

SURGERY NEWS

THE MICHAEL E. DEBAKEY DEPARTMENT OF SURGERY

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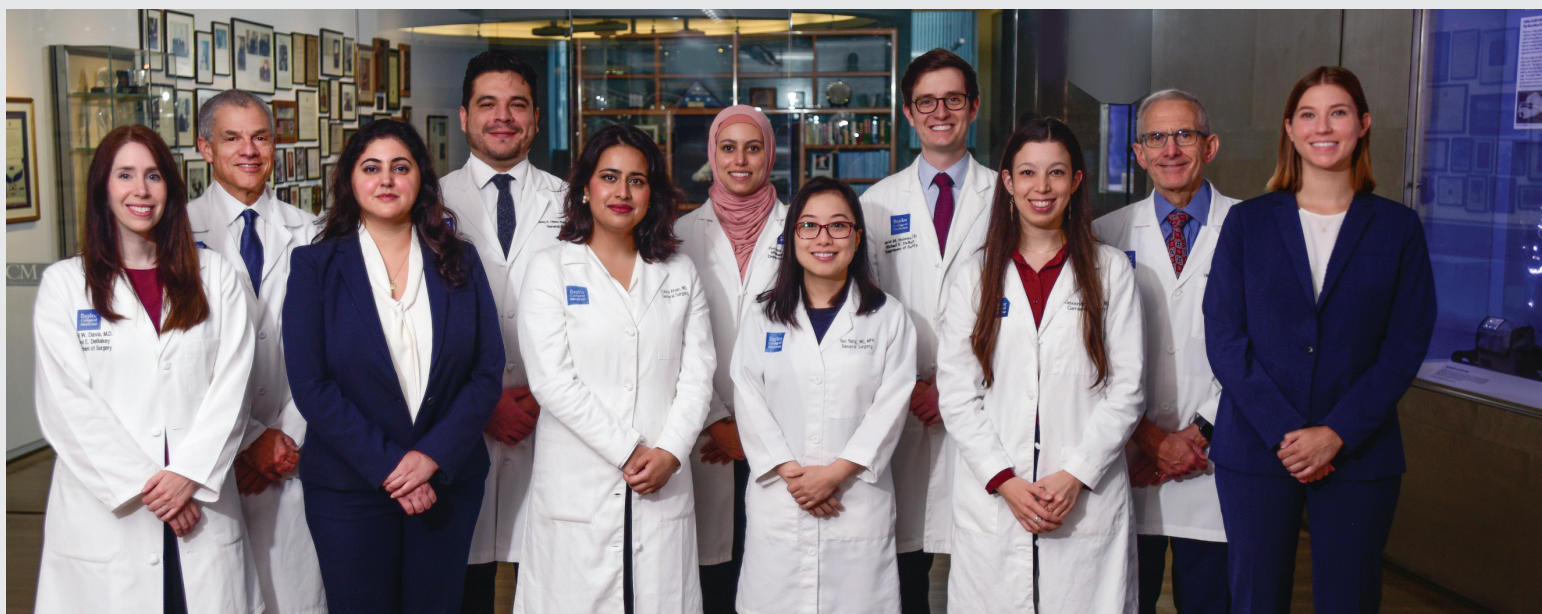
MICHAEL E. DEBAKEY
DEPARTMENT OF
SURGERY

SPECIAL
ISSUE:
Global
Surgery

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#DeBakeySurgeon

Developing the Center for Global Surgery



Global surgery track residents and leadership

Launching a global surgery program was an important personal priority and lofty goal for our department chair Todd Rosengart, M.D., when he joined the department in 2012. He had worked as a doctor in Nigeria shortly after the Biafra Famine and learned firsthand of the need for more medical resources and surgical capacity to care for those in low-resource areas. So, when Rachel Davis, M.D., a medical student at the time, interviewed for a general surgery residency and mentioned global surgery, Dr. Rosengart was excited to bring her on board.

Dr. Davis was accepted into the program in the research track, creating her own unique proposal to do two years in global surgery instead of the traditional two years of research. Her passion and success prompted Bradford Scott, M.D., professor and director of the General Surgery Residency Program, to create a unique designated track in the residency. To this day, the global surgery track is the only integrated, longitudinal global surgery training program in the NRMP match. Today it includes seven general surgery residents, including residents performing rotations around the world during their third and seventh post-graduate year.

