CenterTimes

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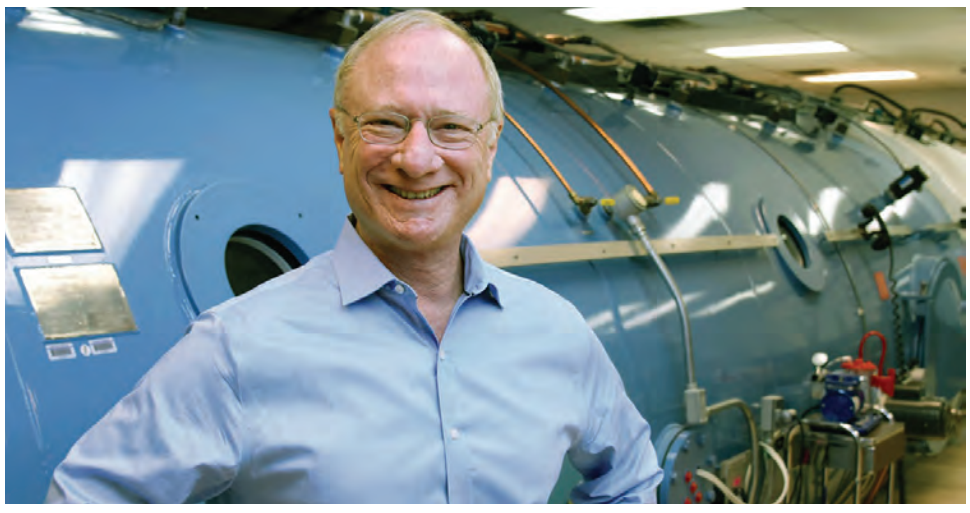
Space research helps patients on Earth with low blood pressure condition



Cardiologist Dr. Benjamin Levine has worked in space research at UT Southwestern for nearly 30 years.

By Lori Sundeen Soderbergh

Ever stand up too quickly and see stars? Fainting from low blood pressure can be dangerous for astronauts as well as for patients. Now, UT Southwestern researchers report heart-related space research that helps us to understand this problem of low blood pressure.

The study, published in *Circulation*, is the first to examine this condition – called orthostatic intolerance – during daily activities when the astronauts returned home. The researchers found that exercise regimens during spaceflight, followed by saline injections after landing, were sufficient to prevent the condition from occurring.

Cardiologist Dr. Benjamin Levine, who led the study, has worked in space research for three decades. Dr. Levine is Professor of Internal Medicine at UT Southwestern and Director of the Institute for Exercise and Environmental Medicine, a collaboration between UT Southwestern and Texas Health Presbyterian Hospital Dallas.

"Doing an hour or more of daily exercise was sufficient to prevent loss of heart muscle, and when it was combined with receiving hydration on their return, the condition was prevented entirely," Dr. Levine said. "We expected to see up to two-thirds of the space crew faint. Instead, no one fainted."

The researchers used an unusual tool – a small blood pressure cuff on each astronaut's finger – to measure blood pressure and every heartbeat. These measurements were taken during multiple 24-hour periods before, during, and after six months of spaceflight. Twelve astronauts were involved: eight men and four women.

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IN MEMORIAM

T. Boone Pickens Jr.: A catalyst for progress appreciated for his exceptional generosity

From Staff Reports

T. Boone Pickens Jr., whose committed humanitarianism, legendary generosity, and steadfast friendship graced UT Southwestern Medical Center for decades, died Sept. 11 at the age of 91.

A business icon who comfortably straddled Texas and Oklahoma, Mr. Pickens was a legendary investor, energy entrepreneur, and philanthropist known for his farsighted and innovative ideas, as well as his generosity.

"Boone Pickens always found novel and inspiring ways to deal with challenges," said Dr. Daniel K. Podolsky, President of UT Southwestern. "Throughout his career and life, Boone worked to ensure both immediate success and ongoing achievement for future generations. His creative solutions to life, business, and philanthropy inspired us all and stand as an extraordinary testament to his visionary approach."

In recognition of his landmark gift, UT Southwestern's 800,000-square-foot medical research and education facility on North Campus is named the T. Boone Pickens Biomedical Building.

Recognized by *The Chronicle of Philanthropy* among the nation's most generous benefactors, Mr. Pickens and his foundation contributed more than $53 million to Southwestern Medical Foundation for the benefit of UT Southwestern over decades of generosity.

"It is my desire through my gift to build a major legacy that will help ensure UT Southwestern's excellence in decades to

Please see PICKENS on page 7

Dr. Steven Gray and Batten disease patient Joseph Hann

'I'm brave!'

Boy battles rare form of Batten disease as scientists seek lifesaving gene therapy

By James Beltran

Joseph Hann feels his mother's comforting touch and hears the soothing sound of her reading one of his favorite stories at his bedside. He occasionally smiles and bobs his head in approval, and at one point tries to sing along to a musical passage.

But the 6-year-old cannot form syllables, nor can he see the words on the pages of the book near his lap. A tiny wheelchair sitting in the corner hints at just how much he has lost as a deadly genetic disease – CLN7 – continues to ravage his nervous system.

"It's heartbreaking to see your child go through this," said Gina Hann, Joseph's mother. "But he still has his same personality, his same joy. And we're still expecting JoJo can beat this disease."

Mrs. Hann's optimism stems from

Please see BRAVE on page 11

President's town halls coming next month

Dr. Daniel K. Podolsky, President of UT Southwestern, will hold three town hall meetings in October to share his thoughts on UT Southwestern's priorities, initiatives, and challenges. This is your opportunity to learn more and engage in open dialogue. Choose from among these event dates:

- **South Campus:** Tuesday, Oct. 1, noon, McDermott Lecture Hall (D1.700)
- **Clements University Hospital:** Tuesday, Oct. 8, 7 a.m., Solomon Education Center (CUH 2.138)
- **North Campus:** Tuesday, Oct. 15, 11 a.m., T. Boone Pickens Auditorium (NG3.112)

All sessions will be available on livestream (a link will be available as the events approach). Submit your questions ahead of time by emailing **townhall@utsouthwestern.edu**.

Renowned data scientist reveals the mysteries of cellular shape-shifting at President's Lecture Series

Dr. Gaudenz Danuser

By Deborah Wormser

Dr. Gaudenz Danuser – a world-renowned data scientist and cell biologist – honed his people skills as a young engineer leading surveying teams on massive water dam projects in the Swiss Alps.

"They'd drop us off from a helicopter near a shelter with enough food for four days. We had to measure through the protocol – in snow, rain, or sunshine – before the helicopter returned to pick us up," Dr. Danuser said. That experience provided the steepest of learning curves to teach him how to motivate diverse groups of people to meet demanding goals.

The UT Southwestern community is invited to hear him describe a recent, larger team exploration when he delivers the

Please see PLS on page 6

PRESIDENT'S LECTURE

Date: Thursday, Oct. 17

Time: 4-5 p.m., with a reception immediately following

Location: Tom and Lula Gooch Auditorium on South Campus

Presentation: "How Cell Shape Shapes Cells"

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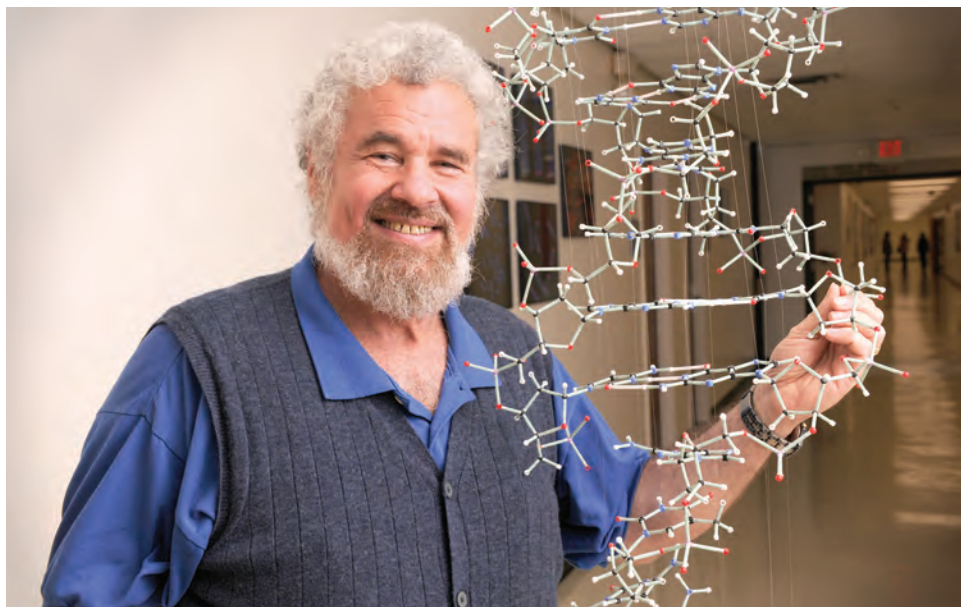
Visit our website at ct.utsouthwestern.edu

IN MEMORIAM

Dr. Woodring Wright: Cell biologist made seminal discoveries on aging, cancer development

From Staff Reports



Dr. Woodring Wright, Professor of Cell Biology

Dr. Woodring Erik Wright, Professor of Cell Biology, passionate educator, and scientific trailblazer in the fight against aging and cancer, died on Aug. 2. He was 70.

A faculty member since 1978, Dr. Wright dedicated decades of research to studying the relationships between aging and cancer and focused on the role of the end caps of chromosomal DNA, called telomeres, in these processes.

Together with longtime collaborator Dr. Jerry Shay, Dr. Wright explored molecular mechanisms that regulate telomere shortening and telomerase activity. The laboratory partners leveraged these mechanistic insights into studies on how telomere shortening contributes to human aging and pursued a variety of approaches to transform their insights to develop treatments for cancer and age-related diseases.

"Woody and I collaborated for over 30 years and published many highly cited papers together. His two most cited papers were both published in *Science* (1994 and 1998) and have been referred to by other authors 5,700 and 3,450 times, respectively," said Dr. Shay, Professor of Cell Biology. "Woody was exceptionally good at developing new methods and coming up with insightful ideas on how to advance a project. We worked well together and complemented each other's strengths. He will be missed by me and all his former students and postdoctoral trainees."

Dr. Wright received the Lyndon Baines Johnson Research Award from the American Heart Association, a Research Career Development award from the National Institutes of Health, a Method to Extend Research In Time (MERIT) Award from the National Institute on Aging, an AlliedSignal Award for Research on Aging, the Hayflick Award from the American Aging Association, and an Ellison Medical Foundation Senior Scholar Award in Aging. He also served on the Scientific Advisory Board of the Buck Institute for Research on Aging.

In addition to being a distinguished researcher with UT Southwestern's Harold C. Simmons Comprehensive Cancer Center, Dr. Wright had heroically waged a 13-year battle with multiple myeloma, a type of rare blood cancer, at the Simmons Cancer Center. In the midst of his success in illuminating the role of telomeres, Dr. Wright was diagnosed in 2006 with multiple myeloma and volunteered to take part in one of the nation's first clinical trials of CAR-T therapy. "I don't know if it's because of what I went through or if it's a normal part of aging, but I have a strong desire to give back," he had explained in a 2018 interview.

Born June 21, 1949, Dr. Wright received his Bachelor of Arts degree, summa cum laude, from Harvard College in 1970, a Ph.D. under the direction of Dr. Leonard Hayflick in 1974, and an M.D. from Stanford University School of Medicine in 1975. He joined the UT Southwestern faculty as an Assistant Professor following a postdoctoral fellowship at the Pasteur Institute in Paris with Dr. Francois Gros. Dr. Wright became an Associate Professor in 1985 and was promoted to Professor in 1992. At UTSW, he had previously held the Southland Financial Corporation Distinguished Chair in Geriatric Research.

Dr. Wright garnered national and international attention to his work through more than 140 seminars and lectures at major universities and meetings throughout the U.S. and the world, more than 320 published articles, reviews, and book chapters, and 27 patents related to methods for the diagnosis, treatment, and analysis of telomere length, telomerase activity, and other anti-cancer therapies.

Dr. Wright also was a committed and passionate educator. He mentored more than 35 graduate students and 70 postdoctoral fellows during his long and distinguished career. His excellence in the classroom was recognized by Outstanding Teacher Awards in 1993, 1994, 1999, 2008, and 2012. More than four decades of former medical students will remember the songs he wrote and performed to explain topics he was lecturing on in medical histology.

■

Dr. Shay holds The Southland Financial Corporation Distinguished Chair in Geriatrics.

CLASS NOTES

IN MEMORIAM

Medical School
Jack Crawford Cooper, M.D. ('54)
John Noble Melvin, M.D. ('63)
Doyle Nolan Rogers, M.D. ('63)
Alvin Marine Smith, M.D. ('69)
Stephen Wayne Watson, M.D. ('82)
Rhea Myers Sumpter Jr., M.D., Ph.D. ('06)

School of Health Professions
Shirley Elizabeth Lucido ('85)

Former Housestaff
Gary Edwin Ackerman, M.D. (Obstetrics and Gynecology)
John Laughlin Denman, M.D. (Urology)

MEDICAL SCHOOL

Class of 1947: J.T. Lawrence, M.D., recently retired at the age of 98 after 61 years of practicing family medicine. He served in France and practiced in Fort Worth and later in Breckenridge, Texas.

For the latest updates on alumni events and news, visit engage.utsouthwestern.edu/alumni and follow @utswalumni on Facebook.

Please send your Class Notes contributions or address changes to the Office of Development and Alumni Relations, UT Southwestern Medical Center, 5323 Harry Hines Blvd., Dallas, TX 75390-9009, email alumni@utsouthwestern.edu, or call 214-648-4539.

FACULTY PROMOTIONS

The following faculty promotions took effect Sept. 1 at UT Southwestern. (Where more than one department is listed, the first is the primary appointment.)

ANESTHESIOLOGY & PAIN MANAGEMENT – Professor: Weike Tao, M.D.; Associate Professor: Trenton Daniel Bryson, M.D., Gloria Shih Cheng, M.D., Courtney Kowalczyk Derderian, M.D., Shaina M. Drummond, M.D., Christina Anne Albano Riccio, M.D.

CELL BIOLOGY/BIOPHYSICS – Professor: Daniela Nicastro, Ph.D.

CENTER FOR HUMAN NUTRITION/MOLECULAR GENETICS – Professor: Jeffrey G. McDonald, Ph.D.

