South and West," she said. - *Stephen Fontenot*

ON CAMPUS

UT Dallas Earns Texas Honor for Excellence in Veteran Education

LAST FALL, UT Dallas was honored with a top award from the state of Texas for its work to help student veterans succeed academically.

UT Dallas was one of nine recipients of the Veteran Education Excellence Recognition Gold Award from the Texas Veterans Commission's Veterans Education Program. In its first year, the award included gold-, silver- and bronze-level honors, which recognize institutions of higher education for excellence in providing education and related services to student veterans and military-connected students.

"This award demonstrates the importance of having a center and dedicated staff for military-affiliated students at institutions of higher education," said Lisa Adams, director of the Military and Veteran Center and a former Air Force pilot.



"The gold award recognizes that we continue to provide innovative programs – such as the center's Green Zone training – and holistic support for students who have served or currently serve in the U.S. military."

The Texas Veterans Commission evaluated award applicants on a number of criteria, including the quality of academic support services; staff and faculty training; mental health and disability services; and career services.

COMMUNITY



Students Help Feed Community with Eco Hub

ON A CAMPUS known for cultivating a love for science, engineering, the arts and business, UT Dallas students are digging into a different kind of cultivation – a student-run farm that will eventually help feed students and others who are food insecure.

The centerpiece of the UTD Eco Hub is a newly planted 20,000-square-foot farm. It includes a honeybee apiary, green space and picnic tables, and is located next to the new city of Richardson water tower on Synergy Park Boulevard.

"This will be a student-focused project from beginning to end," said Gary Cocke, director of sustainability and energy conservation. "It's great having this facility where

we can gather students who care about these topics and see what they can do with it."

Approximately 65 students have volunteered to care for the farm. Last fall they planted their first crops, which they watered, monitored and will eventually harvest.

For several years, UT Dallas has provided a community garden near the University Village student apartments, where members of the campus community have had the opportunity to garden – primarily for themselves.

The farm will be different in that the harvested crops will be donated primarily to the Comet Cupboard food pantry and to the North Texas Food Bank.

"It's students directly helping other students," said Caroline Lonneman, a geosciences senior and student director of the Eco Hub. "You're growing the food, and then you're providing it for other students on campus, which is nice." - *Phil Roth*



SPORTS



Esports Ups Its A-Game with New Coach

DREW BOEHM REMEMBERS the day he heard UT Dallas was launching an esports program in fall 2018.

It was the moment that pushed him to pursue a career in collegiate esports.

"During college, I was really into gaming," said Boehm, who joined the UT Dallas esports program as head coach in February. "It has always been an important part of my life, and I really enjoyed being involved in a gaming club in college. When I saw UT Dallas announce, 'Esports is here,' within the hour, I was Googling collegiate esports and trying to figure out how I could get involved. I knew I wanted to work in esports in a university setting."

UT Dallas' championship program boasts a pair of national titles in Super Smash Bros. Ultimate and

recently was ranked in the Top 10 varsity esports programs of 2022 by Best Colleges.

Boehm brings experience from head coaching positions at the University of Saint Mary and UT Arlington, where he launched the varsity esports program.

Engaging Comets outside of the program also is important, Boehm said. The Division of Student Affairs is exploring the possibility of creating a new public gaming space in the Student Union open to all students.

"We want to bring home those big titles, but we also want to engage the average student at UT Dallas," Boehm said. "The more interaction between our players and the general student population, the better."

- *Brittany Magelssen*

IN MEMORIAM

UT Dallas Remembers Transformational Leader Dr. Hobson Wildenthal

NEARLY 30 YEARS ago, Dr. Hobson Wildenthal stepped onto the UT Dallas campus as the chief academic officer. His influence over the years would affect every aspect of the institution – from the sciences to the arts, from business affairs to campus architecture and landscaping, to the recruitment of high-achieving scholars. He died Sept. 4, 2021, at the age of 83.

“Dr. Hobson Wildenthal’s name is synonymous with that of UT Dallas,” said UT Dallas President Richard C. Benson. “His work, in great part, built the University into what it is today. He was a tireless advocate who was determined in his efforts to elevate the institution’s reputation and recruit top faculty, staff and students. His leadership helped build a well-rounded university with academic rigor at its core.”

Wildenthal’s principal order of business in the early days was student recruitment. His idea was to provide full scholarships for National Merit Scholarship Program finalists in order to attract exceptional young students. Today, UT Dallas is among the top 10 universities in the country with the greatest number of National Merit Scholars – nearly 200 annually.

In 2000, inspired by Wildenthal’s successful recruitment efforts, Margaret McDermott made a \$32 million gift to establish the Eugene McDermott Scholars Program.

Dr. Inga Musselman, who succeeded Wildenthal as provost and vice president for academic affairs in 2017, arrived at UT Dallas in 1992 as an assistant professor.

“I consider Dr. Wildenthal to be a colleague, one of my professional mentors, a true friend and an ally for UT Dallas,” Musselman said. “I’ve seen firsthand his



efforts to not only build upon the University’s success, but also to innovate. He poured his intellect and soul into UT Dallas throughout the years.”

Raised in San Marcos, Texas, and later in the West Texas towns of San Angelo and Alpine, Bryan Hobson Wildenthal graduated in 1958 with a bachelor’s degree in English and mathematics from Sul Ross State University.

After graduating from the University of Kansas with a PhD in physics, he held appointments at Rice University, Oak Ridge National Laboratory, Texas A&M University, Michigan State University, Drexel University and the University of New Mexico.

He came to UT Dallas as vice president for academic affairs in 1992 and was named provost in 1994, executive vice president in 1999 and interim president from 2015 to 2016.

In 2017, a gift in honor of Wildenthal from the Eugene McDermott Foundation created another endowment of \$10 million to support undergraduate research, and the University’s Honors College was renamed the Hobson Wildenthal Honors College. Most recently, his brother and sister-in-law, Dr. Kern and Marnie Wildenthal, made a planned gift to help further endow the Honors College.

In 2019, UT Dallas’ Ackerman Center for Holocaust Studies honored Hobson Wildenthal with the inaugural Edward M. Ackerman Leadership Award for his role in helping establish and enhance the groundbreaking center.

In addition to his brother, Wildenthal is survived by his wife, Adele; five children; five grandchildren; and three great-grandchildren. - Heidi Harris Cannella



IN MEMORIAM

UT Dallas Mourns Loss of Visionary Philanthropist Peter O’Donnell Jr.

PETER O’DONNELL JR., a visionary force behind the expansion of UT Dallas and one of its most generous benefactors, died Oct. 10, 2021. He was 97.

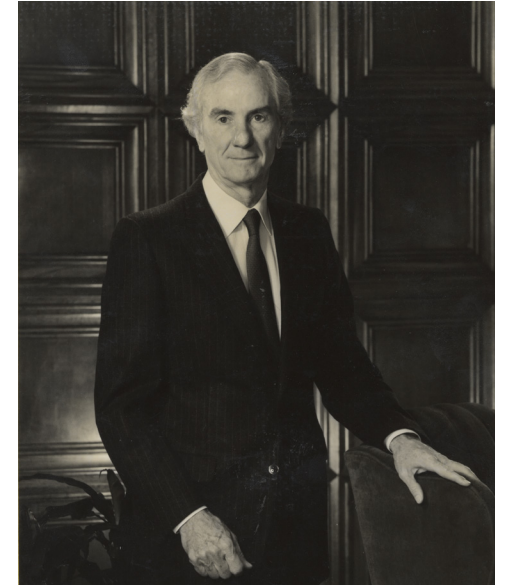
Known for their civic and business leadership, Peter and his wife, Edith O’Donnell, who died in 2020, established the O’Donnell Foundation in 1957. Their foundation has played an inimitable role in advancing higher education and scientific research throughout Texas. Their financial contributions over the years to UT Dallas alone total more than \$40 million.

“Peter O’Donnell Jr. was perhaps the most influential Texan of his generation,” UT System Chancellor James B. Milliken said. “Few people have done as much to advance the state of Texas as a powerhouse for research and innovation.”

O’Donnell was instrumental in securing \$6 million in the late 1980s from the Texas Legislature to enable UT Dallas to begin granting four-year undergraduate degrees.

“Peter O’Donnell’s leadership in securing for UT Dallas the authority to teach engineering and to have a full, legitimate four-year undergraduate program made possible all that has been accomplished in the succeeding decades,” said Dr. Richard C. Benson, UT Dallas president. “His advocacy and his generosity, along with that of his wife and their foundation, have changed UT Dallas — and the world — for the better in profound ways.”

The O’Donnell support included a \$1 million fund for Presidential Scholarships in 1989 and a \$5 million endowment for a Leadership Fund for the University president in 2005. A \$5 million anonymous gift in 2012 helped to establish the Texas Biomedical Device Center.



“Peter O’Donnell was fundamental to the development and growth of UT Dallas — as he was for so many institutions,” said Dr. Inga Musselman, provost and vice president for academic affairs. “Both he and Edith O’Donnell, through their philanthropy and volunteerism, worked tirelessly — and for many decades anonymously — to elevate education, access to the arts, and medical care and research across Texas and beyond.”

He and his wife were key supporters in adding the “A” — arts — to the STEAM (science, technology, engineering, arts and mathematics) curriculum for which the University is known. In 2013 the Edith O’Donnell Arts and Technology Building was dedicated in her honor. The following year, they made a \$17 million gift to establish the Edith O’Donnell Institute of Art History. The O’Donnells also made several multimillion-dollar donations to establish endowments for faculty in the School of Arts, Technology, and Emerging Communication. Most recently, the foundation made a multimillion-dollar commitment toward the construction of the UT Dallas Athenaeum.

Born April 21, 1924, O’Donnell grew up in Highland Park, Texas. He earned a bachelor’s degree in mathematics at the University of the South in Tennessee and a Master of Business Administration from the Wharton School of the University of Pennsylvania.

After three years of service in the Navy during World War II, he returned to Texas and met Edith Jones in 1948. They married in 1952 and have three daughters, six grandchildren and two great-grandchildren. - Heidi Harris Cannella



To Catch a THREAT

To thwart criminal activity in the digital age, cybersecurity experts must think like the bad guys. UT Dallas researchers are on the case.

by Kim Horner

THE THREAT of catastrophic cyberattacks looms larger than ever, as recent strikes have disrupted the fuel supply, temporarily halted various business, government and hospital operations, and attempted to poison a Florida town's drinking water.

The risk has risen as organizations' computer networks can be accessed remotely. In just the past two years, attacks on Colonial Pipeline Co., which operates the largest fuel pipeline in the U.S.; on information technology provider Kaseya; on the Washington, D.C., Metropolitan Police Department; and on a water treatment plant in Oldsmar, Florida, demonstrate the potential for serious damage.

"We haven't seen even one-hundredth of the problem. These attacks are causing a lot of difficulties, but it's going to get worse and worse and worse," said Dr. Bhavani Thuraisingham, professor of computer science and the Founders Chair in Engineering and Computer Science at The University of Texas at Dallas. She is recognized nationally as one of the country's leading cybersecurity experts.

"The challenge we have now is that almost everything that has a microprocessor – whether we're talking about autonomous vehicles or drones or everyday items in our homes – could be attacked, and there could be some very serious consequences," said Thuraisingham, founding executive director from 2004 until last year and currently senior strategist for the Cyber Security Research and Education

Institute (CSI) in the Erik Jonsson School of Engineering and Computer Science (ECS).

With a steady stream of new technologies that bring the potential for unprecedented kinds of attacks, cybersecurity is a field of constant change. Cybersecurity experts are forced to think like criminals to anticipate and figure out how to detect the countless ways that attackers could gain access. Crooks, however, only need to find one flaw to infiltrate an entire system. In the case of Colonial Pipeline, a single compromised password resulted in fuel shortages along the East Coast.

"Hackers get more and more sophisticated, and they only have to find one vulnerability to be successful," Thuraisingham said. "We have to find 100% of those cracks."

UT Dallas cybersecurity experts are developing creative ways to prevent, detect and stop the ever-evolving range of breaches through research supported by government agencies including the National Science Foundation (NSF), National Institutes of Health, National Security Agency (NSA), Air Force Office of Scientific Research, Office of Naval Research and the Army Research Office. The University's cybersecurity program reaches beyond computer science as researchers collaborate with faculty from the Department of Electrical and Computer Engineering, the Naveen Jindal School of Management, and the schools of Economic, Political and Policy Sciences (EPPS) and Behavioral and Brain Sciences, as well as

"Hackers get more and more sophisticated, and they only have to find one vulnerability to be successful."