Since then, under Dr. Davis' leadership, now faculty director of our new Center for Global Surgery, the track has expanded into a comprehensive program including partnerships with Rice University Baker Institute and Texas Children's Global Health Network. The center offers multiple programs, including its Global Trauma Collaboration, a master's-level course in global surgery monitoring and a tropical surgery essential skills course.

Safe, timely and affordable surgical care should not be limited to the minority of the world's population lucky enough to reach it and the center is working to change that.



- Bahrain
- Ecuador
- Egypt
- Geneva
- Guatemala
- Houston
- Malawi
- Mongolia
- Morocco
- Rural Texas
- Switzerland
- Tanzania
- Uganda
- Vietnam



Dr. Katayoun Madani, global surgery fellow, meets with Rep. David Schweitker's chief of staff to talk about funding for neglected surgical diseases through USAID, general surgery workforce distribution and more



Global advocacy and policy fellow strives for increased surgical access

The Global Surgery Advocacy and Policy Fellowship at Baylor College of Medicine is the first of its kind in the U.S. and is a collaborative effort between the Michael E. DeBakey Department of Surgery and Rice University's Baker Institute for Public Policy. The role supports fellows in gaining a deeper understanding of developing healthcare policies locally and globally and positions them to advocate for change.

Through the fellowship, trainees explore the field of policy, by identifying a focus area and delving into relevant legislation in Texas, the U.S. and in other countries around the world. Based on their findings, they develop recommendations and present a policy brief with the goal of improving access to care. They also develop global health diplomacy skills while engaging with governmental and non-governmental organizations.

"This has been incredible as I feel I am learning a completely different language writing policy briefs," said Katayoun Madani, M.S. M.D., the first fellow in this program. "Surgeons and physicians have a unique insight into what the system is lacking but to translate that into a language policy makers understand is a skillset we are never taught." This fellowship bridges these gaps and helps the trainee learn how to communicate important issues to potentially shape law making, city planning and more.

Dr. Madani focused her first-year policy brief on trauma access across Houston. She learned how to use a complex software (*ArC GIS*) to make maps and calculate the time traveled from different areas of Houston to a Level I or Level II Trauma Center. From her research, she created reports with suggestions for areas to develop a new trauma center. Dr. Madani shares that she learned there is no central database for city planning of the trauma system. Data exists but is housed in separate entities and it was hard to get access to patient data from individual hospitals, ambulance companies and after care facilities. In her report, she suggested the need for a system and funding to create a database to look at the trauma system from a 30,000 foot view. The same modeling methods could guide other communities worldwide.

“This has been incredible as I feel I am learning a completely different language writing policy briefs.”
- Dr. Katayoun Madani

The prioritization of equity in collaborations encourages the pursuit of more bilateral exchange model, but medical licensing remains a limitation. Tennessee was the first state to pass legislation in 2023 permitting a limited duration license for foreign medical graduates to gain educational experience under supervision of an attending physician (similar to supervision for residents). Texas licensing laws do not offer such an option.

“My hope is that the policy brief will start discussions, and we can set in motion the process to develop similar policies in Texas with the support of the Texas Medical Board and The Texas Medical Association,” she said. “Policy such as this has great potential for positive impact and expansion of programs in our active global health community”.

In addition to her research and policy drafting briefs, Dr. Madani dedicates herself to advocating for surgical healthcare infrastructure development globally including leading campaigns, delivering statements at the World Health Organization, visiting with senators, representatives, staffers and other leaders advocating for issues related to surgery and Capitol Hill and more.



Dr. Madani gives presentation on global surgery policy and advocacy at academic International Medicine Congress

In her second year, Dr. Madani is looking at equitable academic exchanges. Academic exchange programs in global health and global surgery often involve residents from the U.S. traveling to low resources settings. However, trainees from other countries face significant barriers to participating in educational opportunities within the U.S.



Photo (left to right): Dr. Norah Alsubaie (first Canadian-trained female Saudi trauma surgeon), Dr. Hatoon Degastani (first Saudi-trained female Saudi trauma surgeon), Dr. Lubna Khan, Dr. Doaa Alfridy (first Saudi-trained female Saudi trauma & critical care surgeon)



Center for Global Surgery strengthens trauma systems

Lubna Khan, M.D., global surgery track resident, has a deeply personal understanding of the challenges facing the Greater Middle Eastern community. Originally from Pakistan, she founded the Ettihad Cultural Center for students of Greater Middle Eastern descent at Oregon State University. Deeply moved by the selfless dedication of Syrian physicians during the 2017 civil war, experience on the board of Oregon Health and Science University and other experiences, Dr. Khan's desire to serve as a global trauma surgeon and advocate for health systems development in the Middle East was born.