CENTER FOR HUMAN NUTRITION/PHARMACOLOGY – Professor: Shawn Christopher Burgess, Ph.D.

DERMATOLOGY – Professor: Lu Quang Le, M.D., Ph.D.; Associate Professor: Richard Chih-Chien Wang, M.D., Ph.D.

DERMATOLOGY/PATHOLOGY – Associate Professor: Travis W. Vandergriff, M.D.

CenterTimes

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President: Dr. Daniel K. Podolsky

Executive Vice President for Institutional Advancement: Dr. Marc Nivet

Interim Assistant Vice President for Communications: Jennifer Doren

Director, Institutional Communications: Debbie Bolles

Design Editor: Mark Hoffer

EMERGENCY MEDICINE – Professor: Brett Alan Roth, M.D.; Associate Professor: Kapil Sharma, M.D.

FAMILY AND COMMUNITY MEDICINE – Associate Professor: Neelima Jayavant Kale, M.D., Ph.D., MBA

INTERNAL MEDICINE – Professor: Homer Franklin Herlong, M.D., Mamta Jain, M.D., Marlyn Jean Mayo, M.D., Hesham A. Sadek, M.D., Ph.D., Yu-Min Paul Shen, M.D.; Associate Professor: Joseph Rossi Berger, M.D., Lisa Catherine Casey, M.D., Kevin Dale Courtney, M.D., Ph.D., James Bradford Cutrell, M.D., Mythili Ghanta, M.D., Ruth Gordillo, Ph.D., Jade Homsi, M.D., Thomas Archibald Kerr, M.D., Ph.D., Nisa Kubiliun, M.D., Michael Luna, M.D., Shannon Amerilda Scielzo, Ph.D., Abey K. Thomas, M.D., Shannan Renee Tujios, M.D., Kevin W. Williams, Ph.D.

INTERNAL MEDICINE/BIOCHEMISTRY – Associate Professor: Deepak Nijhawan, M.D., Ph.D.

INTERNAL MEDICINE/CELL BIOLOGY – Associate Professor: Denise K. Marciano, M.D., Ph.D.

INTERNAL MEDICINE/EUGENE MCDERMOTT CENTER FOR HUMAN GROWTH AND DEVELOPMENT/MOLECULAR BIOLOGY – Associate Professor: Nikhil V. Munshi, M.D., Ph.D.

INTERNAL MEDICINE/PEDIATRICS – Associate Professor: Alecia Curlene Nero, M.D., Christian Allen Wysocki, M.D., Ph.D.

INTERNAL MEDICINE/POPULATION AND DATA SCIENCES – Professor: Jarett D. Berry, M.D.

EUGENE MCDERMOTT CENTER FOR HUMAN GROWTH AND DEVELOPMENT/POPULATION AND DATA SCIENCES/INTERNAL MEDICINE – Associate Professor: Julia Kozlitina, Ph.D.

MICROBIOLOGY – Professor: Nicholas K. Conrad, Ph.D., David R. Hendrixson, Ph.D.; Associate Professor: John W. Schoggins, Ph.D.

MOLECULAR BIOLOGY – Professor: Michael Buszczak, Ph.D.; Associate Professor: Ning Liu, Ph.D., Kathryn Ann O'Donnell-Mendell, Ph.D.

NEUROLOGY AND NEUROTHERAPEUTICS – Associate Professor: Stephen Figueroa, M.D., Jay H. Harvey, D.O.

NEUROLOGY AND NEUROTHERAPEUTICS/NEUROLOGICAL SURGERY – Associate Professor: Michael Rubin, M.D.

NEUROLOGY AND NEUROTHERAPEUTICS/PEDIATRICS – Professor: Benjamin Greenberg, M.D.

NEUROSCIENCE – Professor: Shin Yamazaki, Ph.D.

NEUROSCIENCE/BIOPHYSICS – Associate Professor: Ryan Edgemon Karr Hibbs, Ph.D.

OBSTETRICS AND GYNECOLOGY – Professor: Vanessa Laibl Rogers, M.D.; Associate Professor: Meridythe Ashley Hickman Zink, M.D.

ORTHOPAEDIC SURGERY – Professor: Philip Lamar Wilson, M.D.; Associate Professor: Henry Bone Ellis, M.D., Brandon Aaron Ramo, M.D.

OTOLARYNGOLOGY-HEAD AND NECK SURGERY – Professor: Joe Walter Kutz, M.D., I-Fan T. Mau, M.D., Ph.D., Baran Devrim Sumer, M.D.; Associate Professor: Lesley French Childs, M.D.

PATHOLOGY – Professor: Dwight H. Oliver, M.D.; Associate Professor: Purva Gopal, M.D., Elizabeth M. Kurian, M.D., Elena A. Lucas, M.D.

PATHOLOGY/PEDIATRICS – Professor: Dinesh Rakheja, M.D.

PEDIATRICS – Associate Professor: Ellen Kaizer Grishman, M.D., Darryl K. Miles, M.D., Preeti Bhatia Sharma, M.D., Julide Sisman, M.D., Matthias Wolf, M.D., Ayesha Noor Zia, M.D.

PEDIATRICS/NEUROLOGY AND NEUROTHERAPEUTICS – Professor: Rana R. Said, M.D.

PEDIATRICS/NEUROLOGY AND NEUROTHERAPEUTICS/ANESTHESIOLOGY & PAIN MANAGEMENT – Associate Professor: Tonia Marie Sabo, M.D.

PHARMACOLOGY/HAMON CENTER FOR THERAPEUTIC ONCOLOGY RESEARCH – Associate Professor: Elisabeth D. Martinez, Ph.D.

POPULATION AND DATA SCIENCES – Associate Professor: Sandi Pruitt, Ph.D.

POPULATION AND DATA SCIENCES/BIOINFORMATICS – Professor: Guanghua Xiao, Ph.D., Yang Xie, Ph.D.

POPULATION AND DATA SCIENCES/HAROLD C. SIMMONS COMPREHENSIVE CANCER CENTER – Associate Professor: Hong Zhu, Ph.D.

PSYCHIATRY – Professor: Hicham Ibrahim, M.D., James LePage, Ph.D., Jodie Kathlene Trello-Rishel, M.D.; Associate Professor: Kevin T. Brown, M.D., Mary Camp, M.D., Alexis Inabinet Clyde, Ph.D., Bettina Fehr, M.D., Aleksandra Aceska Foxwell, Ph.D., Celia Elizabeth Heppner, Ph.D., Psy. D., Elena Ivleva, M.D., Ph.D., Carrie McAdams, M.D., Ph.D., Geetha Shivakumar, M.D., Nicholas Westers, Psy. D.

RADIATION ONCOLOGY – Professor: Sandeep Burma, Ph.D.; Associate Professor: Bo Zhao, Ph.D.

RADIOLOGY – Professor: Roderick William McColl, Ph.D.; Associate Professor: Hythem Adnan Omar, M.D., Mark A. Reddick, M.D.

RADIOLOGY/ADVANCED IMAGING RESEARCH CENTER – Professor: Xiankai Sun, Ph.D.; Associate Professor: Daniel Nobrega Costa, M.D., Elena Vinogradov, Ph.D.

SURGERY – Associate Professor: Adam Craig Alder, M.D., Michael William Cripps, M.D., Diana L. Diesen, M.D.

UROLOGY – Professor: Vitaly Margulis, M.D.

Forest of Light is comprised of 80 "trees," spanning 1,500 square feet of the fourth-floor rooftop garden at West Campus Building 3.

New art emits shifting colors across UT Southwestern

By Amy Stumbris

A donor has bestowed another you-can't-miss-it piece of artwork upon UT Southwestern.

Forest of Light, commissioned especially for UT Southwestern, is a collaboration between artists Tom Orr and Frances Bagley and is made of steel, acrylic, and light-emitting diode (LED) lighting. The 23 acrylic tubes housing LED lights and 57 powder-coated steel poles comprise 80 "trees," spanning 1,500 square feet of the fourth-floor rooftop garden at West Campus Building 3.

Employees and visitors are encouraged to experience the ever-changing work by taking a quiet moment to walk through the forest at different times of the day. During the day, the painted steel poles dominate the experience; at night, LEDs prevail.

The technical piece, which took two years to plan and a month to install, can be viewed from several spots across the main campus and allows for a broad range of programming options.

More online: To view a photo gallery on the artwork, go to *Center Times Plus* at **ct.utsouthwestern.edu**.

"The light color may be fixed, it may slowly shift through the full color spectrum, or it may vary between LED poles," said Courtney Crothers, Art Curator at UT Southwestern. "The LEDs create a dynamic display, and programming them will be a source of inspiration and experimentation in the months and years ahead."

Married duo Ms. Bagley and Mr. Orr are highly respected independent artists who periodically collaborate on projects. Born in Dallas, Mr. Orr boasts hundreds of pieces throughout Texas – including public installations at Dallas Love Field airport, the international terminal at DFW International Airport, and the El Paso Museum of Art – as well as installations nationally and internationally. Ms. Bagley lives and works in Dallas, claiming projects throughout Texas in places such as Texas Woman's University, UT Arlington, and the El Paso Museum of Art; her work is also represented in the permanent collection of the National Museum of Women in the Arts in Washington, D.C. In 2008, she was the first American to win an award from the biannual Kajima Sculpture Exhibition in Tokyo.

Forest of Light was gifted by an anonymous donor in honor of Dr. John Warner, UT Southwestern's Executive Vice President for Health System Affairs, with the dedication: "A heartfelt thanks to John Warner, M.D., from a grateful patient, turned friend."

"I am deeply touched by this gift," Dr. Warner said. "Situated where it is, in a quiet garden space, the installation reinforces UT Southwestern's dedication to promoting health and overall wellness for our patients, visitors, and employees."

■

Dr. Warner holds the Jim and Norma Smith Distinguished Chair for Interventional Cardiology, and the Nancy and Jeremy Halbreich, Susan and Theodore Strauss Professorship in Cardiology.

Artists Tom Orr and Frances Bagley enjoy the final installation.

Poles were bolted to the rooftop floor, then the bases were covered in gravel.

At night, LED lighting dominates the *Forest of Light* experience.

Texas' largest high schools to report concussions to statewide registry

By James Beltran

Starting this fall, the biggest public high schools in Texas are required to report all sports concussions to a UT Southwestern database in one of the nation's largest statewide endeavors to track brain injuries in youth.

The project, a partnership between the Medical Center and the University Interscholastic League (UIL), is among multiple requirements recently implemented in Texas that signify a notable shift in how public schools are addressing rising concerns over player safety. Only a few states have applied similar requirements, and the addition of Texas brings heft to an emerging effort to fill a major gap in concussion research.

"The pendulum is swinging toward concussion awareness, yet there is still so much we don't know about brain injury in middle and high school athletes," said Dr. Munro Cullum, Professor of Psychiatry, Neurology and Neurotherapeutics, and Neurological Surgery, who is overseeing the database at UT Southwestern's Peter O'Donnell Jr. Brain Institute. "We need to get a sense of how many of these injuries are occurring. Then we can use the data to look for answers: Do concussion numbers decrease after a school gets new equipment? How do concussions vary by gender and age?"

While the NCAA, NHL, NFL, and other sports organizations are tracking the issue in the college and professional ranks, little has been done on a scale as large as Texas to evaluate concussions in youth athletics.

Dr. Munro Cullum

The project in Texas – which leads the U.S. with more than 800,000 students participating in high school sports – is part of the ConTex registry that launched in 2017 as a program for middle and high schools to voluntarily report concussions sustained during all UIL-sanctioned activities. ConTex is funded through UT Southwestern's Texas Institute for Brain Injury and Repair, which was established with $7.5 million in annual funding from the Texas Legislature to explore the full spectrum of brain injuries.

The UIL, which regulates athletics in Texas public schools, has now mandated that all Conference 6A schools participate in the registry, with the possibility of expanding the requirements to other schools in the future. Schools in Conferences 1A-5A can continue participating on a voluntary basis.

"Ensuring the health and safety of our student participants is the most important thing we do," said Charles Breithaupt, UIL Executive Director. "The UIL Medical Advisory Committee does excellent work recommending policies to make our activities as safe as possible, and this concussion registry will provide valuable information to help us continually improve the safety of extracurricular athletics."

The ConTex registry, modeled after a smaller UT Southwestern study that tracks more detailed information about concussions in the Dallas-Fort Worth area, relies on athletic trainers and school personnel across Texas to report all concussions that occur in UIL athletics to a central database through an online site. Among the information being tracked is the cause of the injury, concussion history, the gender of the player, and other data.

Dr. Cullum said his team will measure how often concussions occur in each sport and identify areas with differing rates. With more data, the team will eventually be able to examine whether certain practices are helping reduce concussions or shorten recovery times.

"Among other issues, we don't know who's at risk for prolonged recovery," Dr. Cullum said. "Most people will be back to normal within a few weeks, but there are some who take longer. Why is that happening, and what can we do to change it? Collecting the data is setting the stage for a number of future projects."

All 50 states have passed legislation in recent years to address concussions in extracurricular athletics, but few have successfully launched statewide registries to track such injuries in all sports. Researchers have been forced to rely on surveys of hospital records that have only skimmed the surface of the issue. Dr. Cullum said data collected from the schools is critical.

"This framework can be used in other states, maybe even for a national database," he said. "But it's vital that athletic trainers and other school personnel understand the importance of reporting their cases. Their contributions will ultimately lead to best practices and help better protect student-athletes."

■

Dr. Cullum holds the Pam Blumenthal Distinguished Professorship in Clinical Psychology.

More online: To watch a video and read the full story in *Center Times Plus*, go to **ct.utsouthwestern.edu**.

FOCUS: CANCER

Manipulating dose, timing of therapies reduces relapse in cancer mouse models

By Deborah Wormser

Changing the standard dose and timing of two therapies greatly cut tumor relapse and reduced side effects in mouse models of kinase mutated breast cancer and lung cancer, UT Southwestern Simmons Cancer Center researchers have found.