Dr. Bhavani Thuraisingham

“The game is changing right now. You can’t just have a lock on the front door. You need security cameras inside the house.”

- Dr. Kangkook Jee

with colleagues at other academic institutions. For example, UT Dallas researchers have developed novel techniques based on machine learning to protect data and users’ privacy, detect intrusions, and deceive online intruders in order to learn from their tactics.

In 2015 UT Dallas became the first university in Texas to receive the NSA’s prestigious designation as a National Center of Academic Excellence in Cyber Operations. In 2020 the University joined five other national universities in an NSF-sponsored research center dedicated to industry-focused projects aimed at protecting the security of microchips and other hardware that can be especially vulnerable to attack.

But research alone is not enough. From high school cybersecurity camps to graduate degree programs, UT Dallas faculty members also provide educational and training programs that help fill a critical shortage of cybersecurity professionals worldwide.

A Changing Game

Cybersecurity has evolved over the years from focusing on blocking digital intruders from a main entry point to tracking their movements throughout a computer network if they break past security measures, said Dr. Kangkook Jee, assistant professor of computer science.

“The game is changing right now,” he said. “You can’t just have a lock on the front door. You need security cameras inside the house.”

New threats continue to emerge. The increase in numbers of people working from home due to the COVID-19 pandemic opened an untapped entry point for attackers, exposing weak security measures in some entities. While all types of cyberattacks were up in 2020 and 2021, ransomware attacks made the biggest headlines.

In a ransomware attack, criminals seize sensitive data and hold it hostage for payments that have reached tens of millions of dollars. Companies are warned that their sensitive information will be exposed if they do not pay. One of the primary ways the culprits gain access to an organization’s network is through a phishing email that deploys malware to encrypt servers.

“Once an attacker breaks into your system, they have access to everything in it,” Thuraisingham said. “They can do more than steal your data; they can encrypt all your data and files, destroy your system, and make it inaccessible without paying the ransom. It’s like someone breaking into a house and stealing jewelry but then kidnapping a child and demanding a ransom.”

As the use of electronic devices grows, their components also have become increasingly vulnerable to malicious tampering and counterfeiting.

“Suppose a bad actor replaces a chip during a service or upgrade at a power plant, enabling capabilities that can cause the power distribution network to fail,” said Dr. Yiorgos Makris, professor of electrical and computer engineering. “Semiconductor tampering also has implications for consumer electronics, such as wireless communication devices, where

How to Protect Your Data Like a Cybersecurity Pro

Everyone’s internet-connected devices are vulnerable to attacks, even those belonging to cybersecurity pros. Here’s how experts at UT Dallas protect their data.

Dr. Bhavani Thuraisingham, the Founders Chair in Engineering and Computer Science and one of the nation’s foremost experts in cybersecurity, uses separate computers for web surfing and for working so that her documents are not connected to the internet.

Dr. Murat Kantarcioglu, Ashbel Smith Professor of computer science, stores his documents on several external hard drives that are not connected to the internet and are kept in different locations.

And computer science alumnus **Lucas Castro BS’19, MS’20**, a cybersecurity engineer at MITRE, protects his privacy by avoiding social media.

“It’s a good idea to keep in mind that nothing you put on the internet is private,” Castro said.

While many people may not go that far, cybersecurity experts recommend that everyone take the following steps to protect their data and devices:

- » Use two-factor authentication whenever possible.
- » Change the default password on your router, which can be an entry point to attack any device connected to the internet.
- » Keep all devices updated with current software.
- » Store sensitive data such as tax documents on an external drive that is not connected to the internet.
- » Encrypt files with sensitive data, and make sure the encryption method meets current standards.
- » Use different passwords for different sites, and create random passwords with the most characters possible.
- » Change passwords every six months.
- » Back up your data to an external hard drive.
- » Regularly scan your computer for vulnerabilities.
- » Don’t click any link you don’t trust.



“If AI systems are attacked, there are going to be all kinds of crazy repercussions.”

- Dr. Bhavani Thuraisingham

private data may be leaked by untrusted chips, or the automotive industry, where safety may be compromised by counterfeit parts.”

To address this risk, UT Dallas, along with five other universities, in 2020 established the Center for Hardware and Embedded Systems Security and Trust (CHEST), a new research initiative focused on protecting the security of semiconductors, the circuit boards they are mounted on and other computer hardware. Led by the University of Cincinnati, CHEST also involves Northeastern University; University of California, Davis; University of Connecticut; and the University of Virginia.

CHEST is an NSF Industry-University Cooperative Research Center that serves as a hub for industry-focused research and currently comprises 23 members across industry and governmental laboratories.

Outsmarting Cyber Spies

As the Internet of Things – the vast network of connected devices, from smartwatches to home security systems – rapidly grows, so too does the potential for criminals to use the technology to spy, cause physical harm, or steal information for financial gain or to use as blackmail.

The complex network of computing devices that are connected by software and sensors nearly doubled to more than 38 billion from 2018 to 2020, according to Juniper Research. The firm, which provides research and analysis to the global high-tech communications sector, predicts that by 2024 that number will surpass 83 billion.

In a study published in the September-October 2019 issue of the journal *IEEE Security & Privacy*, UT Dallas researchers tested home security systems, drones and children’s smart toys to demonstrate just a few of the many ways common personal devices can be hacked. The team found several different types of vulnerabilities, which they reported to the manufacturers. One of the most eye-opening examples involved a children’s toy. The stuffed animal contained a microphone through which an attacker could inject audio into the device and have conversations with the child, perhaps even telling the child to open the door to the home.

Mobile apps pose another type of threat, making it possible for criminals to determine a person’s location and other personal information.

“When you download an app, it can access a lot of information on your cellphone,” said Dr. Kanad Basu, assistant professor of electrical and computer engineering. “You have to keep in mind that all this info can be collected by these apps and sent to third parties. What do they do with it? They can pretty much do anything. We should be careful about this.”

The personal identifiable information can include names, email addresses, phone numbers, location, and audio and visual recordings. It also can include unique identifiers for devices such as an international mobile equipment identity, media access control addresses, Android ID and Advertising ID, which allows software developers to collect information on users’ interests and sell it to advertisers.

In a study published March 27, 2020, in *IEEE Transactions on Information Forensics and Security*, Basu and fellow researchers found that 72 out of 100

children’s mobile apps violated the Children’s Online Privacy Protection Act, making it easy for a hacker to determine a child’s identity and location. He and fellow researchers are developing a tool that can determine whether an Android game or other mobile app complies with the legislation.

Countering Attacks on Artificial Intelligence

The increasing use of artificial intelligence (AI) poses new types of security risks as well. Massive amounts of data are used to train the software that controls autonomous vehicles and other AI systems. Machine learning, an AI technique, involves feeding millions of real-life examples into a computer to teach a self-driving car, for example, how to respond to a stop sign. A subset of machine learning, called deep learning, analyzes layers of information, paving the way for AI to perform tasks such as evaluating mammograms to flag tumors. But what if online vandals access and tamper with the data?

“Artificial intelligence is affecting every aspect of our lives, from health care to finance to driving to managing the home,” Thuraisingham said. “Sophisticated machine-learning techniques with a focus on deep learning are being applied successfully to detect cancer, to make the best choices for investments and to determine the most suitable routes for driving, as well as efficiently managing the electricity in our homes.”

The threat of attacks on AI systems has fueled one of the hottest areas of cybersecurity research.

“If AI systems are attacked, there are going to be all kinds of crazy repercussions,” Thuraisingham said. “Imagine financial organizations that depend on

AI giving you messed up results and advice, or a medical provider giving the wrong diagnosis.”

Current driver-assist technology also could be vulnerable. Consider the sensors used to alert drivers when it is unsafe to change lanes.

“What if it doesn’t detect another vehicle, and the driver thinks it’s safe to change lanes?” she asked.

Dr. Murat Kantarcioglu, Ashbel Smith Professor of computer science, works on technology to make machine learning more resistant to attacks.

“There is an increase in machine learning and AI techniques used for automating decisions and making predictions,” Kantarcioglu said. “We are looking at how these techniques can be attacked and also how we can make machine-learning models more robust against those attacks.”

Kantarcioglu’s research also involves protecting the massive amounts of data collected and stored online. In 2014 he and his colleagues won a Homer R. Warner Award from the American Medical Informatics Association for creating a tool that uses cryptography techniques to protect patient records in hospital databases.

In another area of research, Dr. Justin Ruths, assistant professor of mechanical engineering, is developing technology to detect cyberattacks on physical plants or operations. The method involves building predictions about how a system should work and creating an alert system when things don’t go as expected.

“If you can make a good prediction, then you can ask, ‘Is my observation roughly equivalent to my prediction?’ If those things are very different, that’s the kind of tool we use to detect anomalies,” he said.



Dr. Murat Kantarcioglu

“We are looking at how ... we can make machine-learning models more robust against ... attacks.”

“There are criminals trying to attack our networks all the time.”



Dr. Kevin Hamlen

(Photo by Krista Imbesi)

Crook Sourcing

While the growing use of AI poses ever-changing cybersecurity threats, the technology also brings new ways to detect, disable and even learn from attacks.

A team of researchers, including Dr. Kevin Hamlen, the Louis Beecherl Jr. Distinguished Professor of computer science, and Dr. Latifur Khan, professor of computer science, developed a cyberthreat detection system that uses AI to fight attacks. The method, called DEEP-Dig (DEcEPTion DIGging), ushers intruders into a decoy website so the computer can learn from hackers’ tactics. The information is then used to train the computer to recognize and stop future attacks.

DEEP-Dig advances a rapidly growing cybersecurity field known as deception technology, or “crook sourcing,” which involves setting traps for hackers. Researchers hope that the approach can be especially useful for defense organizations.

“There are criminals trying to attack our networks all the time, and normally we view that as a negative thing,” said Hamlen, who succeeded Thuraisingham as CSI executive director. “Instead of blocking them, maybe what we could be doing is viewing these attackers as a source of free labor. They’re providing us data about what malicious attacks look like. It’s a free source of highly prized data.”

Training the Next Generation

The high demand for cybersecurity experts has created excellent job prospects for students who want to enter the field.

According to a 2019 study by (ISC)², an international nonprofit group of certified cybersecurity professionals, the U.S. cybersecurity workforce numbers around 800,000, but there’s a shortage of nearly 500,000 skilled professionals. Sixty-five

percent of organizations in the study reported a shortage of skilled staff.

UT Dallas’ Department of Computer Science has long recognized this need and actively targets teens interested in the field through its summer Cyber Defense Camps for high school and advanced middle school students. These camps enable the students to pass industry certification exams.

Additionally, CSI leaders are committed to broadening the field to include more women, who make up 24% of the cybersecurity workforce, through initiatives like the Center for Engaging Women in Cyber Security, which was conceived after the University hosted the 2016 Women in Cybersecurity Conference.

Another way UT Dallas is meeting the need for cybersecurity experts is by offering scholarships to qualified master’s students through the NSF-funded program CyberCorps: Scholarship for Service (SFS). The program pays qualified students’ tuition and fees, and provides a stipend of up to \$34,000 per academic year. Recipients must agree to work after graduation for a federal, state or local government entity for a period equal to the length of the scholarship. The Jonsson School has been participating in the SFS grant program since 2010. Most recently, in 2019, the school received a \$4 million grant to support some 24 students through 2024.

“The SFS program at UT Dallas is structured to provide students with strong technical education and professional training opportunities to start strong in their professional careers in cybersecurity after graduation,” said Dr. Kamil Sarac, professor of computer science, director of cyber security education programs in ECS and co-principal investigator on the grant.

Alumni have gone on to work for the Department of Defense (DOD), as well as Amazon, Meta (formerly Facebook) and Procter & Gamble Co. And they’re serving with distinction: In 2019, Ryan Burchfield BS’06, MS’09, who works for the DOD, received a Presidential Early Career Award for Scientists and

Engineers, the U.S. government’s highest honor for scientists and engineers at the beginning of their research careers.

The University also recently added a Master of Science in cybersecurity, technology and policy through EPPS in partnership with the Department of Computer Science. The interdisciplinary degree is designed to teach students how to ascertain the risk of a cyberattack, identify security gaps in different policy settings and work within a regulatory framework. It provides an opportunity for both students with prior computer science experience and those coming from nontechnical backgrounds to learn strategic, policy and analytic aspects of cybersecurity.