She completed her bachelor's in biochemistry and biophysics with a thesis in civil engineering focused on systems design, leading her to prototype transportation systems and advise on refugee repatriation efforts at the United Nations.

Dr. Khan's research focuses on understanding the impact of social determinants on trauma care accessibility and outcomes in Houston as well as in Saudi Arabia.

"The majority of my work is looking at trauma care access disparities and prototyping existing trauma systems to deduce key elements of a basic trauma system," she said. "The goal is to understand the local needs and use existing knowledge of successful systems to bridge the gap in trauma care in austere conditions."

Partnering with trauma surgeons at King Saud Medical City, a leading trauma center in Riyadh, Saudi Arabia, Dr. Khan's team analyzed trauma-related disease burden and the existing trauma care infrastructure in the Riyadh Region. By mapping trauma centers and overlaying trauma burden data, they identified areas with poor access to trauma care, paving the way for targeted interventions such as improved field triage and transfer protocols.

Dr. Khan is also collaborating with the SouthEast Texas Regional Advisory Council to map access to trauma centers in Houston and evaluate patient outcome disparities linked to socioeconomic status.

Next steps, which will likely be a career-long endeavor for Dr. Khan, is to further develop a framework for trauma systems prototyping and utilize machine learning to design needs-based trauma systems in post-conflict and post-disaster areas.

Essential Surgery Skills Conference prepares surgeons for experiences abroad



Surgeons practice a procedure in the simulation lab

The Center for Global Surgery offers a six-day skills course that prepares physicians, residents and fellows to practice in tropical, remote and resource-limited areas of the world. The conference provides hands-on experience in a wide range of emergent and essential surgical procedures. The courses are organized and taught by physicians with extensive global health experience. Educational sessions utilize tissue and model-based simulations to prepare participants to face common surgical scenarios in orthopedics, urology, obstetrics, gynecology, anesthesia and more. Upon completion of the conference, participants receive a certification in tropical surgery, obstetrics and gynecology.



Dr. Yao Yang, general surgery resident, practices setting a fractured bone with Dr. Omar Atassi during Essential Skills Course

This conference was first held in 2018 with 15 participants coming from all over the U.S. to Baylor College of Medicine to receive more training for low-resource contexts during their surgical career. The conference received lots of praise for offering high-yield training in a short amount of time.



Residents Dr. Jordynn Baldwin (Henry Ford Health, Michigan) and Dr. Steven Elzein (Houston Methodist Hospital) practice in the simulation lab

In 2023 Dr. Davis adapted the in-person conference to have a virtual component in order to engage colleagues in Morocco and Myanmar. Morocco had just suffered a severe earthquake that injured thousands of people, and Myanmar was, and still is, in the midst of a civil war—both creating a vital urge for training to care for their populations. More than 30 trainees would log on in the middle of the night to listen to lectures and watch simulations, asking questions and receiving real time feedback, alongside the 13 in-person participants.

Steven Elzein, M.D., a resident at Houston Methodist Hospital, took the course in 2023 to gain more knowledge on limited resource settings. He wants to serve low-resource communities at least in service trips if not full time. “I wanted to gain experience with a wider variety of surgical procedures,” he said. “The lectures were good, but the hands-on part was amazing.”

For more information, email globalsurgery@bcm.edu or call 713-798-6078.

Center for Global Surgery aids in first responder training



The burden of global traumatic injury is staggering. According to the WHO, there are 4.4 million injury-related deaths annually and 90% of them occur in low- and middle-income countries. To aid in the effort of improving trauma outcomes in these regions of the world, the Center for Global Surgery sends support, including Yao Yang, M.D., general surgery resident in the global surgery track and Megan Vu, M.D., general surgery resident in the global surgery track who has now graduated, to several countries to help train clinicians and first responders.

“The goal of our efforts is ultimately to improve trauma outcomes and survivorship in low-resource environments by enhancing first responders’ knowledge of how to stabilize patients in the acute setting,” Dr. Yang said.