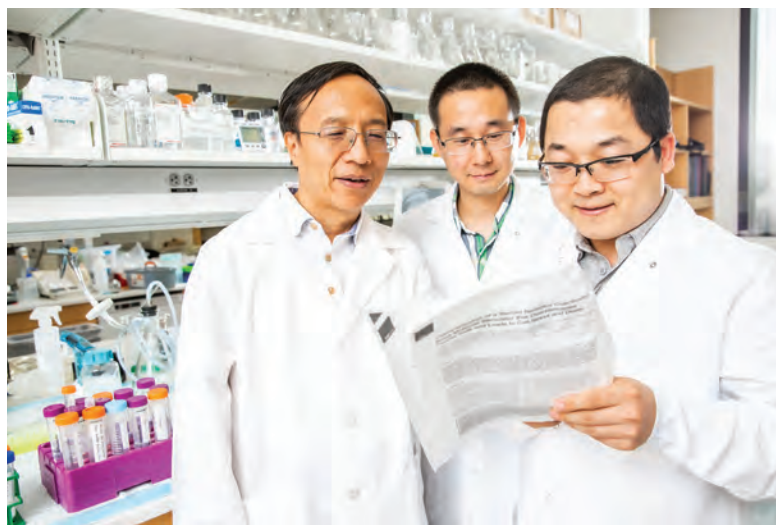
The study published last month in *Science Immunology* suggests that giving the two therapies as short course, first-line treatment might work better than the current practice of providing one treatment early and the other treatment only if tumors relapse.

"This study reveals the importance of the proper combination and timing of tyrosine kinase inhibitors and immunotherapy such as the programmed death-ligand 1 (PD-L1) inhibitor, also known as immune checkpoint blockade," said corresponding author Dr. Yang-Xin Fu, Professor of Pathology, Immunology, and Radiation Oncology and a member of the Harold C. Simmons Comprehensive Cancer Center.

"Many cancers have high and abnormal tyrosine kinase activities. Tyrosine kinase inhibitors, or TKIs – which target specific cancers – are a common first-line treatment for rapidly shrinking tumors such as those associated with kinase-driven breast cancer and lung cancer. But tumor relapse or resistance often occurs. The standard of care is to use TKIs first and then use immunotherapy such as PD-L1 inhibitors after relapse occurs," Dr. Fu explained. "Our study showed that immunotherapy should be used together with the TKIs as the first-line – not second-line or third-line – treatment. We also demonstrated that the dose and timing of the TKI is important."

The team, which included first authors and postdoctoral researchers Drs. Zhida Liu and Chuanhui Han, also found that hypofractionated TKI (HypoTKI) – giving a high dose over a short time – was more effective in mouse models of breast cancer and lung cancer than standard hyperfractionated TKI (HyperTKI) – lower doses over a longer time. Compared with standard therapy, the high-dose/short time TKI approach appeared to significantly reduce tumor burden and limit relapse with fewer side effects.

The researchers found that TKIs work in part by activating both innate and adaptive immunity – that is, both of the body's immune systems. The innate immune system is activated as soon as a threat is identified. Adaptive immunity is the body's response to threats it has learned to recognize, Dr. Fu explained.


From left, Drs. Yang-Xin Fu, Chuanhui Han, and Zhida Liu

PD-L1 inhibitors are thought to enhance adaptive immunity to overcome the ability of some tumor cells to develop resistance to TKIs, he added.

Compared with standard HyperTKI therapy, the HypoTKI approach triggered greater innate immune sensing and a more potent release of type I interferon and other cytokines through an innate immunity signaling pathway to enhance tumor-specific T cell infiltration and reactivation. The researchers also found that HypoTKI was more potent than HyperTKI in limiting tumor relapse in a host immune response-dependent manner. More importantly, they observed that PD-L1 blockade could further enhance the anti-tumor effectiveness of HypoTKI treatment in advanced large tumors and limit the relapse. The timing of the dose of the drugs was important, he said.

"Our study demonstrates that HypoTKI and PD-L1 blockade can work in combination to effectively control advanced large tumors, increase overall survival, and reduce tumor relapse. These data suggest that proper timing – giving the two agents together at the start of treatment – provides maximum synergistic anti-tumor effects in these tumors and should be studied further," Dr. Fu said.

The study received support from the National Institutes of Health and the Cancer Prevention and Research Institute of Texas (CPRIT).

■

Dr. Fu holds the Mary Nell and Ralph B. Rogers Professorship in Immunology.

More online:
To read the full story, go to *Center Times Plus* at **ct.utsouthwestern.edu**.

Study proves hepatitis C drugs decrease liver-related deaths by nearly 50 percent

By Patrick McGee

A Simmons Cancer Center study demonstrates that antiviral drugs for hepatitis C reduce liver-related deaths by nearly 50 percent in patients with a history of liver cancer.

The finding builds on a December 2018 study by the same researchers who found that antiviral drugs do not increase the risk of liver cancer recurrence, as was previously feared.

Dr. Amit Singal's study was published recently in *Gastroenterology*.

Dr. Singal is an Associate Professor of Internal Medicine, Medical Director of the UT Southwestern Liver Tumor Program, and Clinical Chief of Hepatology. He collaborated on these studies with Dr. Caitlin Murphy, Assistant Professor of Population and Data Sciences and Internal Medicine. They are both members of the Harold C. Simmons Comprehensive Cancer Center.

Their studies overturn prior misconceptions that made doctors reluctant to prescribe direct-acting antivirals to treat hepatitis C in patients with a history of liver cancer. Many doctors previously believed that hepatitis C, for all its harmfulness, activates the immune system when it infects the liver, and the immune system kept liver cancer recurrence at bay.


Dr. Amit Singal


Dr. Caitlin Murphy

But this notion appears to be false. Drs. Singal and Murphy studied nearly 800 patients from 31 medical centers across the country and found that the drugs decrease death from cirrhosis and liver cancer by 46 percent.

"Not only are these drugs safe in this patient population, but we have now demonstrated that they are helpful," Dr. Singal said. "Our study changes the paradigm from you could treat a patient's hepatitis C to you *should* treat it."

Dr. Carlos L. Arteaga, Director of the Simmons Cancer Center, said the study's scope and impact are something that can only be produced by a National Cancer Institute-designated Comprehensive Cancer Center. The study is a significant contribution because it clears the path to beneficial drug treatment.

"Hepatitis C therapy is so important because it provides a cure," Dr. Singal said. "You take oral medications for two or three months, with minimal to no side effects, and you're done. You're cured of hepatitis C."

Defeating hepatitis C is an important step because infection can otherwise lead to cirrhosis – scarring of the liver – that can be deadly. Cirrhosis can increase the risk for liver cancer, which also may be fatal. Curing hepatitis C with antivirals breaks the first link in a deadly chain of events and can lead to improvement in liver function among those who have previously developed cirrhosis.

Hepatitis C can lie dormant and resurface as a life-threatening specter years later. In 2018, the Centers for Disease Control and Prevention announced there were nearly 2.4 million people living with hepatitis C in the U.S.

"Dr. Singal's and Dr. Murphy's study reports a welcome, fact-based way to oppose the adverse effects of hepatitis C infection in various demographic groups," Dr. Arteaga said. "Their findings will have a global, lifesaving impact on how hepatitis C is treated. It is particularly important to Texas because the liver cancer incidence rate in Texas is the highest in the nation."

Dr. Arteaga said the study is also important because liver cancer is highest among the Hispanic population in Texas, and research-based advances in reducing cancer in underserved groups are a Simmons Cancer Center priority.

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

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

More online:
To read the full story, go to *Center Times Plus* at **ct.utsouthwestern.edu**.

Liver cancer statistics

- In 2016, the latest year for which incidence data are available, 33,482 new cases of liver cancer were reported in the U.S., and 26,569 people died of liver cancer.
- For every 100,000 people that same year, 8 new liver cancer cases were reported and 7 people died of liver cancer.
- In Texas in 2016, the age-adjusted rate of new liver cancer cases was 11.5 per 100,000 people. Total cases reported in Texas that year was 3,387.

SOURCE: CENTERS FOR DISEASE CONTROL AND PREVENTION

Precision editing of gut bacteria abates colorectal cancer in mice

By Deborah Wormser

UT Southwestern researchers have shown that precision editing of the bacterial populations in the gut reduces inflammation-associated colorectal cancer in mice.

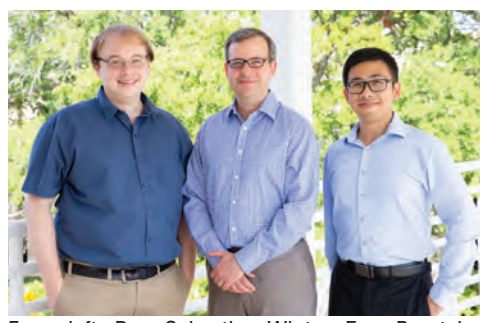
The study published in the *Journal of Experimental Medicine* could lay the groundwork for novel cancer prevention strategies for individuals with chronic intestinal inflammation. Inflammatory bowel disease (IBD) affects more than 1.6 million people in the United States, about equally divided between those with ulcerative colitis and Crohn's disease, said co-corresponding author Dr. Ezra Burstein, Professor of Internal Medicine and Molecular Biology and Chief of UT Southwestern's Division of Digestive and Liver Diseases.

People living with IBD have a higher risk of developing colon cancer, which can be a source of significant health consequences for these patients, he said. IBD increases the risk of colorectal cancer by three- to sevenfold.

"The most significant finding in this study is that manipulating the intestinal microbiome is sufficient to affect the development of tumors. One could envision a time in which medications that change the behavior and composition of the bacteria that live in the gut will be part of the treatment for IBD," Dr. Burstein said.

In addition to colorectal cancer, long-standing IBD is associated with imbalances in the bacterial species that line the gut, explained co-corresponding author Dr. Sebastian Winter, Assistant Professor of Microbiology and Immunology. The study's first author is Dr. Wenhan Zhu, a postdoctoral researcher in the Winter laboratory.

"Our intestinal tract is teeming with microbes, many of which are beneficial and contribute to our overall health. Yet, under certain conditions, the normal function of these microbial communities can be disturbed. An overabundance of certain microbes is associated with increased risk for the development of diseases, including certain cancers," Dr. Winter said.


From left: Drs. Sebastian Winter, Ezra Burstein, and Wenhan Zhu

The strategy used in the study targets metabolic pathways that are only active during intestinal inflammation and only in some forms of bacteria, providing an Achilles' heel for reducing their abundance. The current study builds on work the researchers published last year in *Nature* that found the approach prevented or reduced inflammation in a mouse model of colitis, while having no obvious effect on healthy control animals with balanced bacterial populations in their guts.

Precision editing of the gut microbiome is a shift in strategy from current clinical treatments that target reducing inflammation in the patient during IBD flare-ups or using broad-spectrum antibiotics that kill both good and bad bacteria in order to reduce the risk of cancer, the researchers said.

Researchers from Vanderbilt University and the Universidade Federal de Minas Gerais in Brazil also participated. The research received support from the National Institutes of Health, The Welch Foundation, the Burroughs Wellcome Fund, the American Cancer Society, and the Crohn's and Colitis Foundation of America.

■

Dr. Burstein holds the Berta M. and Cecil O. Patterson Chair in Gastroenterology.

Dr. Winter is a W.W. Caruth, Jr. Scholar in Biomedical Research.

FOCUS: CANCER

Underenrollment in clinical trials: Patients not the problem

By Deborah Wormser

The increasing sophistication of cancer treatments threatens to outpace the ability of health care providers to enroll patients in clinical trials to test those therapies. That's a key finding by researchers in UT Southwestern's new Department of Population and Data Sciences.

The authors of the study published recently in the *Journal of Clinical Oncology* investigated why many cancer clinical trials fail to enroll enough patients. The researchers sought to identify potential interventions – i.e., solutions – to improve the situation.

Research in the Department of Population and Data Sciences investigates ways to improve health care delivery on a population level. Its studies often involve breaking a problem into its component steps, identifying potential barriers at each step, and developing a list of possible interventions for future study. In this specific project, the researchers approached suboptimal clinical trial enrollment – a significant national concern – as a health care delivery issue.

"Cancer clinical trials are meant to result in treatment advances. However, their potential benefits are diminished by suboptimal trial participation, both by patients and by clinicians and

Dr. Celette Sugg Skinner

Dr. Simon Craddock Lee

their organizations," said Dr. Celette Sugg Skinner, Chair and Professor of Population and Data Sciences and corresponding author of the study. Dr. Skinner is also a member of the Harold C. Simmons Comprehensive Cancer Center.

Nearly half – 40 percent – of cancer trials fail to reach targets for accrual, the medical term for the number of patients who have completed or will complete the trial. Fewer than 2 percent of adults with cancer enroll in trials, and last year no trials were offered in 36 percent of physician-owned and 14 percent of hospital-owned oncology practices, she said.

In order to help ensure results will reach statistical significance, clinical trials are designed to enroll a calculated number of patients, she explained. "Before we can figure out how to improve accrual in trials, we need to better understand the entire process and challenges along the way."

To gain this understanding, lead author Dr. Simon Craddock Lee, Associate Professor in the Department, conducted in-depth interviews with 10 key oncology physicians, nurses, and research staff in leadership positions across nine states.

"Nationally, we know there are large numbers of cancer patients and relatively few of them are in clinical trials," Dr. Lee said. "Most of the research to date has focused on the idea that the problem must be that patients don't know about clinical trials."

That mindset led to a research emphasis on improving communication so that patients are aware of trials and understand the risks and benefits as well as reaching out to underrepresented populations and ensuring messages are culturally appropriate – all worthy goals. However, this study identifies another group of problems, he explained.

The researchers found that emerging therapies and the changing landscape of oncology have introduced complexity, he continued. Specifically, oncology practices encounter barriers to (1) staying aware of available trials, (2) identifying eligible patients, (3) introducing the idea of trial participation vs. standard treatment to those patients, and (4) enrolling and caring for them throughout clinical trials.

These steps have become more complicated due to emerging discoveries in the realm of precision oncology, which seeks to determine the best treatment based on patient genetic, environmental, or lifestyle factors. For example, whereas trials in the past would enroll all patients with stage 2 breast cancer, current trials often are designed to enroll only patients with certain biomarkers.

"As eligibility criteria become more numerous and specific, the likelihood of any patient meeting all criteria goes down," Dr. Lee explained. "Because oncology practices are not reimbursed for determining and documenting enrollment, trial accrual is threatened as these tasks become more costly and time-consuming."

The authors suggest that addressing challenges to trial accrual may involve changes in trial-specific reimbursement, as well as incentives for administrative and infrastructure costs.