Know Your Risks

While ransomware and other attacks have increased in recent years, experts are concerned that public awareness of cybersecurity risks has not kept pace.

“A problem in our society is that we’re using the internet, but we are not aware of what this means in terms of privacy,” Basu said. “Few of us care about privacy; although, we should.”

One of the biggest mistakes is for individuals to assume they are not at risk, said Lucas Castro BS’19, MS’20, an SFS scholarship recipient who is now a cybersecurity engineer at MITRE. He said many people believe they have nothing on their computer worth stealing. Even if that were true, however, their computer could be hijacked as part of a distributed-denial-of-service attack. In this type of attack, criminals access a large number of personal computers, gaining computing power for a targeted assault against a business that makes it impossible for anyone to access the company’s website.

“Even if you don’t get hacked, your device could be used as a zombie computer in a botnet attack,” Castro said. “They don’t want your data; they just want your computing power. There’s always something criminals can get out of taking control of your machine.

“Your stuff is not nearly as secure as you want to believe it is.” ■





New Dimensions
by Daniel Steele

UT Dallas Launches \$750 Million Comprehensive Fundraising Campaign

New Dimensions: The Campaign for UT Dallas will support student scholarships, research, the arts and more.

THE UNIVERSITY OF Texas at Dallas has publicly announced a \$750 million comprehensive fundraising campaign that promises to have a transformative effect on students and programs across the University.

New Dimensions: The Campaign for UT Dallas is the second major fundraising campaign in UT Dallas' history. Its launch signals the beginning of a concerted effort to expand financial support for students, generate new funding for groundbreaking research and expand the presence of the arts on campus.

"Excellence is embedded at UT Dallas," said Dr. Richard C. Benson, UT Dallas president and the Eugene McDermott Distinguished University Chair of Leadership. "With the success of the *New Dimensions* campaign, our University will be strategically poised for the next 50 years and beyond."

The campaign announcement came with more than \$250 million already raised during a silent phase, which began in 2017 with a final \$25 million gift from the late Margaret McDermott, UT Dallas' farsighted principal benefactor and the wife of one of the University's founders.

During the campaign's virtual launch, Mary McDermott Cook, daughter of Eugene and Margaret McDermott, reflected on the progress that UT Dallas has made over its first 50 years and the critical contributions that philanthropy has played in the University's development.



"When my mother gave the endowment for the [Eugene] McDermott Scholars in 2000, this was not the place it is today," Cook said. "But since those kids came, they have changed this university and made us understand that UT Dallas can be the best of the best. I'm not telling you that money is the answer to everything, but it can help make UT Dallas exactly what it needs to be."

Provost Inga Musselman has had a front-row seat to UT Dallas' growth since her arrival on campus 30 years ago as an assistant professor.

"At the heart of every great university is the quality of education that it delivers," said Musselman, who is also vice president for academic affairs and the Cecil H. Green Distinguished Chair of Academic Leadership. "Attracting exceptional students and recruiting outstanding faculty are synergistic – each in turn inspires the other. That is why this campaign at this time is essential to move UT Dallas into the future."

What the University has aspired to be throughout its history is a destination for world-class research and education. Founded half a century ago as a school to train talented scientists and other professionals, UT Dallas rapidly grew to include eight academic schools and more than 40 research centers encompassing the sciences, business, arts and humanities, and engineering.

On the strength of the *Realize the Vision* campaign, which ended in 2014 with \$273 million raised, UT Dallas realized many of its initial goals. Among them was recognition by the Carnegie Classification of Higher Education as an R1 doctoral university with "very high research activity," which places the University among the top 146 in the country, often

referred to as "tier one" status, and achieving benchmark criteria to qualify for funding from the National Research University Fund, an exclusive source of research support available to the state's "emerging research universities."



John Olajide BS'04



Ron Nash MS'79

Co-chairs of the *New Dimensions* campaign

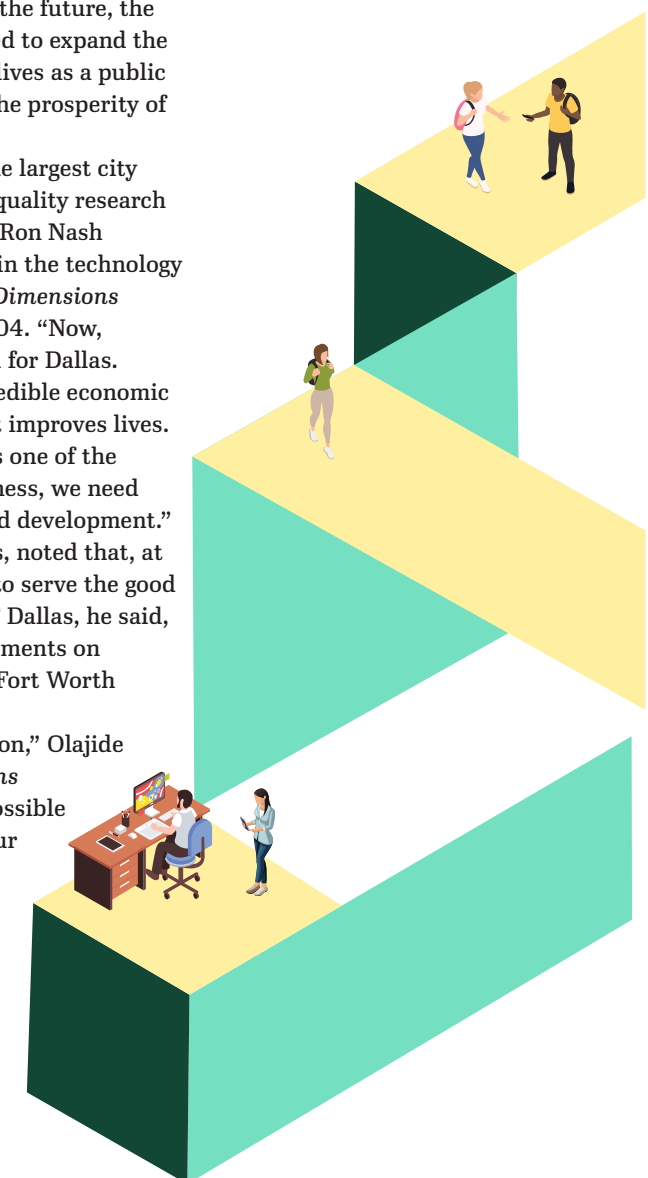
As one of the fastest-growing public doctoral universities in the U.S., UT Dallas has become an integral part of the local economy, driving innovation, invention and entrepreneurship while providing social mobility through affordable educational programs. As the University looks to the future, the *New Dimensions* campaign is designed to expand the ways in which UT Dallas can impact lives as a public research institution while ensuring the prosperity of the North Texas region.

"Just a few years ago, Dallas was the largest city in the country without a large, high-quality research university to power its growth," said Ron Nash MS'79, a veteran business executive in the technology industry who is co-chair of the *New Dimensions* campaign alongside John Olajide BS'04. "Now, UT Dallas is that research institution for Dallas. It is a world-class university, an incredible economic engine for the region and a place that improves lives. For Dallas to maintain its standing as one of the best places to live, work and do business, we need UT Dallas to accelerate its growth and development."

Olajide, founder and CEO of Axxess, noted that, at their core, universities are designed to serve the good of their communities. Supporting UT Dallas, he said, has an exponential benefit as achievements on campus ripple out across the Dallas-Fort Worth Metroplex and around the world.

"Serving others is UT Dallas' mission," Olajide said. "Supporting the *New Dimensions* campaign means exploring what is possible for the good of future students, for our community and for the world. It means giving those less fortunate than ourselves the ability to pursue their dreams and knowing that together we can leave the world better than we found it."

The *New Dimensions* campaign is organized around three pillars: attracting the best and brightest students, enhancing lives through transformative research and transforming the arts on campus.



Attracting the Best and Brightest Students

Scholarships build great universities. UT Dallas' own history attests to the expansive power of financial aid in recruiting and retaining top scholars. The growth of the University's student body and its parallel climb to "tier one" status can be directly traced to its commitment to student scholarships.

In 1993, just a few years after the Texas Legislature authorized the University to enroll freshmen for the first time, the Academic Excellence Scholarship program began awarding merit-based scholarships to incoming freshmen. On the strength of this benefit, UT Dallas saw its freshman enrollment grow from 95 in 1992 to 452 in 1993. Additionally, UT Dallas is now among the top 10 universities in the country with the greatest number of National Merit Scholars, with approximately 200 each year.

Over the following decades, UT Dallas' student body has grown to nearly 30,000. Top applicants cite the University's scholarship programs as a main reason for considering UT Dallas as a preferred destination.

UT Dallas is also known for its affordability. The University ranks 40th among the nation's public schools in 2021 Princeton Review rankings based on academic excellence, affordability and career prospects for graduates. Combined with the 2021 *U.S. News & World Report* Best Value Schools list, in which UT Dallas ranks in the top 50 nationwide and third in Texas among public schools, the accolade shows the University is committed to affordability while delivering an exceptional college experience.



"The education process is basically empowering talented students and faculty to create greatness," said Dr. Hasan Pirkul, dean of the Naveen Jindal School of

Management and the Caruth Chair. "UT Dallas has one of the lowest student debt averages at graduation in the nation. Scholarships play a big role in this."

The *New Dimensions* campaign has prioritized increasing UT Dallas' endowments for scholarships and fellowships. Achieving this goal would expand access for students of all backgrounds, incentivize even more top talent to choose UT Dallas and maintain affordability. Current University expenditures for merit- and need-based scholarships are significant and largely dependent on variable institutional and state funding. Generating new endowed financial aid resources would solidify UT Dallas' ability to meet students' needs in perpetuity. By providing the ability to continue to recruit a talented and diverse student body, financial aid endowments directly support UT Dallas' core mission of educating students who eventually can become local leaders in the public and private sectors.

"You want the best and brightest coming to you," said Dr. Stephanie G. Adams, dean of the Erik Jonsson School of Engineering and Computer Science and holder of the Lars Magnus Ericsson Chair in Electrical Engineering. "You want people with different backgrounds and lived experiences because they will bring those experiences to the processes and products they create."



The School of Interdisciplinary Studies' Academic Bridge Program is one example of the University's commitment to attract and help all students succeed, including high-potential students from Dallas-area urban high schools who didn't receive a university-track curriculum. With support from the Texas Legislature and private donors, the program begins the summer after high school with peer mentorship, financial support and rigorous academic coaching.

More than two-thirds of all UT Dallas graduates remain in the Dallas-Fort Worth Metroplex after graduation. Corporate partners, such as State Farm, recognize the role that UT Dallas plays in training a talented workforce.

"We at State Farm are able to use incredibly talented students from UT Dallas," said David Gwarda, assistant vice president at State Farm and a member of the UT Dallas Executive Board. "They're highly accomplished with new technologies; they're very innovative; they possess strong leadership skills; and they are passionate about problem-solving."



Enhancing Lives Through Transformative Research

As a university dedicated to innovation and invention, UT Dallas works to create solutions for the most pressing issues facing the world today. Challenges in the areas of climate change, health care, brain performance, cybersecurity and manufacturing inspire students and faculty to new heights of ingenuity. UT Dallas must expand opportunities for impactful basic and applied research that contributes to society's growth and development.

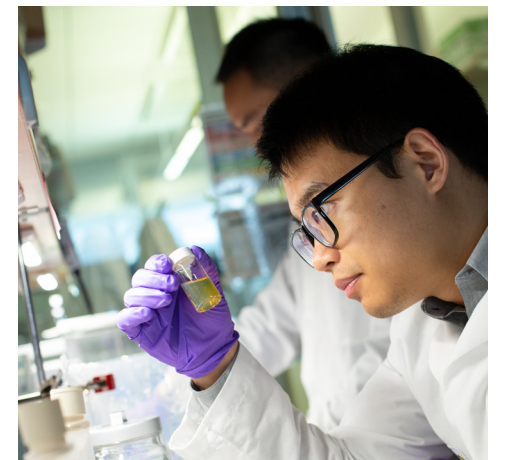
"Research is probably the foundation for every single new discovery that's made," said Dr. Sandra Bond Chapman, chief director of the Center for BrainHealth, professor of psychology in the School of Behavioral and Brain Sciences (BBS), and the Dee Wylie Distinguished University Chair in BrainHealth. "It helps us to explore the unknown, to define solutions and to keep improving them."