Some of the common challenges in low-resource settings include lack of diagnostic resources like CT, lack of therapeutic resources, lack of pre-hospital system and the prevalence of clinicians and others having to be responsible for multiple tasks.



Dr. Yao Yang demonstrates chest tube insertion to Kenyan healthcare workers



Kenya

Local facilities in Turkana County in Kenya had identified an urgent need for first responder training based on recent traffic-related mass casualty incidents. So, Dr. Yang and a group of instructors including two Kenyan surgeons, one Kenyan anesthesiologist and one Haitian surgeon answered the need. Together they created a course including didactics and simulation to train medical assistants, nurses, administrative staff and medical residents on how to best treat trauma patients. Using the Advanced Trauma Life Support framework, they created a course to address the challenges including a wide range of educational backgrounds, a need for unconventional content and high staff turnover.



Vietnam

Drs. Yang and Vu went to Vietnam to help teach a course called Pediatric Acute Surgical Support (PASS). The course was taught over two and a half days and included lectures and many simulations. Medical providers from small district hospitals traveled to attend the training. Two groups of 24 students each completed the course successfully. The course was well-received and will be held again this summer.



Drs. Yang and Vu with PASS course instructors in Vietnam



Students engaged in a team dynamics training exercise



Bahrain

Drs. Yang and Vu also taught the PASS course in Bahrain with faculty physicians from the Royal College of Surgeons in Ireland. This was the first PASS course outside of Vietnam and proved to be widely impactful to those who were instructed. Seventeen students participated and those who excelled were selected as potential instructors for future iterations of the course in resource-limited settings.



Virtual education programs train clinicians around the world



Clinicians gather around a phone in remote location for virtual surgical education with Global Trauma Collaboration

The Center for Global Surgery is actively creating new virtual opportunities for discussion, education and participation to strengthen surgery around the globe. These events are made possible through collaborative relationships with universities and individuals living in regions of distress due to war and natural disasters. The Center currently hosts two online programs: the Global Trauma Collaboration and the Global Cardiothoracic Surgery Casablanca Case Series.

Global Trauma Collaboration

Over two years ago, an anonymous surgeon in Myanmar reached out to Kenneth Mattox, M.D., distinguished service professor, and Rachel W. Davis, M.D., assistant professor of surgery, for help to further support their trauma surgery curriculum. Because of civil war, many faculty surgeons in Myanmar had been removed from their positions, creating a lack of support in a formalized trauma curriculum. Violence has steadily risen along with the significant need for trauma training among healthcare professionals.

In an answer to this need, Dr. Davis created the Global Trauma Collaboration with the global surgery community, including faculty from the University of Utah, Stony Brook and the Medical College of Wisconsin to help support emergency medical care in Myanmar. As part of this program, an average of 50 to 100 medical professionals participate on bi-weekly in the education sessions. Each hour-long session, a speaker presents on various requested topics such as trauma resuscitation during conflict, management of renal trauma, intrabdominal vascular injury, post-traumatic stress disorder and chemical weapons.

“It is incredible to see clinicians travel for hours by bike, foot or any means to receive health training,” Dr. Davis shared. “Internet and electricity can be a challenge, but they are determined to improve their knowledge and skills in trauma care so they can help civilians impacted by war.”

Casablanca Case Series

The Global Cardiothoracic Surgery Casablanca Case Series began in collaboration with the University Mohammed VI des Sciences de la Sante in Casablanca, Morocco after Todd Rosengart, M.D., professor and chair, gave a series of lectures there. The residents and faculty of Baylor College of Medicine participate along with dozens of learners from medical students to trainees and faculty at the University Mohammed VI des Sciences de la Sante. Along with Hicham Benyoussef, M.D., chief of cardiac surgery at University Mohammed and Lauren Barron, M.D., assistant professor of surgery at Baylor, each cardiothoracic surgery team meets for a case series every two months. The series is organized into a five-part curriculum where topics are thoughtfully selected and recent cases discussed. These case studies offer a unique educational opportunity for both sides to engage in a conversation that previously had not been available. Faculty and learners get the opportunity to see different cases that are not common in their region and explore their operative management.