"Our next goal must be to enhance logistic, infrastructure, and policy support to translate oncology discoveries into high-quality cancer care," said co-author Dr. David Gerber, a Professor of Internal Medicine and Population and Data Sciences. Dr. Gerber serves as Associate Director for Clinical Research and co-Leader of the Experimental Therapeutics Program in the Simmons Cancer Center.

The researchers will use this study to guide future investigations. Most immediately, they have surveyed more than 1,000 oncology providers, asking in-depth questions about the barriers identified in this study. Findings from that survey will help to identify strategies to ensure that clinical trials enroll the targeted number of patients.

■

Dr. Skinner holds the Parkland Community Medicine Professorship.

Conzen appointed Chief of Hematology and Oncology Division

By Patrick McGee

When Dr. Suzanne Conzen arrived at UT Southwestern in July, she had a mission: initiate breast and prostate cancer clinical trials with several faculty members during her first week on the job. She didn't falter from her goal. The new Chief of the Division of Hematology and Oncology attributes her success to the collaborative spirit on campus.

"I was incredibly impressed from my first visit to UT Southwestern with the level of scientific and clinical expertise," Dr. Conzen said. "There's a real expectation that faculty and trainees here push the envelope of original research. That sort of fearless thinking is what is going to make important discoveries for cancer prevention and treatment that help patients to both reduce risk and promote better outcomes after a cancer diagnosis."

Dr. Conzen was recruited to UT Southwestern's Harold C. Simmons Comprehensive Cancer Center from The University of Chicago. She was awarded a $6 million recruitment grant from the Cancer Prevention and Research Institute of Texas (CPRIT), as well as $2 million from the UT System's Science and Technology Acquisition and Retention Program. She also brings three National Institutes of Health awards to her new position.

Dr. Conzen has four patents and two intellectual property licenses. She wrote chapters in seven medical textbooks and was a Senior Editor for the American Association for Cancer Research's journal *Cancer Research*. She did her undergraduate work at Brown University, went to medical school at Yale, and earned a Master of Science from the London School of Hygiene and Tropical Medicine.

"Dr. Conzen's outstanding career in Chicago made her the top candidate for taking a leadership role in the Division of Hematology and Oncology," said Dr. Carlos L. Arteaga, Director of the Simmons Cancer Center and Associate Dean of Oncology Programs.

Dr. Suzanne Conzen

"Her scientific work led to a pioneering repurposing of endocrine agents as cancer drugs."

Almost as soon as she arrived at UT Southwestern, Dr. Conzen was named a co-leader of the prostate cancer Specialized Program of Research Excellence (SPORE) application. SPORE grants are funded by the National Cancer Institute (NCI) and are among the most comprehensive multidisciplinary research mechanisms available for translational research in an NCI-designated cancer center.

Dr. Conzen has studied mechanisms of the mammalian physiological stress response in both cancer initiation and progression. Her work has shown that hormonal changes in response to adverse, stressful environments cause activation of receptors and downstream molecular and epigenetic pathways that impact both nascent cancer cells and their surrounding cells. Her work also uncovered implications for how chronic environmental stressors may play a role in increasing the risk for triple-negative breast cancer among African American women living in Chicago.

Dr. Conzen's discoveries with glucocorticoid and androgen receptors have also led to drug developments currently in clinical trials for breast, prostate, pancreatic, and ovarian cancer. She is currently planning a clinical trial at UT Southwestern to study a subset of triple-negative breast cancers that expresses both androgen and glucocorticoid receptors.

"Dr. Conzen's work on nuclear hormone receptors has many implications for cancer biology and cancer care. Her discoveries underlie the latest treatments," Dr. Arteaga said.

■

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

Dr. Conzen holds the Andrea L. Simmons Distinguished Chair in Cancer Research.

More online:
To read the full story, go to *Center Times Plus* at **ct.utsouthwestern.edu**.

Study highlights HPVs' link to cancer development

By Patrick Wascovich

Human papillomaviruses (HPVs) are the most common sexually transmitted infections in the U.S., affecting 79 million Americans, most in their late teens and early 20s. For some, this infection can lead to cancer later in life.

UT Southwestern physician-scientist Dr. Richard Wang wants to identify and break the links HPVs use to develop into cancers. The latest findings from Dr. Wang's laboratory are reported in *Nature Communications*, holding promise for better methods to diagnose HPV-related cancer.

"High-risk HPVs can cause cervical, head and neck, and other anogenital cancers. They do so by activating oncogenes that transform normal cells into cancerous ones," said Dr. Wang, Associate Professor of Dermatology and a member of the Harold C. Simmons Comprehensive Cancer Center. "We discovered that HPVs can produce some of these oncogenes as circular RNAs. We are now testing whether these circular RNAs may also be useful in diagnosing HPV-related cancers."

Dr. Richard Wang

Although spread through sexual encounters with an infected person, HPV is a different virus than HIV or HSV (the herpes simplex virus). The Centers for Disease Control and Prevention (CDC) estimates that about 14 million Americans become infected with HPV each year, with many unaware of it. Cancer often takes years, even decades, to develop after a person gets HPV. A vaccine against high-risk HPVs is safe and effective when given in the recommended age groups. The three-shot vaccination series is recommended for females up to age 26 and males up to age 21.

Dr. Wang's work at the Simmons Cancer Center includes support from the American Cancer Society and UT Southwestern's Disease-Oriented Clinical Scholars (DOCS) Program. The latter program's goal is to facilitate the growth of leading-edge research in clinical departments on campus. DOCS participants have at least 50 percent protected time for laboratory-based or clinical research.

Researchers from Dr. Cheng-Ming Chiang's lab in the Simmons Cancer Center, Dr. Michael Buszczak's lab in the Department of Molecular Biology, and the Quantitative Biomedical Research Center contributed to the study. Dr. Chiang is Professor of Biochemistry and Pharmacology while Dr. Buszczak is a Professor of Molecular Biology.

■

Dr. Buszczak is an E.E. and Greer Garson Fogelson Scholar in Medical Research.

Dr. Wang holds the Dr. J.B. Shelmire Professorship in Dermatology.

Punaro, Rogers appointed Professors Emeritus of Pediatrics

Dr. Marilynn Punaro

By Nyshicka Jordan

This winter, pediatric rheumatologist Dr. Marilynn Punaro is looking forward to taking a long cruise to Antarctica. It's a well-deserved break after 40-plus years as an esteemed clinician, researcher, and mentor at UT Southwestern.

"After so many years it's simultaneously hard to believe it's really happening, finally," Dr. Punaro said about her retirement in July. "It's a little bit terrifying, but I think the fact that I will be a Professor Emeritus is reassuring because it lets me continue to have a link to some of the work that I enjoy the most."

Indeed, Dr. Punaro's longtime dedicated service and contributions to UT Southwestern across all three of its missions have earned her the recent appointment as Professor Emeritus of Pediatrics.

"Dr. Punaro is an extraordinary clinician. Her career has been defined not only by her impeccable diagnostic skills, bedside grace, and compassion and loyalty to her patients, but also by the scientific rigor with which she has approached all clinical problems, from the mundane to the esoteric," said Dr. Julio Pérez-Fontán, Chair of Pediatrics.

Initially interested in nursing, Dr. Punaro volunteered as a hospital candy striper in middle school – an experience that influenced her to become a doctor instead. Mystery was part of her attraction to medicine.

"I always liked solving mysteries. I liked the diagnostic process, and so I think that partly attracted me to rheumatology because this is a subspecialty where we see a lot of patients who are difficult to diagnose," she said.

As a researcher, Dr. Punaro's primary focus has been pediatric lupus and autoinflammatory diseases. She is particularly proud of contributing to the discovery of an improved treatment for systemic arthritis, a disease that had higher mortality rates for children in the past.

It was formerly treated with corticosteroids, which have toxic side effects. But in 2003, a UTSW research team that included Dr. Punaro discovered a connection between the gene *interleukin 1* and systemic arthritis. A medication that blocked *interleukin 1* was already on the market at the time – anakinra – to treat another condition. This new discovery made it possible to prescribe the medication to children with systemic arthritis.

"You could take a child and give them an injection of this medication and an hour later they'd be in the playroom, and you could just turn it off almost like a light switch in most patients. And that has profoundly changed how we treat that disease, which was one of

Dr. Marilynn Punaro

the more serious diseases in our field," she said.

Dr. Punaro joined the UT Southwestern faculty in 1996 and was named Chief of the Division of Pediatric Rheumatology in 2004. In 2014, UT Southwestern honored Dr. Punaro with the Patricia and William L. Watson Jr., M.D. Award for Excellence in Clinical Medicine, which is given to a faculty member each year to recognize outstanding work as a clinician.

In 2018, she received the American College of Rheumatology's Distinguished Clinician Scholar Award, which recognizes a physician's clinical care, research, and scholarly activity. She also served as a Master of UT Southwestern's Fashena College starting in 2013, leading to her later appointment holding the Nadine and Tom Craddick Professorship in Medical Education.

One of her interests is mentoring early career faculty members and trainees, especially women. Dr. Punaro graduated from Tulane University Medical School in 1977 in a class of just 15 women out of 175 students. Reflecting on starting her career at a time when gender diversity was scarce among physicians, she said she's pleased to see the medical industry become more gender inclusive.

"It's so different now when half of medical students are female, and in pediatrics it's three-quarters. In my field, at least three-quarters of pediatric rheumatologists are women," Dr. Punaro said. "It's very encouraging that the trend is starting to be more representational."

■

Dr. Pérez-Fontán holds the Robert L. Moore Chair in Pediatrics.

Dr. Zora Rogers

By Nyshicka Jordan

In 1987, just a week into beginning a fellowship at UT Southwestern, pediatric hematologist-oncologist Dr. Zora Rogers received news of two major surprises – she was pregnant with twins.

"It's not something I would recommend as a career choice," Dr. Rogers said with a laugh.

As a young female physician in the 1980s, pregnancy might have dramatically redirected – or ended – her career. Instead, her then-Division Director and later mentor Dr. George Buchanan, Professor Emeritus of Pediatrics, accommodated this challenge, adjusting call schedules and training calendars to allow her to continue doing her job. That experience taught her about making unexpected life challenges work – a lesson that has carried her throughout her time at UT Southwestern.

"I was a fellow and a new mother with two kids, with a husband starting a urology practice, but in an exciting place doing the kind of medicine I wanted to do. We decided to just see how it would work, and then it was 30 years later," Dr. Rogers said. "It's always worked out, somehow."

Since navigating that unanticipated life event and building a successful medical and research career at UTSW, Dr. Rogers is now ready to scale back professionally. A faculty member since 1990, she retired in June and has been appointed Professor Emeritus of Pediatrics. The appointment will allow her to continue to contribute nationally to her specialty by publication of research and advocacy through professional organizations. (She is now in her second term as Chair of the American Academy of Pediatrics' Section on Hematology/Oncology.)

One of her research focus areas is sickle cell disease, a blood disorder that in the United States most commonly occurs in African Americans. From 1983-1987, she trained at the Los Angeles County-University of Southern California Medical Center, where the largest group of patients in hematology had sickle cell disease.

"Sickle cell disease patients needed care and organized research to drive that care. For me it was a field that was intellectually interesting, had a clear community service commitment, and offered the challenge of publishing my own research," Dr. Rogers said.

UT Southwestern had a developing clinical and research program in sickle cell disease at the time. Dr. Rogers and her husband moved to Dallas so she could finish her fellowship at UTSW.

One of her most significant research contributions has been the use of the medication hydroxyurea – commonly used to treat certain types of cancer – to treat children with sickle cell disease. In 1996, she participated in a four-institution pilot to test treating young children with this medication before they developed significant symptoms. This led to the 15-year-long National Institutes of Health-funded BABY HUG study that demonstrated the safety and benefits of this approach.

"I am proud that I have data to back up my belief

Dr. Zora Rogers

that hydroxyurea is a good option for all young children with sickle cell disease. The risks – while small – can be managed, and the benefit is potentially substantial," Dr. Rogers said.

Her commitment to this research has been critically important to UT Southwestern's significant contributions in the field.

"Dr. Rogers is an international expert in sickle cell disease and bone marrow failure in children. As a Professor Emeritus, she will continue to be a valuable mentor for our trainees and junior faculty members," said Dr. Stephen Skapek, Chief of the Division of Pediatric Hematology and Oncology. "Additionally, Dr. Rogers' experience guiding clinical research in children with sickle cell disease has helped to position UT Southwestern as a leader in the field."

Besides continuing her research work, Dr. Rogers is looking forward to the personal impact of retirement, including spending quality time with her husband and visiting her twins, who live on opposite coasts. Her daughter, a 2014 UT Southwestern Medical School graduate, is an infectious disease fellow at the Children's Hospital of Philadelphia. Her son is pursuing his doctorate in political science at the University of California, Berkeley, which is Dr. Rogers' undergraduate alma mater.

Looking back, Dr. Rogers said her goal was to be the best mother and doctor she could be, and that each role informed the other.

"As a mother I could understand what patients' parents were going through, but also it helped me understand that parents needed someone to lead the way, not just cry with them," Dr. Rogers said. "As a clinician I am proud that my patients' parents listened to me and knew I only cared about the best interests of their child."

■

Dr. Skapek holds the Distinguished Chair in Pediatric Oncology Research.

PLS Continued from page 1

next President's Lecture, titled "How Cell Shape Shapes Cells." His presentation will be at 4 p.m., Oct. 17, in the Tom and Lula Gooch Auditorium on South Campus.

"I think the audience will primarily remember the dazzling beauty of the cell shapes that I plan to show as well as the astounding diversity of self-organization inside these cells. But the deeper message will be that cells are living in and responding to a complex microscopic world where their shape really, really matters," said Dr. Danuser, Chair of the Lyda Hill Department of Bioinformatics.

The Professor of Bioinformatics and Cell Biology is the corresponding author of a study published earlier this year in *Developmental Cell* that found cellular form drives function in melanoma.

Specifically, that work focuses on actin, a protein governing the crawling movements of cells. The team found that actin helps promote cancer cells' ability to resist chemotherapy and thrive in a new, stressful environment after metastasizing (traveling) from another location.

Drug resistance and metastasis represent two of the most critical factors in determining a cancer patient's prognosis, Dr. Danuser said.

"My team has studied the role of cell shape mostly in the context of cancer metastasis; but the principles we discovered likely apply to all biological processes – from cell functions in fetal development to the generation and degeneration of neurons and the differentiation of immune cells," he said. "That cell shape is a driver and not merely the result of cell function is an atypical view."