UT Dallas is already home to unique programs that have redefined areas of scientific inquiry across many fields. For instance, an on-campus wind tunnel – the Boundary Layer and Subsonic Tunnel – allows researchers to explore the next level of wind engineering to understand the effects of wind on the natural and built environment. The Texas Biomedical Device Center, supported in part by Texas Instruments (TI), facilitates the work of scientists and engineers who develop novel technologies to restore quality of life lost to neurological injuries and disease. A dashboard

created by Dr. Timothy Bray, associate professor of practice of public policy and political economy and director of the Institute for Urban Policy Research within the School of Economic, Political and Policy Sciences, has provided critical COVID-19 information for the past two years that has helped city and county governments stay ahead of the pandemic. The Callier Center for Communication Disorders is one of a select few such centers in the nation that combine clinical care, graduate student training and research within one institution, while BBS' graduate programs in audiology and speech-language pathology are ranked among the top 10 in the U.S. The Ackerman Center for Holocaust Studies is one of the few programs in the country to offer graduate certificates in Holocaust studies. Scientists in the School of Natural Sciences and Mathematics have made pioneering discoveries in every realm, from the smallest nanotechnologies to the largest, designing and building equipment to explore Venus, Mars, the moon and Halley's comet. And these are only a handful of the many programs and initiatives that have direct implications for improving quality of life across the spectrum of health and well-being – all at UT Dallas.

The *New Dimensions* campaign will support critical projects like these that unite the campus's intellectual and physical resources in ways that distinguish UT Dallas and enable new discoveries. In addition to funding endowed positions for faculty and providing research support for graduate students, the construction of a translational biomedical engineering and sciences building on the UT Southwestern Medical Center east campus is a center point of this effort.

Ground was broken in November for construction of the new building that will catalyze a unique





partnership between UT Dallas and the academic medical center. The 150,000-square-foot building is made possible by a transformative gift from TI and funds from the Permanent University Fund of the UT System. The new facility has been named the Texas Instruments Biomedical Engineering and Sciences Building.

“Our new joint building aims to bring together scientists, clinicians and engineers to be synergistic in ways that we have not seen in the past,” said Dr. Joe Pancrazio, vice president for research and innovation and professor of bioengineering. “That building is a physical manifestation of our growing partnership. It will allow our faculty to have access to the patients and clinicians they need to accelerate the advancement of medical technology.”

Critical improvements to the structure of research programs across UT Dallas will help integrate diverse teams of scientists while providing new opportunities for students to begin their careers with hands-on experience working with renowned faculty in world-class laboratories.

“At the end of the day, for the most important problems of the day – energy, water, health – there is no single group or discipline that can address everything needed to solve these problems,” said Dr. Mario Rotea, professor of mechanical engineering, director of the Wind Energy Center at UTD, and site director for the National Science Foundation-funded Center for Wind Energy Science, Technology and Research, an Industry-University Cooperative Research Center. “Collaboration is the way of the future, and it’s in the DNA of UT Dallas.”

Transforming the Arts on Campus

Creativity and innovation are at the core of a UT Dallas education. In every academic department, students and faculty combine technical expertise with imagination, seeking answers to difficult problems informed by diverse experiences and perspectives. The creative arts help these skills flourish while encouraging collaborative interdisciplinary work across fields. Augmenting UT Dallas’ traditional focus on the sciences, engineering and management with enhanced art programs can create a more engaging campus life, attract multitalented students and cement a new destination in North Texas for cultural appreciation and dialogue.

“UT Dallas is an institution that is birthed through innovation, prototyping and product development,” said Dr. Andrew Scott, associate professor of arts and technology. “We use that same level of inquiry and focus when studying artistic problems and processes to create something that can convey an idea.”

The arts are indeed different at UT Dallas. Through programs in the School of Arts, Technology, and Emerging Communication; the School of Arts and Humanities; and the Edith O’Donnell Institute of Art History, work takes place at the intersection of art history, data science, technology and new media. Blending traditional approaches with cutting-edge analytic techniques, UT Dallas is bringing the best discoveries of modern science to bear on timeless works of art and intellectual questions.

The University broke ground in May on a new museum and performing arts complex – the UT Dallas Athenaeum – that will be a home for internationally renowned art collections and a physical laboratory for interdisciplinary research. The Athenaeum will house several collections of recently acquired gifts of art, including the Trammell and Margaret Crow Museum of Asian Art and Carolyn Brown’s collection of thousands of print and digital photographic images



spanning her 50-year career. The facility will also feature a 600- to 800-seat performance hall and additional spaces for classes and lectures. It will be the first complex of its kind in Texas north of Interstate 635 and will create a new arts district catering to schoolchildren, families and art aficionados, as well as students and the campus community.

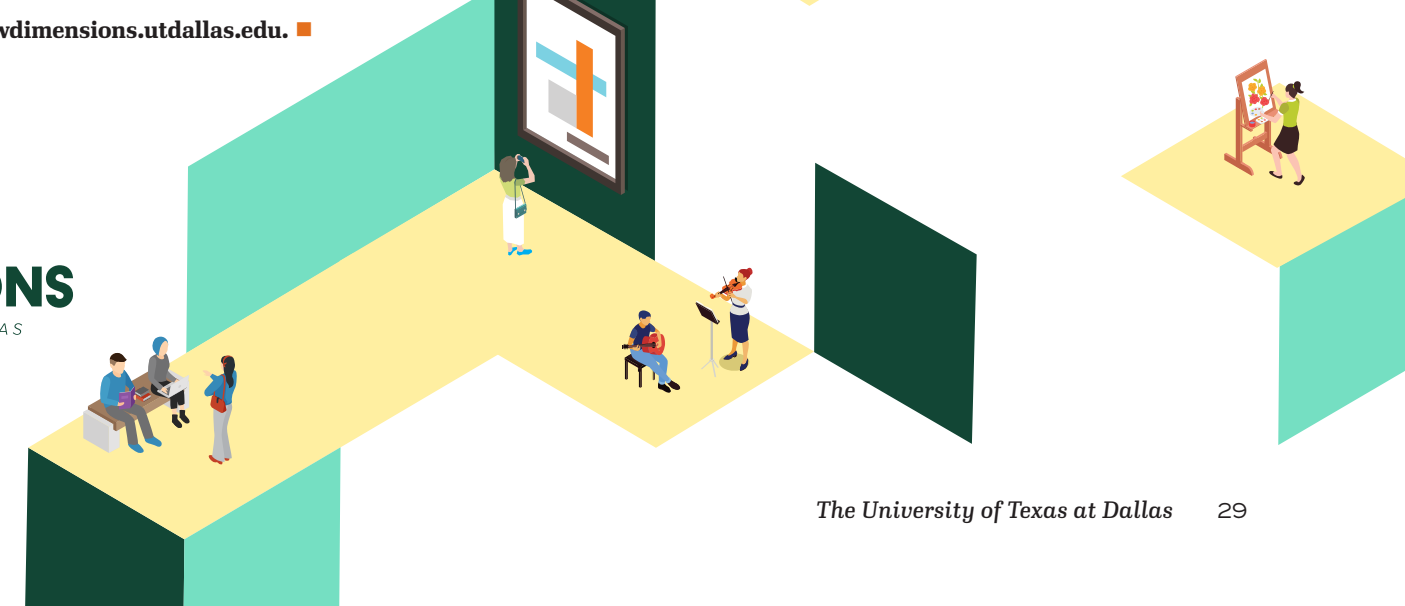
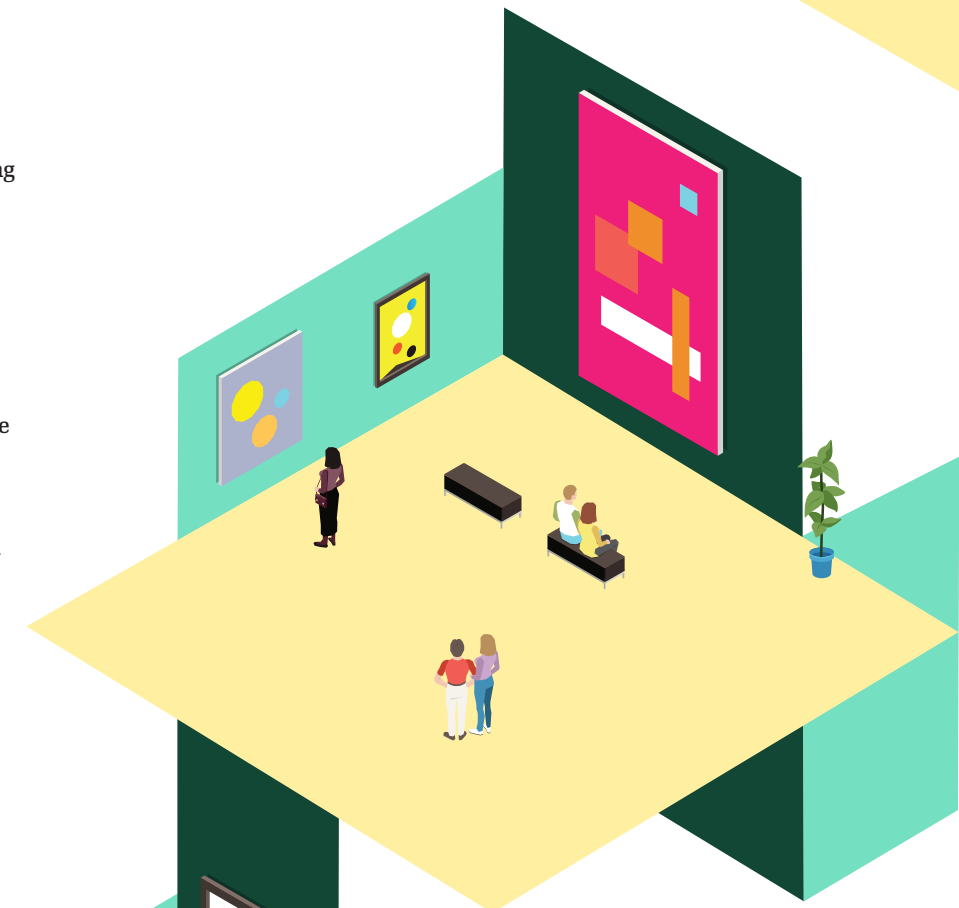
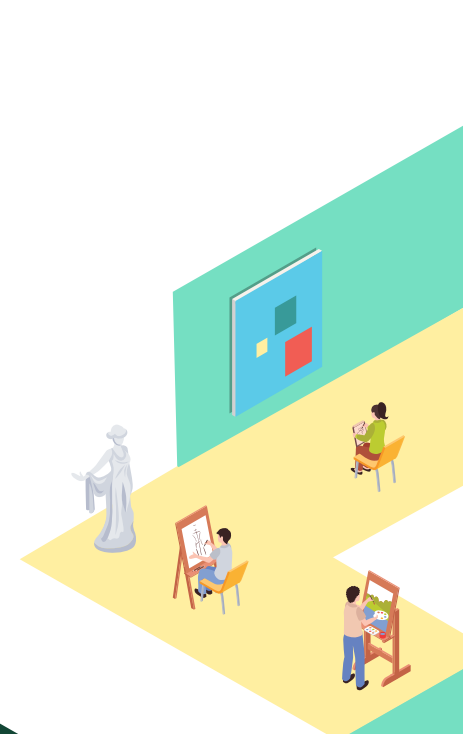
“The arts in Dallas are heavily located downtown,” said Dr. Michael Thomas, director of the O’Donnell Institute, associate provost, professor of arts and humanities, and the Richard R. Brettell Distinguished University Chair. “As a university you have an obligation to engage people beyond your walls. This is an important part of what our role can be within the larger community.”

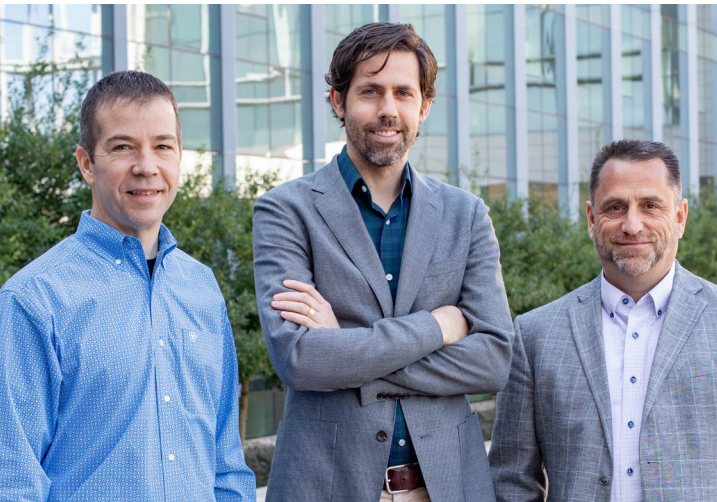
New scholarships for student artists and funds for visiting artists would enhance the UT Dallas experience for students and the greater community, creating a vibrant campus culture and enticing highly motivated students to enroll at the University.