O.H. Frazier, M.D. Innovation and Leadership Awards recognize work of department members



2023 O.H. Frazier, M.D. Innovation and Leadership Award recipients

O.H. “Bud” Frazier, M.D., is a great innovator and pioneer in the field of heart transplantation and circulatory assist devices who performed the first implantation of the HeartMate I left ventricular assist device (LVAD) in a human in 1986. His pioneering work continued through the years and has resulted in more than 45,000 LVADs being implanted in patients worldwide as a life-saving effort—the design of most of the devices having been conceived and/or developed in Dr. Frazier’s lab at The Texas Heart Institute.

Continuing in this great tradition of innovation, the department honored 12 of our members with an award named after Dr. Frazier this year, following a new tradition begun in 2022. Awardees are nominated by colleagues for their innovation in our mission areas. This year, a new leadership category was added to recognize the important role our leaders play in stimulating innovation. Each awardee is recognized at a luncheon attended by department leadership and awardee family and colleagues. The award is accompanied by a \$2,000 prize for the innovation categories, and a \$3,000 stipend to attend a leadership symposium for leadership awardees.

The 2023 O.H. Frazier, M.D. Innovation and Leadership Award Recipients were:

Education

Susan Green, MPH and Ying Shen, M.D., Ph.D.

Research

Deborah Surman and James Suliburk, M.D.

Healthcare

Charrika Williams, NP-C and Heather West, PA-C

Professional Development

Ashley Benning, BAsC and Melissa Koci, M.D.

Administration

Holly Shilstone and Rebecca Grubb, MPH

Leadership

Nicholas Ryan, MBA/MHA and Jeremy Ward, M.D.



Department ranked in top 25 for NIH research funding

The Michael E. DeBakey Department of Surgery ranked 24th in the recently released Blue Ridge Institute for Medical Research listing of grant funding from the National Institutes of Health. Despite the competitive funding climate, the department showed not only a strong increase in funding but also a strong increase in the ranking, improving from 34 to 24.

“The competition for NIH funding is extremely high,” says Lara Landry, Ph.D., Pharm.D., director of research operations for the department. “I am so proud of the work of all of our team - the principal investigators, postdoctoral fellows, residents, graduate students and more who worked to tirelessly to receive grant funding for projects that will ultimately improve the lives of patients.”

The recent NIH awards listed below highlight significant advancements and proposals across various fields of surgical research, aimed at tackling critical health issues through innovative technologies and strategies.

Validation and Translation of MasSpec Pen Technology for Intraoperative Evaluation of Non-Small Cell Lung Cancer (NSCLC)

Livia Eberlin, Ph.D., Byran Burt, M.D., and team received a multi-PI R01 award to translate to the operating room (OR) a new technology called the MasSpec Pen. This technology has the potential to provide thoracic surgeons with the ability to rapidly and accurately diagnose non-small cell lung cancer in the OR and evaluate surgical margins with high accuracy.

Cell-Based Immunomodulation to Promote Post-Infarct Myocardial Repair

Ravi Ghanta, M.D., and his collaborators at Rice University received a R01 award to develop a novel cell therapy platform that enables sustained locally administration of cytokines to the heart after myocardial infarction. This platform has the potential to be utilized for a wide range of protein and local drug delivery directly to the heart.

Research Training Program in Cardiovascular Surgery

Todd Rosengart, M.D., Ravi Ghanta, M.D., and Hu Ying Shen, M.D., Ph.D., secured another five years of funding for our research training program in cardiovascular surgery, through a prestigious T32 award. This program allow us to nurture the next generation of investigators, by offering to four fellows every year a comprehensive two-year training program that includes translational research, bioengineering and data science.

Acquisition of Bruker timsTOF fleX MALDI-2 LC MS System

Livia Eberlin, Ph.D., and the Institutional Advanced Technology Cores at Baylor College of Medicine received a S10 award to acquire a timsTOF fleX MALDI-2 imaging mass spectrometry for mapping lipids and metabolites in tissues, benefiting various research projects at Baylor.

This technology promises to revolutionize the mapping of lipids, metabolites and drugs within biological tissues, offering unprecedented insights into disease mechanisms and therapeutic responses. Its application across a wide array of research fields underscores the transformative potential of advanced mass spectrometry imaging to enhance our understanding of health and disease at the molecular level, facilitating collaborative research and providing a critical resource within the Texas Medical Center and beyond.

Defining Protein Signature of Vascular Invasion in Hepatoblastoma

Andy Espinoza, M.D., a general surgery resident in the research track, received a F32 award to study the mechanisms of vascular invasion in hepatoblastoma (HB), the most common pediatric liver cancer. By identifying a unique protein signature associated with vascular invasion, this research aims to uncover novel biomarkers and therapeutic targets.