For decades sporadic experiments had hinted at this different perspective, Dr. Danuser said. But until recently scientists lacked the technology to elucidate it.

This discovery by Dr. Danuser's team built on his mission to develop a research program that combined computer science, molecular cell biology, and live cell imaging to help determine what makes a cancer cell become metastatic. To help accomplish this, he recruited two lab members who later joined the UTSW faculty: Drs. Reto Fiolka, Assistant Professor of Cell Biology and Bioinformatics, and Kevin Dean, Assistant Professor of Cell Biology.

After he joined UT Southwestern in 2013 as a Cancer Prevention and Research Institute of Texas (CPRIT) Scholar and Professor of Cell Biology, Dr. Danuser gathered a collaborative group of highly motivated computer scientists, physicists, and cell biologists committed to the quest. Using advanced imaging technology and CRISPR/Cas9 gene editing to screen for genetic mutations, plus molecular biology techniques to obtain the best images possible, the team has published study after study.

"This will not be a talk about my work. This is a talk about our work," he said, adding that their most recent study reflects the work of at least 40 researchers, dating back to when he was at Harvard University prior to his recruitment to UTSW by Cell Biology Chair Dr. Sandra Schmid.

Dr. Danuser's recent achievements in cell biology and bioinformatics reflect an important lesson he learned leading surveyors in Switzerland – that anything is possible with determination and teamwork.

■

Dr. Danuser holds the Patrick E. Haggerty Distinguished Chair in Basic Biomedical Science.

Dr. Schmid holds the Cecil H. Green Distinguished Chair in Cellular and Molecular Biology.

Twelve astronauts took part in the UTSW study.

Space Continued from page 1

A similar condition is also diagnosed in patients as postural orthostatic tachycardia syndrome (POTS) and is predominantly found in women. The dizziness that it causes is life-changing and can be debilitating. Dr. Levine helped one Dallas patient return to a normal life.

This treatment is just one of the ways medicine, heart research, and space travel have connected throughout Dr. Levine's work. The successful Apollo 11 moon landing on July 20, 1969, was an early influence on his career.

"Like most kids in the 1960s, everyone gathered around to watch the broadcast in black and white. For a kid interested in science, this was the pinnacle of life," Dr. Levine said. "The space program always had a strong pull for me. I liked to think about the limits of human capacity and what could be."

That early interest led Dr. Levine into space research within the field of cardiology, and he began working with the space shuttle program in 1991.

"We put a catheter in an astronaut's heart – it was former UT Southwestern faculty member Dr. Drew Gaffney — and sent him into space. It was probably the most expensive right-heart catheterization ever," Dr. Levine reminisced. "Much of our early research was devoted to understanding why astronauts faint when they return from space. Now, we can prevent it from happening."

The *Circulation* study was funded by NASA and published by the American Heart Association. Other UT Southwestern researchers who contributed to the study were Dr. Qi Fu, Associate Professor of Internal Medicine, and Beverley Adams-Huet, former Assistant Professor of Population and Data Sciences and Internal Medicine.

■

Dr. Levine holds the Distinguished Professorship in Exercise Sciences.

Hoffman appointed to Cunningham Professorship in Obstetrics and Gynecology

By Nyshicka Jordan

As a UT Southwestern educator and practicing clinician at Parkland Memorial Hospital for the past 17 years, obstetrician and gynecologist Dr. Barbara Hoffman has three principles that guide her work – an emphasis on evidence-based medicine, a dedicated work ethic, and being a patient advocate.

They're all examples set by her mentor, Dr. F. Gary Cunningham, Chairman Emeritus and Professor of Obstetrics and Gynecology, whose professional legacy she hopes to carry on through her appointment as inaugural holder of the Distinguished Professorship in Obstetrics and Gynecology, in Honor of F. Gary Cunningham, M.D.

"Being named the Cunningham Professor is an honor – and they are huge shoes to fill for a person who is so well respected throughout our Department and the University," said Dr. Hoffman, Professor of Obstetrics and Gynecology.

Dr. Hoffman completed her residency at UT Southwestern and Parkland in 1991 and joined the faculty in 2002. She credits a portion of her academic career to Dr. Cunningham, a valuable mentor who served as Chairman of Obstetrics and Gynecology from 1983 to 2005.

"He's been a very brave mentor in providing resources, encouragement, and advice to people who maybe weren't the very obvious academic protégé. Fortunately, I think he sees potential in people that others may not," she said.

According to Dr. Cunningham, Dr. Hoffman is a skilled and highly valued favorite among residents.

"As a resident, Dr. Hoffman proved to be of the highest caliber," Dr. Cunningham said. "She is an astute clinician and gifted teacher, both of which are tributes to the core of an endowed clinical professorship. We were fortunate that she returned to UT Southwestern where she developed a number of textbooks and teaching guides."


Dr. Barbara Hoffman

In fact, Dr. Hoffman is a passionate textbook author who said Dr. Cunningham mentored her in that role as well. Dr. Cunningham was chief editor of the last eight editions of *Williams Obstetrics* – the longest running medical textbook in the United States, with its 25th edition published last year. Dr. Hoffman serves as an editor of that textbook, noting that Dr. Cunningham was a driving force behind her development of *Williams Gynecology*, now in its fourth edition, a companion to *Williams Obstetrics*.

Dr. Hoffman said she enjoys the creativity that comes with producing textbooks and that writing helps influence how she teaches, and vice versa.

"I think being a clinician at the bedside really helps my writing when I am working with the residents in training," Dr. Hoffman said. "There's a very symbiotic relationship between being a practicing clinician and writing academic books."

Dr. Hoffman wants to ensure that the next generation of doctors has the tools needed to succeed. The Cunningham Professorship will allow her to focus even more on mentoring Ob/Gyn generalists.

"I see mentorship as a huge responsibility, and these funds will aid in my ability to mentor early career faculty and other clinicians," she said.

■

Dr. Cunningham holds the Beatrice and Miguel Elias Distinguished Chair in Obstetrics and Gynecology.


Recognized by *The Chronicle of Philanthropy* among the nation's most generous benefactors, Mr. Pickens and his foundation contributed more than $53 million to Southwestern Medical Foundation for the benefit of UT Southwestern over decades of generosity.

Pickens Continued from page 1

come," Mr. Pickens said after the T. Boone Pickens Foundation donated $50 million to the Southwestern Medical Foundation in 2007.

The landmark gift created a special investment fund, which has grown to $500 million at Southwestern Medical Foundation and is now available to support UT Southwestern's highest priorities in perpetuity.

In recognition of this landmark gift, an 800,000-square-foot medical research and education facility on UT Southwestern's North Campus was named the T. Boone Pickens Biomedical Building. Completed in 2005, it was the largest research building ever built for a Texas university at the time. The $240 million facility, which includes the Boone Pickens Training and Conference Center, provides scientists with custom-designed space that promotes close contact and the exchange of ideas among researchers in the dozen departments and research centers that occupy the 14-story tower.

Mr. Pickens also provided funds to create the Boone Pickens Endowment Fund for Cardiology and the Boone Pickens Fund for Cancer Research and Treatment Honoring Dr. Eugene Frenkel. The late Dr. Frenkel was an internationally recognized cancer researcher and admired clinician and educator who was the founding leader of UT Southwestern's Division of Hematology and Oncology.

Mr. Pickens received the Charles Cameron Sprague Community Service Award and served on the President's Research Council.

Born in Holdenville, Oklahoma, Mr. Pickens grew up in Amarillo, Texas. He attended Texas A&M University before graduating from Oklahoma State University in 1951. Within five years, he had created the company that would become Mesa Petroleum, which he grew through acquisitions of rivals into one of the world's largest independent natural gas and oil companies.

In 1986, he established the nonprofit United Shareholders Association to champion corporate accountability and make corporate management more responsive to shareholders. Upon leaving Mesa in 1996, he established and chaired the hedge fund BP Capital – one of the country's most successful energy investment funds. He also pursued a wide range of other business interests, from water marketing and ranch development initiatives to wind energy projects and the creation of Clean Energy, a company he founded that became one of North America's largest providers of vehicular natural gas.

In addition to providing strong support for UT Southwestern's medical research, the T. Boone Pickens Foundation has focused on supporting educational programs, athletics and corporate wellness, at-risk youth, the entrepreneurial process, and conservation and wildlife initiatives.

He has appeared on the cover of *Time* magazine for his celebrated talent in acquisitions, and played prominent roles in both Texas and national political campaigns. In 1987, Mr. Pickens authored his autobiography, *Boone*, which became a *New York Times* bestseller, followed in 2008 with *The First Billion Is the Hardest*.

Mr. Pickens was inducted into the Oklahoma Hall of Fame and the Texas Business Hall of Fame. He received the coveted Horatio Alger Award in 2006, and the 2009 Bower Award for Business Leadership for his business acumen and philanthropy from The Franklin Institute in Philadelphia.

"Boone had a sincere and deeply felt commitment to helping people through selected giving to institutions that he was confident could multiply his initial investment. We are grateful to have been among those institutions and look forward to fulfilling that commitment," Dr. Podolsky said.

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Dr. Podolsky holds the Philip O'Bryan Montgomery, Jr., M.D. Distinguished Presidential Chair in Academic Administration, and the Doris and Bryan Wildenthal Distinguished Chair in Medical Science.

NEWS

MAKERS

Brenner appointed to editorial, leadership roles in psychiatry specialty


Dr. Brenner

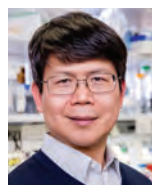
Dr. Adam Brenner, Professor of Psychiatry, has been named Editor-in-Chief of *Academic Psychiatry*, the official journal of the American Association of Chairs of Departments of Psychiatry, American Association of Directors of Psychiatric Residency Training (AADPRT), Association for Academic Psychiatry, and the Association of Directors of Medical Student Education in Psychiatry.

The journal's mission is to support work that furthers knowledge and stimulates evidence-based advances in academic medicine education, leadership, finance and administration, career and professional development, ethics and professionalism, and health and well-being. *Academic Psychiatry* is published bimonthly by Springer Nature Publishing.

In March, Dr. Brenner began serving his first term as President of the AADPRT. Founded in 1970, AADPRT works to further the education and professional development of psychiatry educators and program coordinators. The mission of the group is to promote excellence in the education and training of future psychiatrists.

Dr. Brenner is a Distinguished Teaching Professor as well as Vice Chair for Education and Director of Residency Training in Psychiatry at UT Southwestern.

Chen's immune defense discoveries lead to 2019 Switzer Prize


Dr. Chen

Dr. Zhijian "James" Chen has received the 2019 Switzer Prize from the David Geffen School of Medicine at UCLA in recognition of his groundbreaking work on the mechanisms underlying the cellular response to infection.

Dr. Chen, Director of the Center for Inflammation Research and a Howard Hughes Medical Institute Investigator, leads a laboratory that has been instrumental in the identification of immune response pathways that have significantly added to scientists' understanding of how these pathways work in microbial infections, autoimmune diseases, and cancer. Most significantly, his team discovered the DNA-sensing enzyme cGAS, which helps launch the immune defense system to battle infections.

Last fall, Dr. Chen won the 2019 Breakthrough Prize in Life Sciences for his 2012 discovery of cGAS. In another important discovery in 2005, Dr. Chen's team identified a protein that plays an important role in mounting an immune defense against RNA viruses. The team named the protein MAVS (Mitochondrial Anti-Viral Signaling), a nod to the Dallas Mavericks basketball team.

The recognition includes a $25,000 honorarium and delivery of the 2019 Switzer Prize lecture Nov. 19 at UCLA.

Dr. Chen, also Professor of Molecular Biology, holds the George L. MacGregor Distinguished Chair in Biomedical Science.

Hill honored with Lucian Award for cardiovascular research


Dr. Hill

Dr. Joseph Hill, Chief of the Division of Cardiology and Director of the Harry S. Moss Heart Center, has received the Louis and Artur Lucian Award for Research in Circulatory Diseases from McGill University in Montreal.

"I am thrilled and honored to receive this prestigious award. I accept it as recognition of the efforts of our team of investigators to address the global scourge of cardiovascular disease," Dr. Hill said of the honor, which includes an award of $70,000 (Canadian dollars) and a visit to the institution to give a series of talks. The award is designed to honor outstanding research in the field of circulatory diseases by an investigator whose contribution to knowledge in the field is deemed worthy of special recognition.

"Dr. Hill received the award this year for his seminal work on the molecular mechanisms responsible for pathological changes in the heart that occur during the development of cardiovascular disease and heart failure," noted Dr. Terry Hébert, Assistant Dean, Biomedical Science Education at McGill and also a member of the award selection committee. "The breadth of his work is impressive and represents a state-of-the-art combination of basic and clinical research focused on translating mechanistic insights into new treatment for the leading cause of death in North America."

Dr. Hill is a cardiologist-scientist whose research focuses on molecular mechanisms of remodeling in the disease-stressed myocardium. His research group strives to decipher mechanisms of structural, functional, metabolic, and electrical remodeling in heart disease with an eye toward therapeutic intervention.

Dr. Hill serves on numerous committees, boards, and study sections and lectures widely. In addition, he serves on several editorial boards, including *Circulation Research*, *American Journal of Physiology-Heart and Circulatory Physiology*, and *American Journal of Cardiology*. He serves as Editor-in-Chief of the textbook *Muscle: Fundamental Biology and Mechanisms of Disease*. He also is Editor-in-Chief of *Circulation*.

He has received numerous recognitions and awards, including election to the Association of American Physicians and receipt of the 2018 Research Achievement Award from the International Society for Heart Research. Dr. Hill has also served as President of the Association of University Cardiologists and Chair of the Academic Council of the American College of Cardiology.

Dr. Hill, also Professor of Internal Medicine and Molecular Biology, maintains an active clinical practice focusing on general cardiology, heart failure, and hypertension. He holds the James T. Willerson, M.D. Distinguished Chair in Cardiovascular Diseases, and the Frank M. Ryburn, Jr. Chair in Heart Research.

Study shows LEAP2 hormone levels change with eating, obesity

By Carol Marie Cropper

The hormone LEAP2, which naturally blocks the "hunger" hormone ghrelin, is elevated in people with obesity, especially after eating – raising hopes for a treatment that could one day more effectively reduce appetite and, hence, obesity.