“This is a campaign primarily about people,” said Benson during the virtual campaign launch. “It’s about students whose lives will be changed by the opportunity a scholarship provides. It’s about the inventors who make their dreams a reality on our campus and then go out and change the world. It’s about patients who receive unparalleled care from our clinicians backed by cutting-edge research and technology.”

Kyle Edgington PhD’13, vice president for development and alumni relations, said, “UT Dallas is committed to serving our communities, and this campaign will define what that impact looks like for the next 50 years and beyond. I invite all of our alumni, corporate partners, neighbors and friends to join us in shaping this new era.”

To learn more, visit newdimensions.utdallas.edu. ■





From left: Dr. Michael Kilgard, Dr. Seth Hays and Dr. Robert Rennaker

stroke of genius

A stroke-therapy project initiated in a UT Dallas lab a decade ago is now yielding encouraging clinical results.

By Stephen Fontenot

FOR THE 7 million American survivors of stroke, increasing the effectiveness of physical rehabilitation for mobility and motor skills could provide a transformative boost in quality of life.

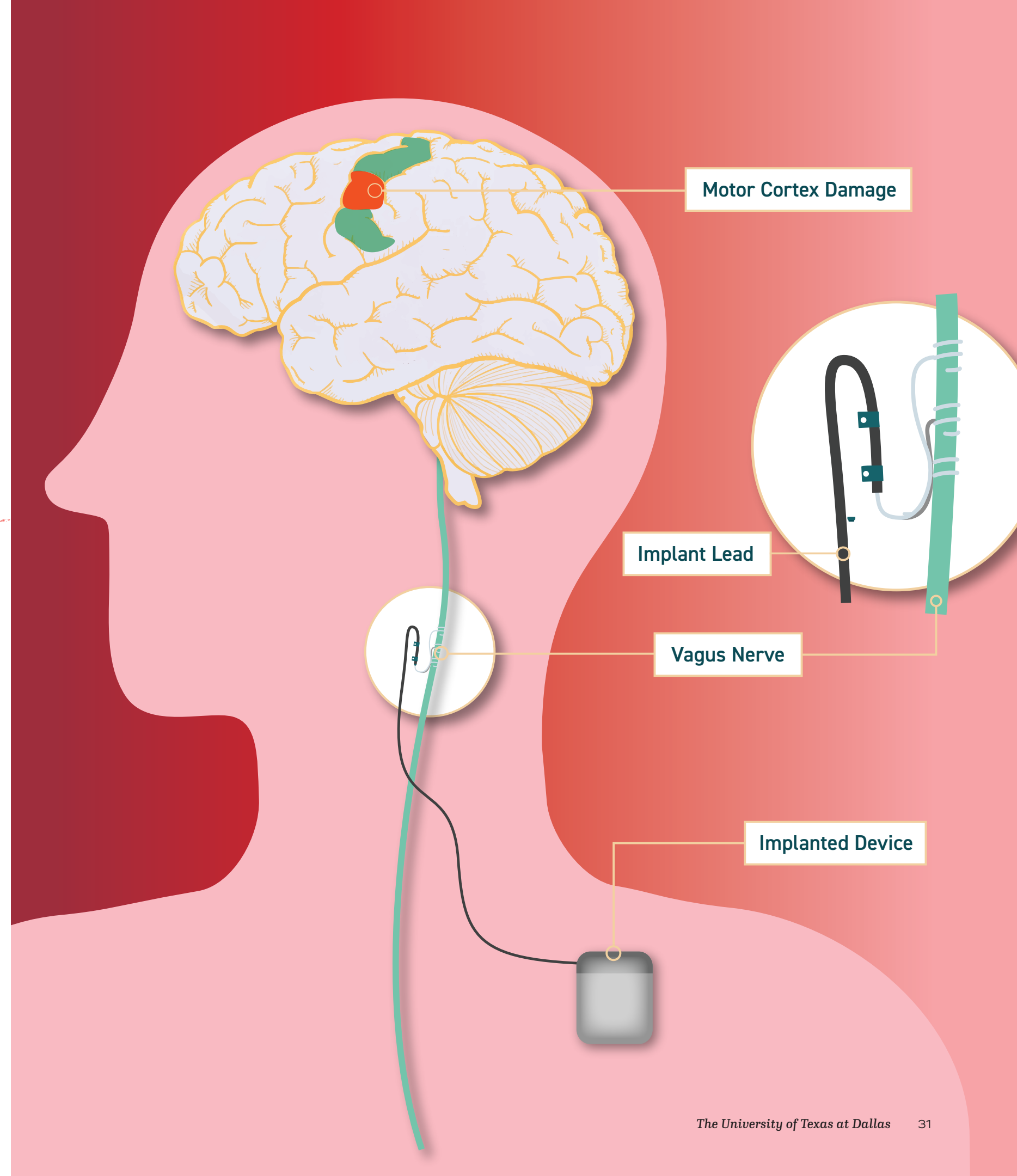
Researchers from The University of Texas at Dallas' Texas Biomedical Device Center (TxBDC) conceived a therapy involving vagus nerve stimulation (VNS) to rewire circuits in the brain more than a decade ago. Scientists have since been refining the technique to treat a variety of disorders, including stroke. In August 2021 the Food and Drug Administration (FDA) approved their rehabilitation system for chronic ischemic stroke survivors, making it the first such treatment of its kind.

The Vivistim Paired VNS System is produced and commercialized by MicroTransponder, a spinoff company started by UT Dallas graduates. The results of a pivotal double-blind, placebo-controlled, randomized clinical trial were published in April 2021 in *The Lancet*. The study showed that in patients with arm and hand weakness after stroke, pairing VNS with rehabilitation exercises led to improvements that were two to three times greater than the control group receiving rehabilitation alone.

Dr. Michael Kilgard, the Margaret Fonde Jonsson Professor of neuroscience in the School of Behavioral and Brain Sciences (BBS) and interim executive director of the TxBDC and its chief science officer, described FDA approval of the system as "the most significant success" in the center's 10-year history.

"This announcement means that stroke survivors all over the country can soon begin receiving a safe and effective therapy to improve their recovery," he said.

The FDA also gave Vivistim a Breakthrough Device Designation, which is reserved for technology that treats life-threatening or irreversibly debilitating conditions and has significant advantages over any existing alternatives.



Motor Cortex Damage

Implant Lead

Vagus Nerve

Implanted Device

How It Works

The vagus nerve travels up the neck from the chest and abdomen and relays information between the brain and the body. The nerve regulates processes like digestion, heart rate and respiratory rate. In VNS, an implanted device stimulates the nerve with electrical impulses. Similar devices are currently FDA-approved to treat epilepsy and depression.

Researchers affiliated with the TxBDC, BBS and the Erik Jonsson School of Engineering and Computer Science developed the technique of targeted plasticity therapy, now called paired VNS, which combines limb movements with electrical stimulation delivered to the vagus nerve via an implanted device in the neck.

“The idea is that we can’t fix the region of the brain that’s been damaged by stroke, but we can help the remainder of the brain rewire to get the job done,” Kilgard said. “This recovery doesn’t happen spontaneously.”

Kilgard explained that, for the two-thirds of stroke survivors who are chronically disabled, the potential for recovery via physical therapy after a stroke is usually limited to the first six months.

“In that initial period after a stroke, people can regain some use of their upper limbs, but usually there’s not much recovery after that. Most people plateau even if they keep working at it,” he said. “But the first studies of our technique in humans showed that by adding VNS, patients can recover to a degree that they would not otherwise — even if they start 10 years after their stroke.”

‘Grassroots’ Research Leads to Patient Therapy

The initial work with VNS at UT Dallas began with Kilgard and Dr. Robert Rennaker, associate director and chief technology officer for the TxBDC, the Texas Instruments Distinguished Chair in Bioengineering and a professor of neuroscience. Their research was initially aimed at treating tinnitus — the perception of sound, like a ringing in the ears, with no external source.

“This long road began with a paper in *Nature* in 2011 about treating tinnitus,” Kilgard said. “The founders of MicroTransponder stayed in Dallas to commercialize paired VNS therapy for both stroke and tinnitus.”

Navzer Engineer PhD’04, chief scientific officer at MicroTransponder, worked with Kilgard on the initial preclinical VNS studies, which were supported at the time with a \$1.7 million grant from the National Institutes of Health.

“Our stroke study published in *The Lancet* was the culmination of a large amount of preclinical research that we started over a decade ago at UT Dallas,” Engineer said. “This would not have been possible without a dedicated team of amazing students and researchers at UTD.”

Dr. Seth Hays, associate professor of bioengineering, started working on the project as a postdoctoral student in spring 2012, joining then-doctoral candidate Navid Khodaparast BS’06, MS’09, PhD’13 and Ben Porter MS’11, PhD’11.

Hays described targeted plasticity therapy and VNS for stroke as “the definition of grassroots” — the approach was invented and developed at UT Dallas, by UT Dallas students, staff and faculty.

“We’ve taken the opportunity to develop this here, and a lot of people in Texas should be proud of it — the individuals who enrolled in the study, the team at MicroTransponder, the medical centers that were involved and the University,” Hays said.

Kilgard said 22 TxBDC-affiliated researchers have been authors of the journal articles that reported early preclinical and clinical results for the stroke therapy, supported in the scientific process by more than 200 TxBDC students and staff.

“From its inception, the Texas Biomedical Device Center has worked as a team with a singular focus of providing patients with new hope for greater recovery,” Rennaker said. “All of the preclinical and much of the clinical research that led VNS for stroke from an invention to an approved therapy was conducted right here.”

The TxBDC at UT Dallas was established in 2012 with donations from Texas Instruments, a private donor and matching funds from the UT System Regents’ Research Incentive Program. Since then, it has generated more than \$35 million in additional funding to develop technologies to prevent injuries and disease. ■

Ongoing clinical trials are evaluating whether implanted VNS coupled with rehabilitation can improve recovery of arm function in people living with a spinal cord injury or after a stroke.



next-gen(ius)

VNS Device Goes Smaller, Wireless

As researchers at UT Dallas’ Texas Biomedical Device Center were pursuing Food and Drug Administration approval for their vagus nerve stimulation (VNS) therapy for stroke rehabilitation, a simultaneous effort was underway to develop the next-generation implantable VNS device to treat stroke, spinal cord injury and PTSD.

Dr. Robert Rennaker, associate director and chief technology officer for the Texas Biomedical Device Center (TxBDC), received funding from Communities Foundation of Texas’ W.W. Caruth, Jr. Fund to create the next generation of vagus nerve stimulators. Known as ReStore, the device is smaller, easier to implant and allows for a complete standard of care not possible with other implantable stimulators.

“VNS devices now on the market are bulky and need to be surgically replaced every five or six years due to lead breakage or battery replacement,” said Rennaker. “TxBDC’s device is 50 times smaller, wireless, mass-producible and is designed to never need to be replaced.”

The ReStore implant — a miniature, glass-encapsulated, wirelessly powered device — is placed directly on the vagus

nerve in the neck in a 30-minute outpatient procedure. Rehabilitation therapy using the ReStore System includes the implant as well as a controller and a small device worn in a neckband outside the skin to power and communicate with the implant.

“With a stimulator this much smaller, the surgery is faster and much less complicated than with a traditional device,” Rennaker said. “Because the device is made of glass, patients can have MRIs, which are not allowed with other vagus nerve stimulators.”

A pilot clinical trial is ongoing to determine if the ReStore System can make prolonged exposure therapy (a psychological treatment) more tolerable and effective for reducing symptom severity in participants with post-traumatic stress disorder. Two other clinical trials are evaluating whether implanted VNS coupled with rehabilitation is able to improve recovery of arm function in people living with a spinal cord injury or after a stroke. The trials are being conducted at Baylor Scott & White Institute for Rehabilitation in Dallas. To learn more, visit txbdc.utdallas.edu/txbdc/trials/. ■

Never Again

For 35 years the *Holocaust Studies Program* at UT Dallas has been a beacon of scholarship and enlightenment regarding one of the most traumatic events in human history.