The project's innovative approach could lead to targeted treatments for high-risk HB, offering hope for improved survival rates and a better understanding of the disease's biology.

Differential Changes in Energy Metabolism in Response to Mechanical Tension Give Rise to Human Scarring Heterogeneity

Swathi Balaji, Ph.D., received a R01 award to investigate the underlying causes of heterogeneous scarring in humans. This research seeks to uncover the molecular basis of scarring variability, which could lead to personalized anti-fibrotic therapies.

This approach represents a significant advance in wound healing research, offering potential strategies to mitigate scarring and improve patient outcomes, emphasizing the importance of understanding individual biological responses in medical treatment.

Novel Humoral and Cellular Biomarkers of Autoimmune Diseases Caused by Immunotherapy

Hyun-Sung Lee, M.D., Ph.D., and his collaborators in the Department of Medicine, received a multi-PI R21 award to identify reliable biomarkers to accurately stratify the risk of immune-related adverse events (irAEs) in cancer patients who are candidates to receive immunotherapy.

This research will impact the early treatment of ICI-induced irAEs, and it may provide new insights into the pathoetiology and treatment of autoimmune endocrine diseases.



Dual transplant patient Larry Nesler with Drs. Loor, Goss and Garcha

Top 10 team performs successful rare dual transplant

As one of the top 10 lung transplant centers in the U.S., combining the expertise of the Section of Pulmonary, Critical Care and Sleep Medicine, the David J. Sugarbaker Division of Thoracic Surgery and the Division of Abdominal Transplantation, members of The Lung Institute recently performed a successful rare dual transplant.

It was a matter of life or death for Larry Nesler, who was diagnosed with idiopathic interstitial lung disease and cirrhosis of the liver, both advanced conditions that necessitated organ transplants if he were to survive.

He did not smoke yet he needed a lung transplant. He was not a heavy drinker yet he needed a liver transplant. Even if his doctors could locate a liver/lung match, at 63 years old, Nesler would be considered a high-risk candidate for a dual transplant. And it was during the height of the pandemic.

Nesler's lung capacity was worsening fast, and he was unable to walk across a room without having to rest. His life depended on acceptance into an organ transplant program. The Booneville, Mississippi businessman was denied by other transplant centers for fear he would not survive the major surgery.

But then he received approval from the transplant team at Baylor St. Luke's Medical Center. Nesler rented an apartment down the street from the hospital and was in constant contact with his transplant team including Gabriel Loor, M.D., Puneet Singh Garcha, M.D., and John Goss, M.D. It took three months, but he received a match for both a lung and a liver and after a 10-and-a-half-hour surgery, he was on the road to recovery with a new lease on life.

"Nesler's case was complicated since he was older than 50 and in need of a dual organ transplant," said Dr. Loor, associate professor of surgery and surgical director of the Lung Transplant Program at Baylor St. Luke's. "There is not a lot of experience with this combination, but we drew upon our collective experience with surgery in high-risk scenarios to ensure the safest outcomes."

Nesler remained in the hospital for three weeks of constant observation and encouragement from The Lung Institute medical team. "I had people who really cared about me. This group, from the doctors to the nurses to the assistants to the fellows, was just remarkable. I'm not on the face of this earth without that group," he insisted.

Mr. Nesler moved back to Mississippi and made a full recovery where he is loving life, spending time with his family and young grandchildren. "It is so good to be alive, I am overjoyed. That is the gift these guys gave me," he said.

RESEARCH UPDATE

Gene therapy improves advanced heart failure in animal model



Tamer Mohamed, Ph.D.

Heart failure remains the leading cause of mortality in the U.S. During a heart attack blood stops flowing into the heart and without oxygen, part of the heart muscle dies. The heart muscle does not regenerate, instead it replaces dead tissue with a scar made of cells called fibroblasts that do not help the heart pump. If there is too much scarring, the heart progressively enlarges, or dilates, weakens and eventually stops working.

“The current thought is that advanced or chronic heart failure, a stage in which the cardiac muscle has become too weak, is a point of no return,” said Tamer M. A. Mohamed, Ph.D., associate professor of surgery and director of the Laboratory for Cardiac Regeneration at Baylor College of Medicine. “The present understanding is that it is not possible to stimulate a heart in this condition to generate new heart cells to repair itself and that only palliative treatment is available to patients. In this study published in the *Journal Cardiovascular Research*, we show that advanced heart failure can be treated to improve cardiac function in an animal model.”