Scientists have been interested in the potential of LEAP2 (short for liver enriched antimicrobial peptide 2) for weight loss and appetite control since a 2018 study in mice and cell lines found the hormone attaches to the same brain receptors used by ghrelin, which stimulates hunger and increases food intake, weight gain, and blood glucose levels. By binding to those receptors, LEAP2 blocks the action of ghrelin.

Researchers at UT Southwestern and the Imperial College London evaluated how LEAP2 levels in the blood change in response to metabolic challenges. The new study, involving people enrolled in weight loss studies, showed that LEAP2 levels increase proportionately to body mass index and other markers of obesity.

The research points to LEAP2, a hormone produced in the liver and small intestine, as a natural brake on obesity and overeating, said Dr. Jeffrey Zigman, Professor of Internal Medicine at UT Southwestern and co-senior author of the paper. As LEAP2 levels go up with obesity, ghrelin levels go down. On the other hand, LEAP2 drops after weight loss from dieting or weight loss surgery.

Drs. Jeffrey Zigman (left) and Bharath K. Mani

According to the paper, published in the *Journal of Clinical Investigation*, "The human studies suggest that blood LEAP2 is highest in individuals with severe obesity after meals, possibly functioning as a nutritional 'sufficiency hormone' … contributing to the feelings of satiety and satiation."

Since LEAP2 levels are not as elevated in people with milder forms of obesity, those individuals "in particular might benefit from potential weight loss therapies that increase blood levels of LEAP2," Dr. Zigman said.

"Those who struggle to keep off lost weight might also benefit if a treatment can be found to counteract the naturally occurring fall in LEAP2 that otherwise may contribute to rebound weight gain," Dr. Zigman added.

While research into LEAP2 is in its infancy, Dr. Zigman said he hopes the new paper will stimulate more research related to the hormone's involvement in metabolism.

Ghrelin, first identified in 1999, was seen as a promising target for controlling overeating and obesity. But the effect of selectively neutralizing ghrelin has not yet lived up to expectations, at least when studied in rodent models, Dr. Zigman said.

The findings of this latest study on LEAP2 suggest it is the interplay, or ratio, of the two hormones that is important, Dr. Zigman said.

The study involved nearly 160 human subjects and the use of mouse models to evaluate the effects of obesity, weight loss, feeding, and diabetes on LEAP2 and ghrelin. LEAP2 also increased as blood glucose rose.

The researchers will now look for possible ways to manipulate LEAP2 levels to help treat people with obesity, Dr. Zigman said.

Dr. Bharath K. Mani, an Instructor in Internal Medicine, was first author of the study and Dr. Anthony P. Goldstone, Senior Clinical Research Fellow at Imperial College London, was co-senior author of the study. Researchers at the University of Westminster, London, as well as at the University of Virginia also participated.

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Dr. Zigman holds the Kent and Jodi Foster Distinguished Chair in Endocrinology, in Honor of Daniel Foster, M.D., the Diana and Richard C. Strauss Professorship in Biomedical Research, and the Mr. and Mrs. Bruce G. Brookshire Professorship in Medicine.

UTSW cardiology fellow Dr. Rohan Khera (right) recently won a Young Investigator Award from the American College of Cardiology. In this photo with him is fellow award winner Dr. Muthiah Vaduganathan of Harvard-affiliated Brigham and Women's Hospital.

Cardiology fellow wins honor for study on hospital readmission rates

By Patrick Wascovich

Cardiology fellow Dr. Rohan Khera recently received the Young Investigator Award in Outcomes Research from the American College of Cardiology for an extensive analysis of U.S. hospitals' rates of readmissions for conditions like heart attacks, heart failure, and pneumonia.

The Centers for Medicare and Medicaid Services (CMS) penalizes hospitals that have higher than expected rates of rehospitalization. The investigation, published in the *Journal of the American College of Cardiology*, arose from concerns that hospitals might be working around these penalties by delaying subsequent hospitalizations.

However, Dr. Khera, working with colleagues from Yale School of Medicine, Yale School of Public Health, and Yale New Haven Hospital, demonstrated the effectiveness and safety of patients in the current standards.

"In recent years, fewer Medicare beneficiaries discharged from U.S. hospitals after heart attacks, heart failure, and pneumonia have been readmitted," the researchers wrote. "There was no evidence for an unexpected increase in readmissions beyond 30 days, or any unexpected excess mortality."

Dr. Khera, the study's first author, said the analysis should reassure patients that the CMS' landmark initiative – the Hospital Readmissions Reduction Program (HRRP) – did not drive health care institutions to avoid required hospitalizations. The HRRP, which is set to expand to a broader range of hospital conditions, is attaining its goal of spurring the development of systems to better deliver transitions of care to patients being discharged from the hospital, he said.

"We evaluated daily rates of readmissions and mortality across more than 3,200 hospitals," Dr. Khera said. "This analysis did not detect any inflections, arguing for the safety of the program and that hospitals did not try to game the readmission and mortality measures by deferments."

Grant support furthers UTSW diabetes screening effort

By Patrick Wascovich

Dr. Michael Bowen is determined to derail trouble for the tens of millions of Americans who are dealing with Type 2 diabetes and its precursors.

Now, with support from the American College of Preventive Medicine (ACPM), the Assistant Professor of Internal Medicine at UT Southwestern will work to more accurately identify at-risk patients with prediabetes or the Type 2 condition and steer them into proactive community programs.

"One of the biggest challenges in referring patients to diabetes prevention programs is getting referrals to bridge from health systems to community-based programs," Dr. Bowen said. "With this support, we hope to leverage health system infrastructure at Parkland Memorial Hospital to identify prediabetes patients and to establish referral pathways to a community-based diabetes prevention at the Baylor Scott & White Health and Wellness Center at the Juanita J. Craft Recreation Center."

The ACPM, in collaboration with the American Medical Association and the Black Women's Health Imperative, selected UT Southwestern/Baylor Scott & White, plus two other institutions to receive renewable annual grants of $25,000 for up to three years to develop new practice-setting models for addressing the national Type 2 diabetes epidemic. The three grantees will form the cornerstone of the collaboration's efforts to address prediabetes in vulnerable populations, with a priority on African American and Hispanic women. Dr. Bowen's co-Investigator on the project is Dr. Heather Kitzman-Carmichael of Baylor.

UTSW's initiative will expand on existing efforts to use electronic health record (EHR) information at Parkland to identify vulnerable populations for screening using a prediabetes risk score.

"These patients will be screened for diabetes, and those who have prediabetes will be added to our registry," Dr. Bowen said. "Hispanic and black women with high-risk prediabetes will be referred to a prevention program designed to delay or prevent the transition from prediabetes to diabetes through lifestyle change and addressing social determinants of health."

According to the CDC, more than 30 million Americans – about one in every 10 – have diabetes, and more than 90 percent of those have Type 2 diabetes. In prediabetes, which an estimated 84 million U.S. adults have, only 11.6 percent know they have it. A 2017 CDC study reported that Native Americans have the highest rates of diagnosed diabetes (15.1 percent), while blacks (12.7 percent) and Hispanics (12.1 percent) also were well above the rates seen in Asians and whites (8 and 7.4 percent, respectively).

"Parkland has a lot of patients with prediabetes who are at increased risk of developing Type 2 diabetes," Dr. Bowen said. "This is a unique example of a partnership across health systems to improve the health of the community."

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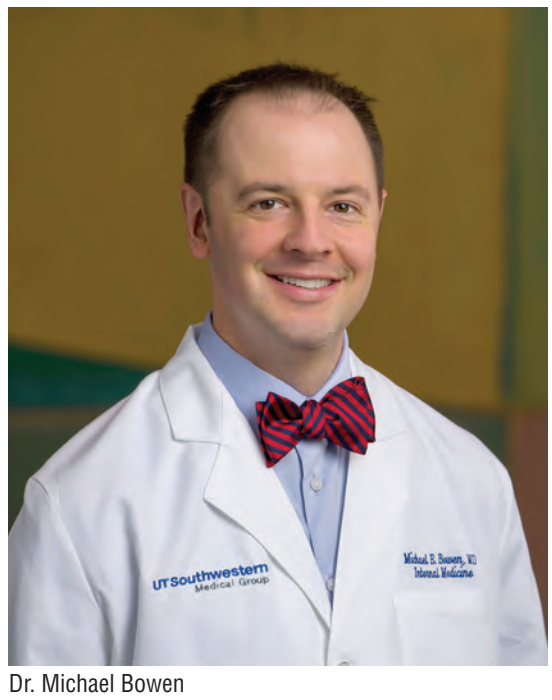
Dr. Bowen is a Dedman Family Scholar in Clinical Care.



Dr. Michael Bowen

Cancer specialists named Dedman Family Scholars in Clinical Care

By Patrick Wascovich

UT Southwestern's two newest Dedman Family Scholars in Clinical Care – Drs. Nina Niu Sanford and Ksenya Shliakhtsitsava – didn't have far to look to appreciate the drive and sacrifice it takes to be female physicians. Both are cancer specialists whose mothers also are doctors.

"My mother is a primary care physician in Boston and provided me with my first exposure to medicine," said Dr. Sanford, an Assistant Professor of Radiation Oncology who joined the faculty in August 2018. "I witnessed firsthand the deep satisfaction she experienced in caring for patients in our community."

Dr. Shliakhtsitsava, an Assistant Professor of Pediatrics in the Division of Pediatric Hematology and Oncology since last September, recounted a similar upbringing. "My mom is a pediatric gastroenterologist and my father was a surgeon. Both my parents obtained M.D.s and Ph.D.s, so I grew up in the atmosphere of research curiosity and medicine. As far back as I remember, I always wanted to be a physician and help sick children and their families."

The Dedman Foundation established the Dedman Family Endowed Program for Scholars in Clinical Care in 2009 with a $12 million gift to Southwestern Medical Foundation. The gift was matched to create a $24 million endowment to help recruit the most promising early career physicians to UTSW and launch their careers under the mentorship of senior clinicians and clinical scientists. The program includes a four-year grant worth up to $150,000 a year for each recipient to cover research expenses and salaries.

Dr. Ksenya Shliakhtsitsava (left) and Dr. Nina Niu Sanford are named 2019 Dedman Family Scholars in Clinical Care.

Dr. Sanford plans on using Dedman support to advance her investigations of young-onset colorectal cancer, particularly regarding racial disparities in presentation, treatment, and outcomes.

Dr. Shliakhtsitsava aspires to improve care for children with cancer, primarily by focusing on limiting or eliminating the lasting medical problems these young cancer survivors face.

Dr. Nina Niu Sanford

Born in Beijing, China, Dr. Sanford immigrated to the U.S. with her family when she was 3. Raised in Boston, she graduated from Princeton University and Harvard Medical School before completing her residency in radiation oncology at Massachusetts General/Brigham and Women's Hospital.

"As a radiation oncologist focusing on gastrointestinal cancers, I have had the great privilege of caring for a diverse group of patients with malignancies of the pancreas, liver, rectum, esophagus, stomach, and colon," she said. "Several of my patients recently have been young adults diagnosed with colorectal cancer. These patients present with unique challenges, including needing intense multimodality treatments with associated short- and long-term side effects and worries about how the treatment will affect their employment, fertility, and ability to care for young children. Many have limited resources and/or are of minority backgrounds. These recent experiences have motivated me to work to ultimately improve the care and cancer outcomes for this population."

Dr. Sanford plans to investigate molecular and genomic differences in young-onset colorectal cancer among racial and ethnic groups. She wants a better understanding of the factors driving the increasing incidence of colorectal cancer in young adults, as well as disparities in outcomes.

Her aim is to provide expert clinical care tailored to the unique needs of young colorectal cancer patients while also conducting therapeutic studies assessing interventions to improve treatment outcomes, including the cancer survivorship experience.

Dr. Ksenya Shliakhtsitsava

Born and raised in the Eastern European country of Belarus, Dr. Shliakhtsitsava earned her medical degree from the Belarusian State Medical University in Minsk before she and her husband, Stas, a software engineer, came to the U.S. Dr. Shliakhtsitsava completed her pediatric residency at the University of California, San Francisco Fresno (UCSF Fresno) before postgraduate training and a pediatric hematology/oncology fellowship at UC San Diego.

"Over 80 percent of children are being cured from cancer nowadays. However, that cure comes with the price of long-term late side effects," she said. "By developing and implementing better clinical practices today and carrying out clinical and translational investigations, I hope to help decrease those long-term consequences."

The programs and initiatives at UTSW provide ample and unique pathways to fulfill her aspirations, Dr. Shliakhtsitsava said.

"Physicians in the UT Southwestern Pediatric Hematology and Oncology Division provide care for the vast majority of the childhood cancer patients in Dallas, evaluating and treating more than 300 new childhood cancer patients each year," she said. "We have an After the Cancer Experience (ACE) Program for childhood cancer survivors. With more than 400 children and young adults receiving care each year in ACE, I have quickly realized that there are many opportunities to improve that care by carrying out clinical and translational investigations and by developing comprehensive, multidisciplinary clinics for those patients at highest risk for severe late effects."

18th Ball for Eye Research raises over $200,000

Attendees of this year's Ball for Eye Research included (from left): co-Chair Anita Oberwetter, Chair Joyce Alban, Dr. James P. McCulley, Becky McCulley, and Honorary Chair Dr. Albert Roberts.

From Staff Reports

This year's Ball for Eye Research, an annual gala benefiting sight-saving research in the Department of Ophthalmology, grossed $244,000 as 200 attendees took part in the spring event at the Dallas Country Club.

"I am very pleased with how this year's Ball for Eye Research turned out," said Dr. James P. McCulley, Professor and Chair of Ophthalmology. "Thanks to our dedicated event chairs and generous donors, the funds raised by this event will enable our researchers to more vigorously continue building upon important discoveries we have made. These include identifying one of the genetic causes of a common type of macular degeneration, as well as understanding and correcting the underlying cellular defects of inherited and sporadic eye disorders triggered by protein misfolding."

Chairs for this year's Ball were Joyce Alban, Chair; Anita Oberwetter, co-Chair; Dr. and Mrs. Albert D. Roberts, Honorary Chairs; and Plains-Capital Bank, Corporate Chair, represented by Alan B. White.

Since 2001, the Ball for Eye Research and its forerunner, the Eye Ball, have supported research by scientists and physicians in UT Southwestern's Department of Ophthalmology. This research aims to identify the underlying causes of and treatments for potentially blinding disorders, including age-related macular degeneration, glaucoma, retinopathy of prematurity, and aging inflammatory eye disease. To date, the Ball has raised over $4.8 million. The next Ball for Eye Research will be March 28, 2020, at the Dallas Country Club.