By Phil Roth

A section of the Dachau concentration camp, including the guard tower, is seen through the barbed wire fence shortly after the camp was liberated by American soldiers on April 29, 1945. (United States Holocaust Memorial Museum, courtesy of Francis Robert Arzt)

FROM 1933 TO 1945, Jewish citizens and others who lived in countries throughout Europe were rounded up and killed in Nazi concentration camps. Among the 6 million Jews who were killed in the Holocaust and the 5 million others murdered for ideological or behavioral reasons – as well as those who survived – there are millions of life stories, many of which carry on in families and communities today.

Scholars associated with The University of Texas at Dallas' Holocaust Studies Program have been telling those stories and studying the lessons of the Holocaust for years. Over three decades, the program has evolved from a single college course into the Ackerman Center for Holocaust Studies, a groundbreaking center with an international reputation for excellence in its diverse research, educational and outreach efforts. The individuals who have contributed to the program's and the center's success have their own stories of how they came to participate in a cause that has brought invaluable intellectual and ethical perspectives to UT Dallas students, North Texas and the larger global community. Their dedication to initiating and promoting study of the Holocaust has resulted in insights that are as vital to understanding the past as they are to contextualizing the present and informing the future.

"We are the best example of stories that are different but that have brought people together," said Dr. Nils Roemer, director of the Ackerman Center and interim dean of the School of Arts and Humanities (A&H) and of the School of Arts, Technology, and Emerging Communication. "The Ackerman Center must remain a place where people with all kinds of stories can find a home."

The Beginning

Dr. Zsuzsanna Ozsváth knows the Holocaust because she lived through it. She was 9 years old in 1944 when the Nazis invaded Hungary, her native country. By May of that year, the Jewish population of Hungary had been forced into ghettos but had not been moved to concentration camps.

"I was very lucky," Ozsváth said.

"We lived in Budapest, which was the only city from which the Jews were not deported to Auschwitz. Everywhere in the countryside, virtually all the Jewish children were killed."

Ozsváth and her family faced even more hardships under the country's communist postwar government.

Ozsváth married young and later, during the Hungarian Revolution of 1956, she and her husband fled to Germany, eventually immigrating to Texas in 1962.

In 1963 Ozsváth's husband, Dr. Istvan Ozsváth, a noted theoretical physicist and mathematician, joined the Graduate Research Center of the Southwest, which in 1969 became UT Dallas. Dr. Zsuzsanna Ozsváth joined the University's faculty in 1983. Dr. Istvan Ozsváth died in 2013.

Although she initially served as a professor of literature and history in the 1980s, Ozsváth began teaching a class about the Holocaust.

"I started to study the entirety of the Holocaust. I was aware of every detail and began to publish and teach on the topic," said Ozsváth, who is affectionately known as Zsuzsi. "After I started teaching, there were more and more students wanting to take the courses, so we added more and more classes."



Dr. Zsuzsanna Ozsváth, Edward M. Ackerman and Dr. Hobson Wildenthal (right) at the 2016 UT Dallas Awards gala.

The fledgling Holocaust Studies Program, established in 1986, continued to grow as doctoral students participated. It gained additional support when Dr. Hobson Wildenthal, who joined UT Dallas in 1992 as provost and executive vice president, championed the program.

"It started out strictly with a part-time faculty member with a lot of charisma and a lot of dedication," Wildenthal said in an interview shortly before his death in 2021. "I was happy to help any faculty member who had some 'get up and go.'"

In November 2019 Wildenthal received the inaugural Edward M. Ackerman Leadership Award from the center in recognition of his pivotal role in growing the Holocaust Studies Program and fostering community support for the center. At a dinner recognizing those efforts, James B. Milliken, chancellor of the UT System, emphasized the importance of the Ackerman Center to the UT System and to the world.



Dr. Zsuzsanna Ozsváth with her father

“The Ackerman Center for Holocaust Studies is one of the crown jewels in the UT System. It’s one of ... [the few] places in the U.S. where you can take graduate-level courses in Holocaust studies and a source of great pride for me and everyone associated with the UT System,” he said. “But it is my hope, paradoxically perhaps, that over time it will become if not less special, a little less unusual, because the world needs more Holocaust education.”

The Early Supporters

After a successful career as a Western hat maker, Arnold Jaffe wanted to go back to school and complete the college studies that had been interrupted by the Second World War and his service in the U.S. Navy. In 1980 he enrolled at UT Dallas, where he earned a bachelor’s degree in 1982 and later a master’s degree. In his studies, he took a variety of classes in A&H. One of those was called Holocaust and was taught by Ozsváth.

Jaffe was an avid reader and especially enjoyed reading 20th-century history. The class seemed a perfect fit.

“He was really interested in history, and he obviously was affected by the events of the Second World War. I think the two of them came together from both a personal and intellectual perspective,” said his son, Michael Jaffe. “It was a topic that captured his attention.”

As Arnold Jaffe took more Holocaust classes, Ozsváth said it was clear that he was a student who loved learning.

“He was enormously interested in the whole program, and he learned so much. As he attended classes and events, he was more and more delighted,” Ozsváth said.

After earning a master’s degree in interdisciplinary studies in 1984, Arnold Jaffe embarked on a doctoral studies program, which was not completed at the time of his passing in 1986. Throughout his time at UT Dallas, he often said it was important to have research materials available for those who wanted to study the Holocaust.



Arnold Jaffe



Arnold A. Jaffe
Holocaust Library Collection

An American soldier stands near a crematorium in Dachau. The U.S. Army liberated approximately 32,000 prisoners at Dachau on April 29, 1945. (United States Holocaust Memorial Museum, courtesy of Francis Robert Arzt)



After his death, his family wanted to help fulfill that dream and, with the help of friends, created the Arnold A. Jaffe Holocaust Library Collection. The endowment has provided for the acquisition of thousands of books, videos and electronic materials covering various aspects of the Holocaust.

“My father’s interest in this topic is something that was important,” his son said. “Studying and shedding light on the Holocaust and other, more recent atrocities benefits all of us.”

The Jaffe Collection gift was followed by other donations that helped the Holocaust Studies Program grow – in numbers of faculty members and classes offered, as well as in reputation.

Donors who became involved in the Holocaust Studies Program through the Jaffe Collection began looking for additional ways to support the effort. For example, a 2002 gift from Dallas psychiatrist Dr. Burton Einspruch established the Burton C. Einspruch Holocaust Lecture Series, which brings eminent scholars and international figures in the field of Holocaust studies to the UT Dallas campus.

The 1990s brought another interested supporter to the University. Edward M. Ackerman, a prominent Dallas investment advisor, philanthropist and community leader who died in 2016, made his first donation to the Holocaust Studies Program in 1993 and became even more interested in the work being done.

“When he was around the students, he would light up with energy,” said David B. Ackerman, Edward Ackerman’s son. “I just think this notion of young people learning about the Holocaust, studying the Holocaust and being able to pass that knowledge on got him very excited.”

According to his son, Ackerman gained an academic appreciation of Holocaust studies via his interest in education. Edward Ackerman’s emotional connection to the topic was derived from the family history of his wife, Wilhelmina Ackerman.

“My mother’s family suffered greatly and lost loved ones during the Holocaust in the Netherlands,” David Ackerman said.

In 2006 the elder Ackermans made the lead gift to transform the Holocaust Studies Program into a UT Dallas center bearing their name, the Ackerman Center for Holocaust Studies. Most recently, the

Edward and Wilhelmina Ackerman Foundation made an additional \$1.1 million gift to the center.

Dr. David Patterson, professor of literature and history, said most university-based programs that focus on the Holocaust don’t have the luxury of a dedicated facility.

“They have faculty pieced together from various departments and don’t have a central office,” he said. “Here we have our own space, five endowed faculty appointments and our own budget. None of this would exist without generous supporters in the community.”

In 2020 a major gift to the Ackerman Center from longtime supporters Mitchell L. and Miriam “Mimi” Lewis Barnett established the center’s fifth endowed chair, the Miriam Lewis Barnett Chair for studies related to the Holocaust, genocide and human rights, propelling the center to the top tier of Holocaust research programs in the country. The Barnetts have supported the program since 2002, when they created the program’s first endowed faculty position, the Leah

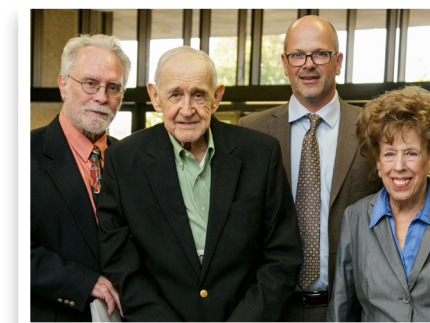
and Paul Lewis Chair of Holocaust Studies, which Ozsváth held until her retirement. In 2018 they established the Mitchell L. and Miriam Lewis Barnett Lecture Series.

The Barnett family’s history of support for Holocaust remembrance began with Mimi Barnett’s parents, Leah and Paul Lewis, who began promoting the cause after the end of World War II. The couple sponsored a series of national memorials and were instrumental in the

construction of the Lewis Park of Memories at the Dallas Jewish Community Center. Paul Lewis was appointed by former President Jimmy Carter to serve as an adviser to the first President’s Commission on the Holocaust.

The Scholars

Until her retirement in 2020 at age 87, Ozsváth was the heart and soul of the Ackerman Center, charming and delighting students, as well as community supporters. But as she ended her tenure at UT Dallas, Ozsváth was surrounded by a number of other scholars who are continuing their research and who have their own stories regarding the Holocaust and its impact.



From left, Dr. David Patterson, Edward M. Ackerman, Dr. Nils Roemer and Dr. Zsuzsanna Ozsváth at the Burton C. Einspruch Holocaust Lecture in 2016.



This view is of the entrance to the main Auschwitz concentration camp. The gate bears the motto Arbeit Macht Frei - "work makes one free." (United States Holocaust Memorial Museum, courtesy of Instytut Pamięci Narodowej)

Roemer, the Stan and Barbara Rabin Distinguished Professor in Holocaust Studies – established with a gift from the Edward and Wilhelmina Ackerman Foundation in 2007 – grew up in Germany in the 1980s, a time, he said, when memories of World War II still lingered in Europe.

“One of the things that happened when you grew up in Germany in that time period was that when you and your friends traveled to Paris or London and were joking a bit too loudly in German, people would turn their heads,” Roemer said. “Not everyone wanted to hear loud German, and you very quickly realized that being German was a little bit different than being French or English.”

According to Roemer, that environment compelled many young Germans to become more interested in the Holocaust and Jewish history. For Roemer, that interest took him to Israel for two years, where he volunteered with Action Reconciliation Service for Peace, a German peace organization founded to confront the legacy of Nazism.

“That’s where I think everything ultimately kind of came together and fermented,” he said.

For Patterson, it was a gift from a student – a book by famed Holocaust survivor Elie Wiesel – that started his journey toward teaching about the Holocaust. At the time he had just earned his PhD and was teaching literature at the University of Oregon.

“I didn’t know who Elie Wiesel was, so I read it. I was so taken by it that I read everything he wrote, and then I read hundreds of other books about the Holocaust that he didn’t write. It was the reading of that memoir that started me on this path of studying the Holocaust,” Patterson said.

Patterson, the Hillel A. Feinberg Distinguished Chair in Holocaust Studies – established by Feinberg and Mr. and Mrs. John H. Massey in 2007 – said he gets uneasy when he hears teachers and students saying that they must make the Holocaust relevant.

“It’s relevant to anyone who has a soul,” he said. “When I stand in front of a classroom, I have to stand for something. I’m bearing witness to something. I’m making students into witnesses. Studying this is traumatizing. Teaching it is traumatizing. Many, many times I’ve had students in my office crying. It’s very demanding intellectually and emotionally for scholars who study it.”



Dr. Zsuzsanna Ozsváth gives a lecture at the original Dallas Holocaust Museum.

The Future

Roemer said the Ackerman Center has become a “formidable” institution in the study of the Holocaust, with national and international recognition.

In 2018 the center became the permanent home of the Annual Scholars’ Conference on the Holocaust and the Churches, which brings together people of various backgrounds to discuss the Holocaust from historical, philosophical and theological perspectives.

Roemer said he wants to continue the international outreach by providing more overseas internships and study opportunities for students, while also attracting students to campus from throughout the world, as well as new faculty members.

“There’s nothing in Zsuzsi’s story or mine or David Patterson’s that would have suggested that we come together,” Roemer said. “But I think that’s exactly what I want the Ackerman Center to be – a hub that attracts people from all kinds of walks of life and from all kinds of places in ways in which we can’t even anticipate.”