In a previous study, Dr. Mohamed and his collaborators had successfully used gene therapy to improve acute cardiac dysfunction in animals. Their method effectively and specifically delivered genes that promote proliferation to heart cells, generating new heart muscle. This approach not only strengthened the heart improving its ability to keep the blood flowing, but also prevented typical subsequent congestion in the liver, kidneys and lungs in rats and pigs.

“In this study, we did something that had not been done before,” Dr. Mohamed said. “We intervened with the same gene therapy but not early in the disease as in our previous experiments, but late in the disease during the chronic phase four weeks after cardiac injury had severely damaged the heart.”

Four months after treating the animals, the researchers checked cardiac function and heart structure and found a significant improvement in cardiac function. The findings show for the first time that contrary to expectations, it is possible to induce heart cell proliferation during advanced states of heart failure and improve heart function.

“Our work has important implications for the large group of patients with advanced heart failure for whom there are currently no treatments to improve their condition,” Dr. Mohamed said. “This approach offers the possibility of developing future new therapies for this deadly disease.”

Dr. Mohammed was recruited to the department last year. His post-doctoral training at the Gladstone Institute in San Francisco focused on cardiac regeneration where he helped lead a team that developed the first evidence of the ability to use gene therapy to change cardiac fibroblasts into cardiomyocytes and cardiac scar back into muscle to improve heart function and resolve heart failure. Then later his work on the direct cardiac reprogramming approach was the nucleus for a start-up company Tenaya Therapeutics, where he holds two patents.

After Tenaya Therapeutics went public and the research and development needs declined, Dr. Mohamed transitioned back into academia to initiate discovery programs for heart failure therapy. His laboratory recently achieved a significant milestone by developing a groundbreaking system for long-term culture of human and pig heart slices. This new technology effectively demonstrated the efficacy of new cardiac regenerative therapies in pre-clinical models using primary pig and human heart tissues.

In the OR Light



R. Taylor Ripley, M.D.

Professor of Surgery
David J. Sugarbaker Division of
Thoracic Surgery
Director, Mesothelioma Treatment
Center at Baylor St. Luke's Medical
Center

Where are you from?

Nashville

Where did you go to school?

Boston College

Vanderbilt University School of Medicine

What made you choose your career?

I have wanted to be a surgeon for as long as I remember. In fact, I was probably only five years old when I decided I wanted to be a surgeon! As far as my subspecialty, I enjoy complexity—thoracic oncology is one of the most complex fields of medicine.

What do you like most about your job?

The ability to run a translational research program by linking clinical trial efforts to the laboratory. We don't only manage patients now but are working to change the trajectory of treatment of patients for the future.

Is there anything you would tell someone thinking about going into your profession?

Stay focused and work hard.

What do you like to do when you're not working?

I enjoy hanging out with my kids and going to their lacrosse games.





Emma G. Burke, M.D.
General Surgery Resident

Where are you from?
Woodstock, GA

Why medicine:
I enjoy being able to use problem-solving skills to help people live fulfilling lives. In addition, I like the emphasis on life-long learning in medicine; I would go to school forever if I could!

Why surgery: When I first started medical school, I never thought I would be a surgeon; that changed during clerkship rotations. I had fantastic mentors in school who highlighted the unique way surgeons use technical skills and knowledge to help their patients. Anatomy was also my favorite subject and I enjoy being able to use that knowledge every day.

What I like the most:
Medicine is always changing from both a knowledge and cultural standpoint. You can really find where you belong and can make a difference if you are open to exploring new opportunities.

Advice:
There is no one personality type that defines a specialty or career path, seek out mentors who you can identify with. Also, it is ok to say “no” within reason! Sometimes you have to turn down one opportunity to dedicate yourself fully to another - just don’t be the person always saying “no”.

Hobbies:
Running at Buffalo Bayou, getting ready for my first baby!