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Dr. McCulley holds The David Bruton, Jr. Chair in Ophthalmology.

This year's group of Dallas-Fort Worth Albert Schweitzer Fellows includes seven UTSW medical students.

Seven medical students named Albert Schweitzer Fellows

From Staff Reports

Seven UT Southwestern Medical School students have been selected as Dallas-Fort Worth Albert Schweitzer Fellows for projects addressing digital literacy, smoking cessation, health care navigation, and health care access.

Leah Carter, Isabel Garcia, Esha Hansoti, Merin John, Rosalind Ma, Hasan Seede, and Gabriele Slaughter will spend the next year learning to effectively address social factors that impact health and developing lifelong leadership skills as part of The Albert Schweitzer Fellowship, named after famed physician-humanitarian Albert Schweitzer who was awarded the 1952 Nobel Peace Prize.

"The Schweitzer Fellowship allows the Fellows to not only learn how to innovate and lead, but also gives them the opportunity to learn from the community they work with as well as the rest of the Fellows in their cohort," said Courtney Roy, Program Director of the Fellowship. "These students will have the chance to create positive change with the people they serve through their Fellowship projects."

The program marks a unique collaboration among eight North Texas universities. Housed at Southern Methodist University, supporting universities include Baylor University's Louise Herrington School of Nursing, Texas Christian University, Texas Woman's University, the University of Dallas, UT Arlington, UT Dallas, and UT Southwestern.

"The creative projects our students have developed to assist underserved and disenfranchised populations reflect UT Southwestern's mission to promote health and a healthy society that enables achievement of full human potential, and our values of excellence, innovation, teamwork and compassion, for which we strive," said Dr. Angela Mihalic, Dean of Medical Students, Associate Dean of Student Affairs, and Distinguished Teaching Professor in the Department of Pediatrics.

The UTSW students will work with Schweitzer Fellows from TCU and TWU to develop and implement their service projects. The 10 DFW Fellows will join approximately 200 other 2019-2020 Schweitzer Fellows working at 12 program sites around the U.S., as well as one in Lambaréné, Gabon at the site of The Albert Schweitzer Hospital, founded by Dr. Schweitzer in 1913.

Upon completion of their Fellowship year, the 2019-2020 DFW Schweitzer Fellows will become Schweitzer Fellows for Life and join a vibrant network of more than 3,400 Schweitzer alumni who are committed to addressing the health needs of underserved people throughout their careers.

More online: To read the full story go to *Center Times Plus* at **ct.utsouthwestern.edu**.

Parkinson's patients fight disease through boxing course led by UTSW alumnus

By: Nyshicka Jordan

Judy Danielson, 61, is a Parkinson's disease patient and she's a boxer.

When she was diagnosed three years ago, she couldn't imagine that these two descriptors could fit together.

"The first thing I thought of after being diagnosed was: This is not the plan I had for my life. This is not what my retirement was going to be. I'm not in a relationship, I'm single – what's going to happen to me? Who's going to take care of me?" Ms. Danielson said.

As Parkinson's progresses, it burdens patients with tremors and makes it difficult for them to walk or control their balance and movements, among other symptoms.

Ms. Danielson, a patient at UT Southwestern, had experienced a series of falls, so when her physical therapist recommended she participate in a research program studying the effects boxing has on the symptoms of Parkinson's patients, she feared falling again.

But Ms. Danielson decided to give the class a try anyway.

On the first day she experienced a discouraging moment when she was unable to do an exercise that required patients to walk around a row of traffic cones.

"I squashed the cones," Ms. Danielson said.

That experience made her cry. And it wouldn't be the last time navigating those cones would make her cry.

UTSW School of Health Professions alumnus Dr. Michael Braitsch demonstrates boxing techniques to a class participant in a research study designed for patients with Parkinson's disease.

Physical therapy student Jessica Forster assists patient Judy Danielson with her workout.

Creating a 'new sense of hope'

The boxing research study began as a passion project for Dr. Michael Braitsch, a physical therapist and 2016 graduate of the UT Southwestern School of Health Professions. It was intended as a 10-week program, but it received such positive feedback that some faculty members encouraged him to continue the course beyond his graduation.

Thanks to that encouragement, Dr. Braitsch focused on opening a rehabilitation clinic that also offered the boxing course to interested Parkinson's patients. He teamed up with Dr. Staci Shearin, UTSW Assistant Professor of Physical Therapy and a clinician who primarily works with patients with neurological disorders, to launch a study to determine the larger impact of the exercise.

Both said they've witnessed emotional and physical improvements in study participants.

"What's gotten better for our fighters is that I've seen a lot of them gain a new sense of hope that a diagnosis of Parkinson's does not mean a death sentence – that they can still take positive action and live well," Dr. Braitsch said. "I've seen people with a whole new sense of confidence. I've had people who have told me before they started boxing with us that they were falling on a regular basis, and now they can take the trash out on their own without an assisted device."

One of those patients is Ms. Danielson, who cried when she first tried the traffic cone exercise. Three weeks before she completed her participation in the study, she cried again – but happy tears this time. She did the exercise perfectly.

"Parkinson's robs you of so many stupid things," Ms. Danielson said. "Like I can't cut meat. That's pretty common in Parkinson's. I can't push a chair up to the table. But I can walk around the cones," she said with a laugh.

She said the course has given her a new boost of confidence and helps her focus on the things that she can do.

Supplementing physical therapy

When the course was still a pilot program, Dr. Braitsch led just two classes a week at Preston Hollow United Methodist Church in Dallas. He started his company Tribe Wellness in February 2017, soon after passing his board exams, and that September was able to move the classes to his own leased space in Richardson.

Throughout the week, the clinic offers 17 group exercise classes specifically geared to Parkinson's patients, including no-contact boxing, kung fu, tai chi, and boot camp style fitness classes.

"Because it's a group program, there's no way something like this should be a replacement for physical therapy," Dr. Braitsch said, "but I think it can really nicely complement what people are doing in one-on-one therapy and offer them a way to continue beyond the scope of their normal plan of care."

Many of the participants in the daily boxing classes at his rehab clinic first participated in the research study.

Dr. Shearin, the study's Principal Investigator, said boxing is an ideal discipline to investigate how Parkinson's patients respond to exercise because of its level of intensity and because it incorporates strength, endurance, and flexibility training – all important areas to work on with this patient population.

"When we look at the literature for what exercise does for Parkinson's patients, it's really amazing. Of all the things researchers found that can affect the progression of Parkinson's, they think exercise is probably one of the most important. And so what we find is that the higher the intensity of exercise, the better the benefits," she said.

Dr. Braitsch has continued his relationship with Preston Hollow United Methodist Church, where the research courses are held two nights a week during a 12-week term. The study is funded by the Parkinson's Foundation and began its third trial period in May.

As the study continues, the researchers hope they can extend the trial periods from three months to a year to better examine the long-term effects on patients. Their ultimate goal is to develop guidelines for other physical therapists to be able to use boxing as part of their rehabilitation practices as well.

Ms. Danielson said she never imagined she'd be a fan of boxing before taking the course, but now she clearly sees that the class has had both physical and emotional benefits.

"It's about hope and it's about having self-confidence," she said. "It's about being a part of something bigger than yourself. It's about the love and support we get from the UT Southwestern students who volunteer with us. So it's about so much more than just boxing."

Health professions students take active role in study

The research course provides practical clinical training for UT Southwestern students pursuing their doctorate in physical therapy by allowing them to work closely with the patients during workouts.

"It's been really awesome to be part of this program," said UTSW School of Health Professions student Brandon Newsom, who started working with Dr. Michael Braitsch's classes in 2017 while he was a first-year physical therapy student.

"At that point, I didn't know a whole lot about Parkinson's or how it affects people, but getting that hands-on experience, I started seeing some of the normal things in the population and then I started gaining skills. So, when we actually got into the classwork where we learned all about Parkinson's disease, I was able to pull experiences from the program and relate it to all that."

Mr. Newsom said he also observed the different ways the condition affected each patient individually.

"I think the biggest thing I've taken from this class is not necessarily how to treat somebody with any specific pathology, but just the importance of the community involvement with people," he said.

Campbell hired as Director of Simulation Center Operations

By Nyshicka Jordan

Krystle Campbell, the newly appointed Director of Simulation Center Operations at UT Southwestern, said the key to making the year-old Simulation Center grow will be focusing on innovation.

"What I always think makes a center really tick is innovation – and making sure the team has the support for that. Especially in the growing field of simulation, innovation is key right now," Ms. Campbell said.

In September 2018, UT Southwestern opened its 49,000-square-foot Simulation Center on West Campus. The facility integrates training for students of UT Southwestern Medical School, UT Southwestern Graduate School of Biomedical Sciences, and UT Southwestern School of Health Professions. It also provides substantial educational activities for residents, fellows, and faculty members.

Ms. Campbell, who joined UT Southwestern in August, came from the University of Wisconsin Health Simulation Center where she held various leadership positions, including Director of Operations. UT Southwestern leaders are confident Ms. Campbell's dedication to simulation at an executive level will be pivotal in growing the institution's Simulation Center.

"She has a proven track record as a leader at a major simulation center and is an extremely capable individual who can elevate our Center to the high level that we envision. We're learning that it takes not only extremely gifted faculty and leaders in simulation to teach, but also a dedicated team of educators and staff," said Dr. Daniel Scott, Assistant Dean of Simulation and Student Integration.

Simulation has modernized how competency is measured by using various technologies and metrics with learners immersed in realistic medical settings.

"Students get to actually practice how they'll handle their clinical work in an authentic setting. Simulation provides an environment where they're not just sitting in a lecture, but doing the skill they're learning. From as early as pre-licensure education, they have an opportunity to build a solid foundation where they learn how to function as part of a team while practicing their clinical performance. This comprehensive training allows students to be more effective clinicians by the time they graduate," Ms. Campbell said.

Priorities for academic leaders include more effectively integrating simulation learning into the Medical School curriculum, focusing on advanced techniques, and connecting simulation training data to clinical outcomes. Additionally, Ms. Campbell said she's looking forward to the opportunity to help the Center grow into a nationally known hub for simulation and advocating for such training in the broader industry.

Krystle Campbell

"What I hope to achieve, both within and outside the program, is institutionalizing simulation throughout health care education, including residency, medical education, and interprofessional education," she said. "I would love to see a lot more interprofessional education events happen, along with instilling competency-based testing using simulation for both pre- and post-licensure students."

Working with leadership, Ms. Campbell will manage strategy initiatives for the Center. She will also oversee all finance, administrative, operational data, and reporting functions. Another focus will be to develop relationships with key simulation experts in the Undergraduate Medical Education Program, Graduate Medical Education Program, School of Health Professions, and Health System to develop and deploy advanced simulation learning experiences for students and faculty.

Ms. Campbell is currently pursuing a Doctor of Health Administration at Medical University of South Carolina. She earned her Master of Science in medical and health care simulation from Drexel University College of Medicine and her Bachelor of Science in biology from the University of Wisconsin-Eau Claire. She has additional experience in the development and expansion of international simulation programs through her work in two simulation centers in Ethiopia.

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Dr. Scott holds the Frank H. Kidd, Jr., M.D. Distinguished Professorship in Surgery.

Medical School alumna flying high as Air Force commander

By Patrick Wascovich

After nearly three decades of military service, Col. Kristen Beals, M.D., is back where she began.

Col. Beals, a 1995 graduate of UT Southwestern Medical School, leads the 60th Medical Group-David Grant USAF Medical Center at Travis Air Force Base in California. The first female commander of the largest medical center in the U.S. Air Force, Col. Beals completed her five-year general surgery residency in 2000 at Grant Medical Center.

"One of the many benefits of military service is being given the opportunity to lead programs, services, and other airmen at a relatively young stage or early time in your career," said Col. Beals, the first member of her family to serve in the military. "From the time I graduated from residency, I have been serving in progressive leadership roles, which has taught me so much about the complex business of medicine and leading people.

"The accumulation of all of these experiences has led to my current role as the Hospital Commander [CEO] of the largest inpatient bedded facility in the Air Force, the very hospital that I trained at to become a surgeon. It's quite surreal!" she said.

Col. Beals was born in San Antonio but considers Houston "home" after living there from the time she was in fifth grade until high school graduation. After majoring in biochemistry at UT Austin, she began her medical education at UTSW.

Soon, however, fiscal realities were weighing as heavily as classroom studies and tests.

Col. Kristen Beals, a 1995 graduate of UT Southwestern Medical School, leads the 60th Medical Group at Travis Air Force Base in California.

"I actually didn't commit to the military until halfway through my first year of medical school," she remembered. "My UT roommate's father was an Air Force physician, and he influenced my decision to apply for a Health Professions Scholarship in the Air Force."

On Dec. 5, 1991, with a scholarship assured, she was sworn in and commissioned on Eugene McDermott Plaza. Little did she know she still would be in uniform almost 28 years later.

The 60th Medical Group includes seven squadrons and serves more than 500,000 military beneficiaries. Col. Beals oversees a budget of $650 million, manages a 2 million-square-foot facility, and leads a health care team of 443 medical providers and 2,500 staff members responsible for more than a million patient encounters each year.

Her Air Force career has provided singular experiences and opportunities, Col. Beals said.

She worked more than a decade in Europe – including assignments to Italy, Germany, and England – and was deployed to spartan environments in Iraq and Afghanistan. She also served as the Surgical Team Leader/Surgeon for both Presidents George W. Bush and Barack Obama during their trips to Africa. For three years, she was assigned to the elite Special Forces as a surgeon, working out of safe houses and often operating with only a backpack.

Prior to her Travis AFB assignment, Col. Beals spent four years in Texas, most recently commanding the 359th Medical Group at Joint Base San Antonio-Randolph in San Antonio. Her responsibilities included directing health care delivery for 20,000 beneficiaries, as well as 3,600 pilot instructors and Remotely Piloted Aircraft students. She also supported four Graduate Medical Education training programs and led the Air Force's busiest Aerospace and Operational Physiology Training Unit.

"The Air Force gives you an opportunity to serve something – a cause, a common goal, a mission – far greater than yourself or your family," she said. "I am honored and blessed to have served our nation."