Last fall, new visiting assistant professor in film and Holocaust studies Dr. Emily-Rose Baker arrived on campus from England after earning bachelor’s, master’s and doctoral degrees from the University of Sheffield. Her research examines the legacy of the Holocaust and Jewish persecution in Central and Eastern European art, literature and film after 1989.

Debbie Pfister BA’78, MA’01, PhD’09, research assistant professor in Holocaust studies, has helped to bring prospective graduate students to campus by fostering a relationship with the U.S. Air Force Academy. Her outreach has resulted in several new initiatives, including an upcoming joint conference in fall 2023, an annual summer Air Force Academy cadet internship and a visiting scholar program. Pfister began her academic journey at UT Dallas in literature as an undergraduate and now, as a faculty member, her classes have grown alongside the Holocaust Studies Program in size and popularity.

Dr. Amy Kerner is the newest tenure-track faculty member in the center. She joined UT Dallas in 2020



Dr. Amy Kerner



Dr. Pedro Gonzalez Corona

as an assistant professor in Holocaust and human rights studies and as a Fellow of the Jacqueline and Michael Wald Professorship in Holocaust Studies, which was established in 2017 with a gift from the Walds.

With a doctorate in history from Brown University and master’s degrees from the London School of Economics and Political Science and Columbia University, she previously was a research fellow at the Jean and Samuel Frankel Center for Judaic Studies at the University of Michigan.

“I am pleased to be in a role that brings Holocaust studies and human rights together, with a focus on Europe and Latin America,” Kerner said. “That’s unusual and an excellent fit for me. The possibility of being connected to both a history department and to a Holocaust studies center, and to bridge those fields, is very exciting.”

Pedro Gonzalez Corona PhD’19, assistant professor of instruction in Holocaust studies, also studies and teaches about human rights,

particularly in the context of the Holocaust. He said that as he grew up in Mexico, he saw people thinking less of others and was motivated to counter that kind of attitude.

“The catastrophe of the Holocaust was perpetuated not by evil monsters or aliens, but by regular human beings,” he said. “The main lesson we should take from that is that it is far too easy to lose one’s way and end up engaging in genocidal, racist or violent behavior.”

Gonzalez Corona said the Ackerman Center fills an essential role in keeping the past alive so that the future can be brighter.

That is the kind of forward thinking that excites Ozsváth, who calls the UT Dallas Holocaust Studies Program “one of the miracles of the world.” Even in her retirement from formal teaching, her life story moves forward with translation work and other writing. She said she looks forward to seeing the center continue to grow and thrive.

“I am very optimistic,” she said. “I think it has wings right now and is ready to fly.” ■



Lessons from the Links

Karen Alvarez

COMETS ATHLETE KAREN ALVAREZ uses a data-first approach both on and off the golf course.

When she's on the green, her brain is working as hard as her body. Alvarez carefully takes in her surroundings. She considers the direction and speed of the wind, the type of grass, the location of the ball — all the information filling her head like a mental spreadsheet before she takes what she aims to be the perfect swing.

"I'm always thinking about a million things," said Alvarez, a marketing senior in the Naveen Jindal School of Management and a leader on The University of Texas at Dallas women's golf team. "Everybody plays the game differently, but what I like to do is think and analyze.

"I'll do math in my head, which is weird, but I like math. I'll have different percentages in my head for how much I want the ball to fly and how much I want

it to roll. There's a lot of thinking going on, but I think it's fun. I'm always just trying to get better."

Growing up in Maturín, Venezuela, Alvarez lived near the only golf course in the state of Monagas. When professional golfer and Maturín native Jhonattan Vegas — now a PGA Tour winner — sparked interest in the sport there, Alvarez's parents quickly signed her up. From age 5, she started playing golf with a small group, including her younger sister.

Alvarez gave other sports a chance, but she always gravitated back to golf.

"I think the sport has so many values that it teaches you about life as a whole," Alvarez said. "One of the things I like most about it is you have to learn to deal with your mistakes. If I make a bad shot or a bad decision, it's not like a time machine exists. I have to deal with it. I can only change what happens from then on."

When her family left Venezuela in 2016 due to political conflict and a suffering economy, Alvarez, a sophomore, enrolled in Cinco Ranch High School in Katy, Texas, and joined a golf team for the first time. Serving three years as captain during high school fostered Alvarez's passion for leadership while positively impacting her teammates.

Sofia Trevino, a computer science freshman, said Alvarez's kindness and determination make her an effective leader on the UT Dallas team, too.

"She helped me regain my confidence in my game by always being by my side, encouraging me and pushing me to achieve more," Trevino said. "Karen is a great leader to the whole team. She believes in everybody's potential, and she constantly pushes and supports us all in working hard to do our best."

Alvarez practices at least three hours every day — sometimes as many as six. She works on her mental

game as well as her physical game. She said she needs to be sharp to withstand tournaments that can last up to six hours. And her dedication is paying off.

She earned three American Southwest Conference (ASC) Golfer of the Week Awards in the fall 2021 semester. The same season, she set a 36-hole total of 144, breaking her own record of 146 set two seasons prior.

In spring 2020 Alvarez was among the trio who drove the University's women's golf team to the ASC championship, where she and her teammates earned All-ASC tournament team honors. They went on to compete in their first NCAA Division III National Championship tournament in May 2021.

Given the role of math and data in her golf strategy, Alvarez's career goals aren't a surprise. She started her own marketing limited liability corporation in 2020, mainly creating Google ad campaigns. Marketing allows her to combine her analytical side with her creative side.

"I think marketing is the perfect marriage of those two," she said. "I want to work specifically in analytics within marketing — to predict with numbers what the right marketing campaign should be. I enjoy that I can use data to back up my decisions for a business and come up with creative solutions."

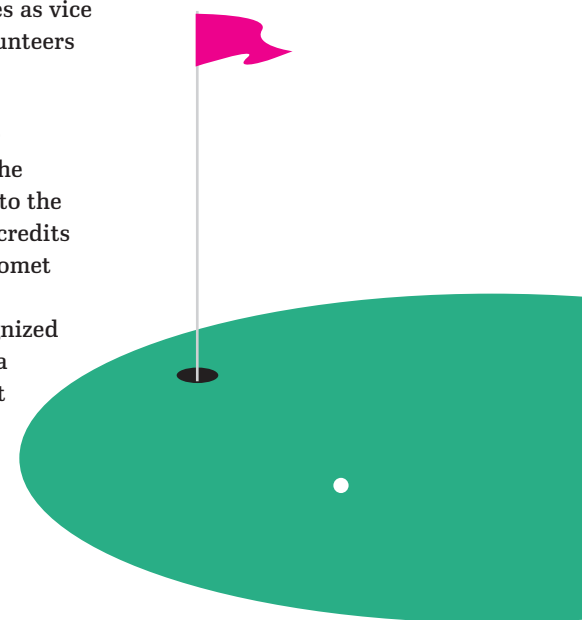
A recipient of the Academic Excellence Scholarship, Alvarez prioritizes her campus involvement. She participates in the Professional Program in Marketing, Undergraduate Dean's Council and Undergraduate Success Scholars. She serves as vice president of the Data Science Club and volunteers with the Multicultural Center.

Of all her accolades, though, Alvarez said she is most proud of the Elite 90 Award for NCAA D-III Women's Golf she received at the national championship tournament. Given to the athlete with the highest GPA and the most credits at the tournament, it was the first time a Comet was recognized with the award.

"That was really cool because I was recognized on a national level," Alvarez said. "I put in a lot of work on the golf course, but I also put in a lot of hard work in the classroom. It was nice to get that award representing the team, representing UT Dallas and knowing the women's golf team is the first University team to bring it home."

- Brittany Magelssen

"I think the sport has so many values that it teaches you about life."





“Being able to develop medical-device technology that doctors can use for making informed decisions gives me great satisfaction.”

A Sense for Medical Innovation

Dr. Ambalika Tanak

AMBALIKA TANAK MS’16, PhD’21, who recently completed her graduate studies in biomedical engineering at The University of Texas at Dallas, is developing biosensors to help physicians make faster decisions that could save patients’ lives. Her pioneering work has not only led to recent scientific publications and a pending patent, but also to recognition as one of the top young medical researchers in the country.

One of Tanak’s studies was about a sensor she developed to help surgeons make faster decisions during parathyroid surgery. In another study in the Jan. 1, 2021, issue of *Biosensors and Bioelectronics*, she and her co-authors described a first-of-its-kind sepsis-testing sensor — DETecT Sepsis (Direct Electrochemical Technique Targeting Sepsis).

Her work on the sepsis device garnered her in 2020

a first-tier Baxter Young Investigator Award, which supports research to develop therapies and medical products that save and sustain patients’ lives. In September 2021, she received the Jess Hay Chancellor’s Graduate Student Research Fellowship from The University of Texas System, which recognizes exemplary academic and research achievements that benefit the state.

Rapid Testing for Sepsis

Dr. Shalini Prasad, department head of bioengineering and the Cecil H. and Ida Green Professor in Systems Biology Science, was Tanak’s advisor and is corresponding author of both studies. She said the sepsis sensor could save lives by identifying the life-threatening complication much faster.

Sepsis is an extreme response to an infection that can lead to tissue damage, organ failure and death. No rapid-testing method exists for the illness.

The sensor is a portable device that monitors a panel of five immune biomarkers using only a single drop of blood plasma, making a diagnosis available within minutes.

“When a patient develops sepsis, every organ thinks it needs to shut down to protect itself. But if every organ shuts down, the person will die,” Prasad said. “It’s a train wreck happening in slow motion. If we could get a snapshot of a patient’s immune response, we can avoid irreversible organ failure or death due to a delayed response time.”

UT Dallas researchers are studying whether the sensor platform used for the sepsis study could be customized to measure other forms of inflammation, including increase in cytokines, which are proteins released by the immune system at the early stages of viral infections, such as COVID-19.

Aid for Surgeons

Tanak’s other sensor device is designed to help surgeons make rapid, informed decisions during parathyroid surgery. Tanak and her co-authors described the technology in a study published online Nov. 2, 2020, in *Scientific Reports*.

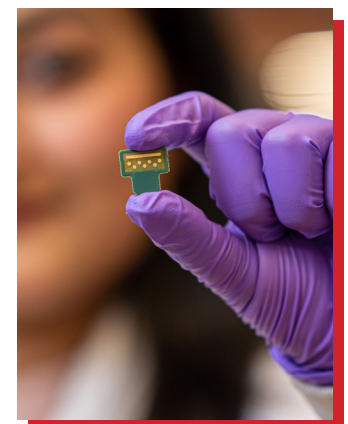
Parathyroid surgery can be challenging for surgeons, who must determine in the operating room how much of the hyperactive gland needs to be removed. Doctors may need to test parathyroid hormone levels in the blood to ensure that the hyperfunctioning part of the gland is removed during the procedure in what can be a time-consuming process using a conventional laboratory testing method. Tanak’s small, portable device, which does not require complicated preparation, helps test the blood faster.

Tanak said she became interested in biomedical engineering after seeing how much doctors relied on medical-device technology to save lives when her grandmother was in the hospital years ago. She worked on a sensor device as an undergraduate student in India and continued her education at UT Dallas because of the opportunities to conduct research on biosensors and to collaborate with investigators at UT Southwestern Medical Center.

“I always wanted to be associated with the medical field,” said Tanak, who began her graduate studies at UT Dallas in 2014. “I wanted to apply engineering principles to solve medical problems.

As a biomedical engineer, being able to develop medical-device technology that doctors can use for making informed decisions gives me great satisfaction.”

The next step in Tanak’s journey is Baxter International Inc. — the same medical technology and health care company that supported her graduate research. In March she joined the company as a senior systems engineer at its world headquarters in Deerfield, Illinois. *-Kim Horner*





The Planet Hunter

Dr. Kaloyan Penev

SEARCHING FOR PLANETS that orbit stars outside the solar system is like trying to find a needle in a haystack — when both the needle and the haystack are trillions of miles away.

Nonetheless, scientists around the world have discovered more than 5,000 of these so-called exoplanets in more than 3,600 planetary systems, according to the NASA Exoplanet Archive.

Dr. Kaloyan Penev is one such planet hunter. The assistant professor of physics, who joined The University of Texas at Dallas faculty in 2017, is part of an international research team that has so far found more than 70 exoplanets. With the aid of robotic land-based telescopes and computer software, Penev combs data for small dips in the light of stars, which could indicate the presence of a planet passing, or transiting, in front of its star.