Nicole Miller, M.P.H.
Department Administrator

Where are you from?
Houston

Where did you go to school?
Texas A&M and UT School of Public Health

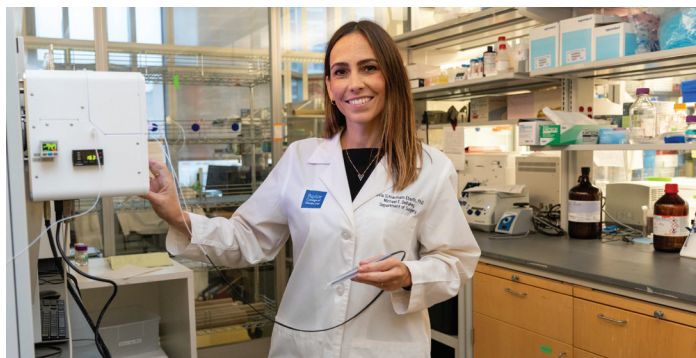
What made you choose your career?
I want a career that provides me with a challenge, variety, and fun – this is it.

What do you like most about your job?
I love that I get to be a small part of the amazing work our scientists and surgeons do every day!

Is there anything you would tell someone thinking about going into your profession?
“I don’t know” is an acceptable answer if you proactively find the answer.

What do you like to do when you’re not working?
I like to read, spend time with family, woodwork, etc. I also spend a lot of time chasing around my boys (four and almost two), spending time outside and trying new restaurants.

Dr. Eberlin receives Norman Hackerman Award in Chemical Research



Livia Eberlin, Ph.D., associate professor and vice chair for research, was honored as the recipient of the 2024 Norman Hackerman Award in Chemical Research for her groundbreaking work in mass spectrometry and its applications in cancer treatment. The Hackerman award, which comes with a \$100,000 prize, is one of the most prestigious awards given in the field of chemical engineering. Dr. Eberlin's innovative research at the intersection of chemistry and medicine has led to transformative advancements in cancer diagnosis and treatment. As head of the Eberlin Lab for Medical Mass Spectrometry, she continues to pioneer the development of cutting-edge technologies for intra-operative cancer tissue detection, aiming to improve patient care and clinical outcomes.

Honors and Awards

Joseph Coselli, M.D. – Physician and Friend Award from the Aishel House

William Cohn, M.D. – Earl Bakken Scientific Achievement Award from the Society of Thoracic Surgeons

Christy Chai, M.D. – 2024 American Surgical Association Surgical Leaders Fellowship Grant

Livia Eberlin, Ph.D. – \$3 million grant from The Marcus Foundation

Ramiro Fernandez, M.D. – AATS Foundation Research Award from The American Association for Thoracic Surgery for his project, “Mesenchymal stem cell derived exosomes ameliorate lung ischemia reperfusion injury”

N. Thao N. Galván, M.D., MPH – James IV Traveling Fellowship award from the James IV Association of Surgeons

Atif Iqbal, M.D. – accepted into the Southern Surgical Association

Gabriel Loor, M.D. – Roderick D. MacDonald Research Fund Award from Baylor St. Luke's Medical Center for their project “Investigating a Novel Optimized BioEnvironment (NOBEL) EVLP Approach to Rehabilitate DCD Lungs”

Hyun-Sung Lee, M.D., Ph.D. – accepted into the American Association for Thoracic Surgery

Todd Rosengart, M.D. – inducted into the ACS Academy of Master Surgeon Educators

Kenneth Mattox, M.D. – Laurance N. Nickey, MD, Lifetime Achievement Award from the Texas Medical Association

Jessica Miller – Laboratory for Cardiac Regeneration, was awarded the 2023 Technological Innovation Publication Award from the Safety Pharmacological Society for her latest paper “Biomimetic cardiac tissue culture model (CTCM) to emulate cardiac physiology and pathophysiology ex vivo”

Nandan K. Mondal, M.Sc., M.Phil., Ph.D. – 2024 Medical Research and Education Grant from the Mike Hogg Foundation for his collaborative research titled “Urine exo-miR Profiling to Assess Kidney Health in Mechanical Circulatory Support”

Tamer Mohamed, Ph.D. – R01 grant for project “Mechanisms of L-type Calcium Channel Regulation in Heart Health and Disease”

Bijan Najafi, Ph.D. – appointed as a federal advisory committee member on the Rehabilitation Research and Development Service Scientific Merit Review Board Subcommittee on Chronic Medical Conditions & Aging with the Department of Veterans Affairs

Brittany Rhoades, Ph.D., APRN – elected to the National Association of Clinical Nurse Specialists board of directors

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