Medical School reminiscences

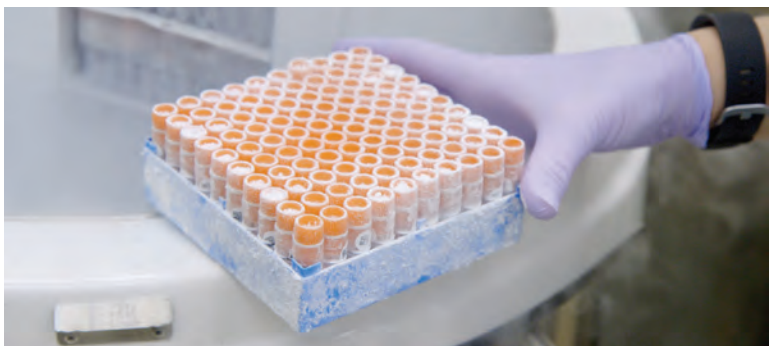
Decades of adventure in exotic, remote, and sometimes austere locales have left a lasting impression on Col. Kristen Beals, M.D. So has her education at UTSW. She still can effortlessly tick off fond memories of her days on campus.

"My time at UT Southwestern was an amazing experience. The students were connected, mutually supportive, and had various personal experiences and talents that we all got to share and appreciate," she said. "My years there were in the days before the cellphone, the internet, and mainstream use of computers in education, so we would bond by studying together in small groups in rooms around campus or at each other's houses, which brought us even closer together as a family.

"My best memories are of the big auditorium classrooms, the small lab study groups in our 'cubby holes,' great friends like Suzette Smith, the awful snacks left in the vending machine at 2 a.m., the echoes of 'Trauma Team to the Trauma Room' from overhead pages in Parkland while on call and how my heart would race hearing them, and the glorious walk across the stage in my cap and gown at graduation.

"I will always fondly smile when I visit UT Southwestern as I walk through the hallways and across the Plaza," she said. "It was a great place to get a medical education and to grow as a person."

More online: To read the full story go to **ct.utsouthwestern.edu/ctplus/stories/2019/kristen-beals-veteran-alumna.html**.


UT Southwestern has created a virus manufacturing facility aimed at delivering healthy replacement genes into patients like Joseph Hann.

Brave Continued from page 1

advancements being made by a gene therapy program at UT Southwestern where leading experts are engineering innovative treatments for some of the world's rarest neurological diseases. By inserting healthy genes missing from patients' DNA, scientists are looking to develop lifesaving treatments for children who suffer from rare genetic conditions that are traditionally difficult to treat.

Joseph's condition is an ultra-rare form of Batten disease characterized by a gene mutation that causes proteins to accumulate in cells, ultimately leading to widespread cell death. Patients appear healthy early in life, but eventually their brains begin to degenerate and they lose vision, mobility, and cognitive function. Many die before their 10th birthday.

"You can think of this as Alzheimer's disease in children," said Dr. Berge Minassian, Professor of Pediatrics, Neurology and Neurotherapeutics, and Neuroscience. "You can see an otherwise normal child, but his brain is suffering each day."

Joseph was born in 2012 in Tucson, Arizona, the Hanns' third child. He developed like most toddlers: He loved playing with toy trains, was learning to read and write, and adored music and dancing. The first half of his life, he appeared healthy.

But at about 3½ years old, Joseph's vision started to fail, and he was increasingly bumping into things. The next year he had a massive seizure that sent him to the hospital where doctors couldn't initially pinpoint the problem. They presented to his parents several possibilities – most of them dire – and ordered further tests.

"I remember when we were in the emergency room, we were hoping it was a tumor at that point," said Matthew Hann, Joseph's father. "That's how bad the prognosis for Batten is."

Eight weeks after the seizure, a genetic test confirmed that Joseph had CLN7, a terminal disease with only about a dozen known cases in North America.

Restoring hope

Doctors told the Hanns that nothing could be done to save their son's life, and – for 24 hours – they believed them. The next day the family was contacted by Dr. Minassian, who leads UT Southwestern's gene therapy program at the Peter O'Donnell Jr. Brain Institute.

"All of a sudden we had this chance," Mrs. Hann said. "But they told us there are no guarantees and it would take a lot of work."

A major priority was finding funds for a clinical trial, a lengthy process that typically costs a few million dollars to cover mouse studies and other steps that precede human treatments. The Hanns moved from Arizona to the Dallas area so Joseph could receive care from UT Southwestern, and they formed a foundation, Batten Hope, to raise money.

Within the first year, the family raised about $1 million after receiving support from donors across the world. The effort helped UT Southwestern develop a potential gene therapy for CLN7 and take the first steps to organize a clinical trial, which scientists are hopeful will launch by early 2020.


Dr. Berge Minassian confers with Joseph Hann and his family during an office visit.


Gina Hann talks to her son, Joseph, while he undergoes an electroencephalogram.

Batten Hope and another foundation the Hanns helped launch, Rare Dallas, help support research at UT Southwestern's gene therapy program, overseen by Dr. Minassian. Dr. Minassian also works with the Children's Medical Center Research Institute at UT Southwestern.

Joseph's gift

Meanwhile, Joseph's condition is worsening; the urgency of his situation is clear from the home videos taken since Joseph's diagnosis. "I'm brave!" Joseph tells his mother in one video, a proud smile on his face. In another, he looks just off camera and says quietly, "I love you, Mommy. … I love you very much."

In other family footage, Joseph's eyesight is sharp enough to watch his favorite shows. His legs are strong enough to ride a tricycle, jump on the trampoline, even run. Now he struggles to control simple arm movements or walk with assistance. He lost most of his speech early this year.

Yet, the Hanns remain hopeful Joseph can survive CLN7. Even if he never regains all his abilities, just to see him blow out his birthday candles every year, hear his laughter, and see his smile – those simple joys would be enough for his parents.

Regardless of the outcome, Mrs. Hann said she'll have no regrets about the time she spent helping UT Southwestern develop a treatment.

"The trial will definitely be in time to help someone else with this disease," she said. "It's a privilege to help build what can be the best gene therapy program in the world. This is one of Joseph's gifts to all of us."

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Dr. Minassian holds the Jimmy Elizabeth Westcott Distinguished Chair in Pediatric Neurology.

Dr. Madhukar Trivedi, Director of UT Southwestern's Center for Depression Research and Clinical Care

Study: Diagnosing depression rarely requires trip to psychiatrist

By James Beltran

Seeing a psychiatrist is not necessarily the most pragmatic solution to diagnosing and treating the growing number of Americans with depression.

Amid limited adherence to national guidelines calling for expanded depression screening, a study of 25,000 patients determined that primary care doctors could successfully detect and treat most depression cases without extra mental health personnel – if given the proper guidance.

In this case, UT Southwestern researchers equipped physicians with web-based software that guided them through protocols for screening patients, prescribing treatments, and measuring their progress. The results, published in the *Annals of Family Medicine*, show patients had outcomes similar to those seen in psychiatric care.

"It's difficult to do proper screening for depression in a busy clinical practice," said Dr. Madhukar Trivedi, founding Director of UT Southwestern's Center for Depression Research and Clinical Care. "This study shows that primary care physicians can do this, and do it well, with the right tools."

The study tracked patients across 16 primary care clinics in the Dallas area for two years. Each site agreed to use a software program developed at UT Southwestern called VitalSign6, which provided patients with questionnaires on a tablet computer at the beginning of their visits. The software also supplied physicians with guidance on diagnosing, prescribing treatments, and monitoring the results of those treatments.

From 2014-2016, the sites reported that 17 percent of patients screened positive for depression and more than half of those were officially diagnosed with depression. Nearly 42 percent who had three or more ensuing visits overcame their depression; this remission rate is comparable to results from STAR*D, the world's largest depression study that Dr. Trivedi led more than a decade ago.

"We learned from STAR*D that most people don't need to go to a psychiatrist to get better," said Dr. Trivedi, also a Professor of Psychiatry and member of the Peter O'Donnell Jr. Brain Institute. "But many primary care physicians either haven't been screening for depression or haven't been using measurement tools that are essential for patients to achieve full remission."

VitalSign6 is expanding into other settings in North Texas, from hospitals and clinics to foster care and ministries that provide health care screenings to low-income patients. Nisha Bursey was among the beneficiaries of the software. When she arrived at a nonprofit ministry for a health care appointment, she didn't anticipate being handed a tablet computer that asked questions about her mental health.

But the questionnaire results helped Mrs. Bursey and her doctor eventually realize that for years she had been ignoring symptoms of depression and mental trauma.

"I'm sure there are other people going through the same thing I'm going through," she said. "If you admit you have a problem, that's where it all starts. … Talking about it really helps."

Dr. Trivedi's team is collecting more data on patient screening, including from children in pediatric clinics and women with postpartum depression. The blood- and brain-based test results collected from these study participants, including Mrs. Bursey, will be tied into related research to help doctors identify biological markers for depression and which treatments are most appropriate.

The study was supported by the Center for Depression Research and Clinical Care, The Rees-Jones Foundation, The Meadows Foundation, the Hersh Foundation, and the Gaston Episcopal Hospital Foundation. The STAR*D study was funded by the National Institute of Mental Health.

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Dr. Trivedi holds the Betty Jo Hay Distinguished Chair in Mental Health and the Julie K. Hersh Chair for Depression Research and Clinical Care.

More online:
To read the full story and watch a video, go to **ct.utsouthwestern.edu**.

Trivedi earns industry honor for psychiatry work

From Staff Reports

Dr. Madhukar Trivedi, Director of the Center for Depression Research and Clinical Care and Professor of Psychiatry, has received the Award for Research in Mood Disorders from the American College of Psychiatrists.

The award, which honors an individual who has advanced the understanding and treatment of depression and bipolar disorder, was recently presented to Dr. Trivedi at the College's annual meeting in Honolulu.

Over the last 25 years Dr. Trivedi has focused his research on improving the treatment of depression. In studying the efficacy of antidepressant treatments, his research has been central to the transformation of depression treatment from clinical intuition to evidence-based care. Throughout his career, his goal has been to develop methods leading to precision medicine to improve the lives of individuals suffering from depression and other mood disorders.

His recent research has led to several important findings of predictive biological and clinical markers of treatment response, transforming trial-and-error practice into individualized precision medicine. These studies have led to the creation of the Center for Depression Research and Clinical Care, which he founded. He also established the Mood Disorders Network, which involves partnering with community physicians and training them to screen for and treat depression in primary care and other medical settings.

Dr. Trivedi established the Risk and Resilience Network, a partnership with local schools and youth organizations to improve healthy development of youth by building resilience. Through this Network, students, parents, and educators receive mental health education training, thereby reducing stigmas and teaching the community about depression prevention and resilience.

He has been involved in key leadership roles in the scientific community, serving on local and national committees and journal editorial boards while also lecturing across the globe. Dr. Trivedi has established successful research collaborations nationally and internationally and is currently collaborating with investigators in Shanghai on a longitudinal study of depression. He also contributed to the design and implementation of several large-scale, nationally funded studies over the years and established successful research programs with colleagues in multiple medical disciplines across the country. Dr. Trivedi's extraordinary contributions have led to beneficial changes in U.S. health care, and he is recognized as one of the leading international authorities in the field of depression with a focus on personalized medicine for psychiatry.

The American College of Psychiatrists is an honorary association dedicated to providing continuing education to its members, promoting the latest advances in the specialty, and supporting the highest standards in psychiatry.

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See the endowed titles held by Dr. Trivedi at left.

Awarded arborist brings botanical diversity to UT Southwestern

By Amy Stumbris

As David Richardson approaches the rookery on UT Southwestern's South Campus, he beams with pride. Not because of the egrets bustling about – which are surely captivating – but for the trees in which they nest.

He motions to the leaves, trunks, and roots, appreciating every tree for each one's uniqueness and flaws.

Accounting for the alkaline (high pH balance) soil and water, UT Southwestern has a diverse group of oak trees thanks to Mr. Richardson's global seed exchanges through the International Oak Society. UT Southwestern's main campus boasts trees from Greece, Turkey, Israel, Taiwan, and more.

"In the 21 years that I've been here, I've probably planted close to 50 trees," he said. "I've researched trees that came from similar soil and water environments around the world, receiving seeds for trees that would work here and then finding a place on campus to plant them."

His efforts earned him the 2018 Special Service Award from the International Oak Society (IOS), given to individuals who contribute particular services to the Society or to the advancement of the knowledge of oaks.

Mr. Richardson has worked for UT Southwestern since 1998 and has been an International Society of Arboriculture (ISA) Certified Arborist since 2006.

David Richardson, part of the Landscape Services team, displays his Special Service Award from the International Oak Society.

He's part of the Landscape Services team, which is responsible for maintaining over 100 acres of green space as well as the campus' indoor plants, all to provide an inviting environment for visitors, students, faculty, and staff.

Landscaping on North Campus is Mr. Richardson's main responsibility. For example, the O'Donnell Grove features some native live oaks and red oaks alongside oaks from Turkey and Israel. (The Grove is named in honor of Edith J. and Peter O'Donnell Jr. for their support of UT Southwestern.)

Mr. Richardson looks for trees that are special but will do well in the local alkaline soil. One of the more unusual trees on campus: A Ginkgo biloba tree, which is native to China, grows near the South Campus koi pond. Others unique trees he maintains or planted include:

- A maple from Taiwan, also near the koi pond, the seeds for which Mr. Richardson collected himself. The maple sits next to another from Japan.
- Three trees on campus from seeds provided by the founder of the Jerusalem Botanical Gardens.
- Native oaks on South Campus that came from seeds of trees in Big Bend National Park.
- A younger oak tree from Greece, a maple from Mexico, and Viburnums native to North Texas, all near the rookery.

Efforts are continuing to further improve the Southwestern Medical District's collection of trees. According to the Texas Trees Foundation's 2015 State of the Dallas Urban Forest report, the Southwestern Medical District had less than 7 percent tree canopy (compared with 29 percent for the entire city of Dallas). Mr. Richardson looks forward to a sustainable future for trees on campus.

"Since we have mild winters, springs, and falls, it's nice to be outside in this area for most of the year," he said. "At UT Southwestern, we're doing our part to contribute to that future."

The O'Donnell Grove on North Campus houses some native live oaks and red oaks alongside oaks from Turkey and Israel. This photo is from 2003, three years after the Grove was established.

More online: To read the full story and view more photos, go to **ct.utsouthwestern.edu/ctplus/stories/2019/botanical-diversity.html**.