Penev's research is focused on finding rare planets dubbed hot Jupiters and hot Saturns, which

are large and gaseous and reside very close to their parent stars.

"It's the proverbial needle-in-a-haystack search," Penev said. "We search for these hot Jupiters and Saturns because they're planets we can actually detect. About half a percent of all stars have such planets, and about a tenth of those have the correct orientation for us to detect their presence."

While Penev's research is not specifically aimed at finding evidence of extraterrestrial life or potentially habitable planets for humanity, his work does shed light on the formation of stars and planets throughout the universe.

"Prior to the discovery of hot Jupiters and Saturns, scientists did not believe these types of planets could form so close to a star," Penev said. "But apparently they can. It has forced us to re-evaluate how planets form and how they can move around.

"We have a very incomplete picture about how planets form, including our own. We're also learning various other aspects about how planets and stars interact."

One way they interact is through gravitational tides — the gravitational pull they have upon each other.

"Tides turn out to be one of the least-understood phenomena in stellar astrophysics," Penev said. "Our group studies how the object feeling the tides actually responds."

As a planet orbits around a star, tides stretch and squeeze them. The objects resist this stretching and squeezing, which causes the planet to heat up and its orbit to change.

"We look for signs of these changes and/or heating and try to use them to figure out how much resistance to tides these objects provide," he said.

Penev's interest in the heavens began as a middle school student in Stara Zagora, Bulgaria.

"My school had an observatory on its roof," he recalled. "My mom encouraged me to check it out. She had told me about participating in a program when she was a kid where they would chase U.S. satellites across the sky to measure their orbits."

Penev went on to earn his bachelor's degree in astronomy from the California Institute of Technology and his master's degree and doctorate from Harvard University, also in astronomy. He was nearing completion of his doctorate when he began charting the next course of his career. As fate would have it, the answer was just down the hall.

"I had a job offer in Switzerland, but that would have meant a potentially very disruptive move for my wife and myself," he said. "Luckily, shortly before I would have had to either accept or reject that offer, I heard that the Hungarian-made Automated Telescope group was looking for someone to join their team. At the time they were based at Harvard, with the head of the project having an office right next to my PhD advisor. In the end, after a brief chat, they decided to offer me the position."

In 2011, the entire group moved to Princeton University, where Penev was an associate research scholar before joining the UT Dallas faculty in 2017.

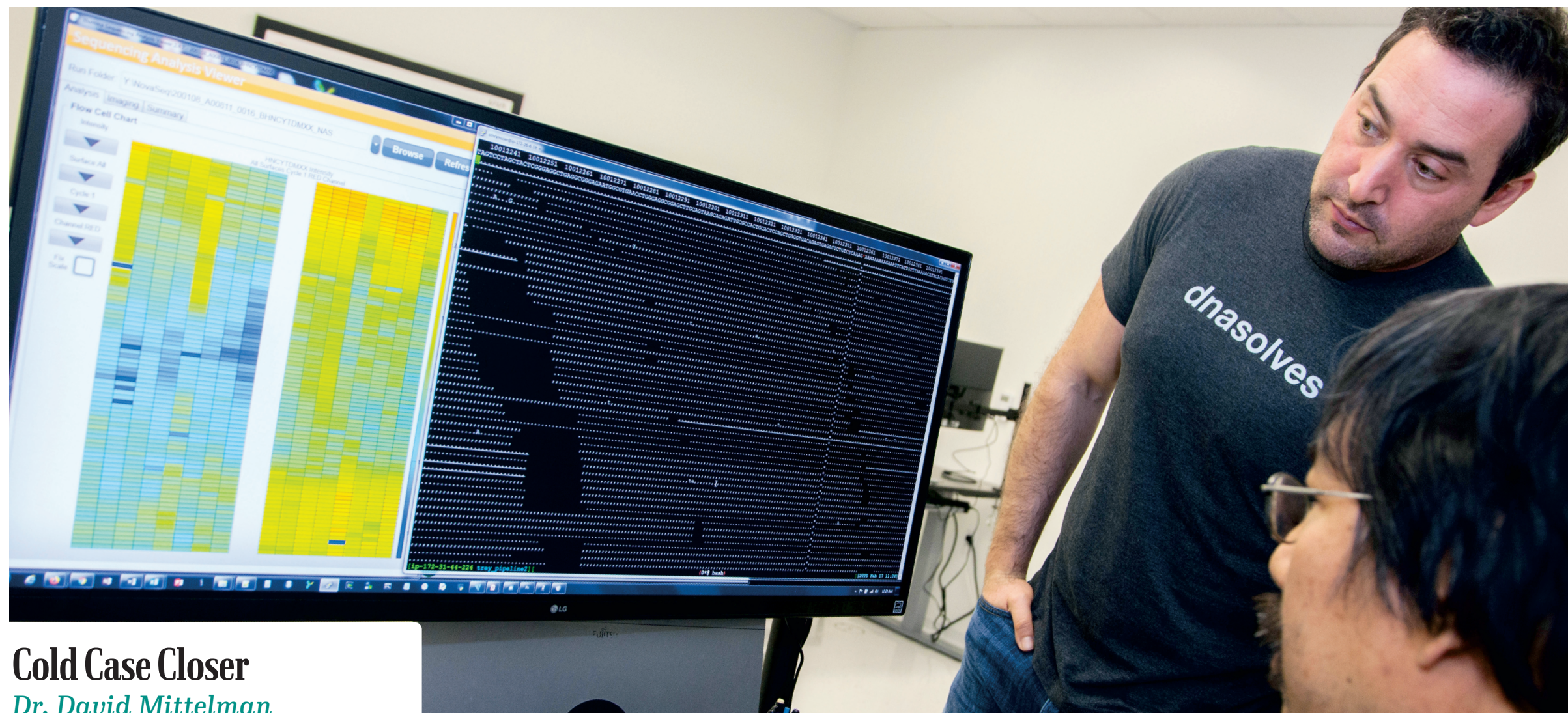
He continues to work with the Hungarian-made Automated Telescope Network-South (HATSouth) Exoplanet Survey, which consists of researchers from Princeton, the Max Planck Institute for Astronomy and the Australian National University. HATSouth is a network of six astrophotography telescope systems — distributed over South America, Africa and Australia — designed to detect transiting exoplanets in orbit around relatively bright stars visible from the southern hemisphere. Since the network became operational in 2009, the group has discovered 73 exoplanets.

Data from the collaboration informs other planet-hunting efforts as well, such as NASA's Transiting Exoplanet Survey Satellite, launched in 2018, and the new James Webb Space Telescope, which was launched in late 2021.

Penev said that when it comes to searching for exoplanets, the biggest challenge is precision.

"You need to be very accurate when measuring the brightness of stars, and there are many factors that can get in the way," he said. "The atmosphere of the Earth changes how bright things appear; telescopes can do funny things to data — all types of things can happen." — *Paul Bottoni*

"Tides turn out to be one of the least-understood phenomena in stellar astrophysics."



Cold Case Closer

Dr. David Mittelman

AFTER TWO DECADES of using his genomics expertise to seek solutions to medical mysteries, Dr. David Mittelman BS'01 shifted gears to solve a different kind of puzzle.

The University of Texas at Dallas alumnus founded a company to put cutting-edge genomics to work in forensics by teaming up with partners both public and private to answer unresolved questions of identity, particularly in the arena of law enforcement.

"I've been involved in DNA testing and genetics my whole working life," Mittelman said. "For the last 20 years, I've focused primarily on medical research. Only recently did I become aware of the challenges in forensic science, and a group of us decided to see if we could make a difference helping solve cold cases."

Beginning as a high school summer intern at UT Southwestern Medical Center and continuing as a neuroscience undergraduate at UT Dallas, Mittelman had a unique opportunity to play a part in one of the most consequential biological explorations in history. He contributed to a UT Southwestern effort

by building instrumentation and robotics to help automate and streamline the sequencing of the first human genome.

Meanwhile, in his undergraduate coursework at UT Dallas, he found inspiration in a class taught by Dr. Michael Kilgard, the Margaret Fonde Jonsson Professor of neuroscience in the School of Behavioral and Brain Sciences, and interim executive director and chief science officer of the Texas Biomedical Device Center.

"Dr. Kilgard noted that there are 100 billion neuron connections but only tens of thousands of genes, so early on I figured — perhaps naively — that it would be easier to approach questions from a genetic standpoint," Mittelman said. "That nudged me further along this path. I loved what I was doing at UT Southwestern, and so I pursued graduate work in genetics and biochemistry."

Mittelman earned a doctorate in molecular biophysics from Baylor College of Medicine. After a stint on the Virginia Tech faculty and a few years at companies

devoted to medical and personal genomics, Mittelman shifted his focus. He founded Othram in 2018 in The Woodlands, Texas, just north of Houston.

Othram is the world's only laboratory purpose-built to combine genome sequencing with advanced human identification applications. The laboratory is also the only facility in the U.S. or Canada offering end-to-end, in-house processing from forensic evidence to investigative leads. Over the last three years, this technology has helped law enforcement crack cases at the local, state and federal level, many of which had been unsolved for decades.

"Cold cases highlight an important humanitarian opportunity for our lab," he said. "Othram can digitize and immortalize evidence from crime scenes or human remains — evidence which otherwise can age and degrade or be lost."

His goal, he said, is to make sure fewer people "slip away."

"We can gather information from forensic evidence and empower law enforcement to tell the rest of that

story," he said. "It's an amazing and rewarding feeling to be able to help re-anchor people who have been lost to society because they are unidentified."

Othram's trademarked approach, called Forensic-Grade Genome Sequencing, uses proprietary laboratory methods, computational algorithms and database resources to reconstruct DNA markers from small fragments of DNA extracted from limited or degraded forensic evidence.

"We use this information to learn as much as we can about an unidentified person so we can help law enforcement determine their identity," Mittelman said.

In one recent project, Mittelman's team helped to identify a woman who died in 1881 based on DNA extracted from her bones.

"It is one of the oldest cases solved this way, and it highlights what can be done with this technology," he said.

In August 2021 Othram assisted in identifying the man responsible for the death of Fort Worth teen Carla Walker, who was raped and murdered in 1974. Glen McCurley pleaded guilty and was sentenced to life in prison. An episode of NBC's "Dateline" describing the case aired in January. And last September, the company helped identify Clara Birdlong, one of the remaining unidentified victims of serial killer Samuel Little, who has confessed to 93 murders committed between 1970 and 2005.

Mittelman expects such resolutions to become more common and hopes that increasing rates for solving cold cases can become a deterrent to crime.

"People will come to realize that they will eventually get caught, and that hopefully will serve to reduce serial crimes, especially sexual assaults," Mittelman said.

In February, Mittelman received a 2022 Distinguished Alumni Award from UT Dallas. His advice for individuals considering any career path is to find where your talents and passions meet the demands of the world.

"When I started out, I wanted to learn everything there was to learn about the human genome. I certainly didn't expect to be helping law enforcement solve decades-old cases," he said. "I think it is a good idea to stay open-minded, be open to new opportunity, and be flexible in how and where you apply your effort. I try to self-reflect as much as possible on what I am doing and how it might make the world a better place." - *Stephen Fontenot*

"We ... learn as much as we can about an unidentified person so we can help law enforcement determine their identity."





Alumnus Dashes to Olympic Speedskating Trials

MATT SALM BS'18 GREW UP in the shadow of a U.S. Olympic Training Center in Wisconsin and loved watching the speedskaters during the Winter Games. So, leading up to the 2022 Winter Olympics in Beijing, he decided to chase a new goal — learning a new sport and vying for a speedskating spot on Team USA. Salm competed in the U.S. Long Track Olympic Team Trials in January. While he didn't make the cut, it was a memory he won't soon forget. "My skating wasn't great, but I was thrilled just to be able to compete on that stage," he said. "Even without fans, the atmosphere was unlike anything I'd experienced before — all the cameras, the Team USA banners, and the intensity and focus of dozens of athletes who had spent years training for this competition." Salm, who earned a degree in mathematics from UT Dallas and was a Eugene McDermott Scholar and an Archer Fellow, also received a prestigious Harry S. Truman Scholarship and a Udall Scholarship, and is the University's first Schwarzman Scholar. He plans to continue his speedskating training for the next four years. "If that culminates in success at the next Olympic trials — awesome. Childhood dream achieved," he said. "But if not, I still get to spend four plus years chasing my bliss."