

SURGERY NEWS

THE MICHAEL E. DEBAKEY DEPARTMENT OF SURGERY

Baylor
College of
Medicine

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MICHAEL E. DEBAKEY
DEPARTMENT OF
SURGERY

3,000

**Dr. Goss performs
his 3000th liver
transplant**

The Center for
Biomedical
Engineering

23rd Congress of the
Michael E. DeBakey
Surgical Society

bcm.edu/surgery

#DeBakeySurgeon

Dr. Goss performs his 3000th liver transplant



Dr. John A. Goss, professor of surgery, has achieved the extraordinary milestone of performing his 3,000th liver transplant surgery. This remarkable accomplishment highlights his decades of dedication, surgical excellence, and unwavering commitment to patients and their families. He is one of only a handful of surgeons to have reached this milestone.

“Every successful transplant begins with a moment of unimaginable generosity from a donor's family”
- Dr. John Goss

Dr. Goss, JLN Foundation Chair in Transplant Surgery and chief of the Division of Abdominal Transplantation, specializes in adult and pediatric liver transplantation, hepatobiliary surgery, and the surgical management of liver tumors. He was named the inaugural director of the Transplant Institute when it was founded in 2018. The combined volume of adult and pediatric liver, kidney, lung and heart transplants performed by members of the Transplant Institute is among the highest in the nation.

Dr. Goss earned his medical degree from Creighton University School of Medicine and completed his general surgery residency at Washington University, followed by a two-year multi-organ transplant fellowship at UCLA.

Dr. Goss has performed many surgical “firsts” in Houston, including the first split liver adult and pediatric transplants, the first adult living donor liver transplant, the first dual organ lung-liver transplant, and the first dual organ heart-liver transplant.

Dr. John Goss

The 23rd Congress of the Michael E. DeBakey Surgical Society

The 23rd Congress of the Michael E. DeBakey Surgical Society was held March 5-6, 2026 at TMC³ Helix Park, gathering alumni, faculty, trainees, and surgical leaders to continue the advancement of Dr. DeBakey's legacy of innovation, education, and excellence. Over 250 attendees were on hand for the event, including over 100 alumni of the Department's educational training programs.

Chair of Surgery Dr. Todd K. Rosengart interviewed keynote speaker Scott Becker, founder and publisher of Becker's Hospital Review and Becker's Healthcare, one of the most highly read healthcare periodicals. The discussion explored trends and opportunities in the rapidly evolving healthcare landscape, including the impact of A.I. in a new era of healthcare delivery.

The two-day program featured updates on major surgical advances in the department of surgery, including robotic heart transplantation, endovascular aortic repair, global surgical initiatives, and cutting-edge research and simulation technologies. Sessions highlighted leadership development, the future of surgical training, healthcare initiatives and the expanding global footprint of Baylor trained surgeons across the nation and the world. Many alumni—both at Baylor and from around the country—shared their insights and experience as well.

Dr. Matthew J. Wall Jr. was honored as the recipient of the 2026 DeBakey Surgical Society Award for his decades of commitment to leadership, service, and impact on surgical education.

The event concluded with networking opportunities and a tour of the McNair Campus, reinforcing the Society's mission to elevate surgical excellence and strengthen the Baylor surgical community worldwide.



Transplant Programs Celebrate Record Year



Baylor St. Luke's team transplants record number of kidneys

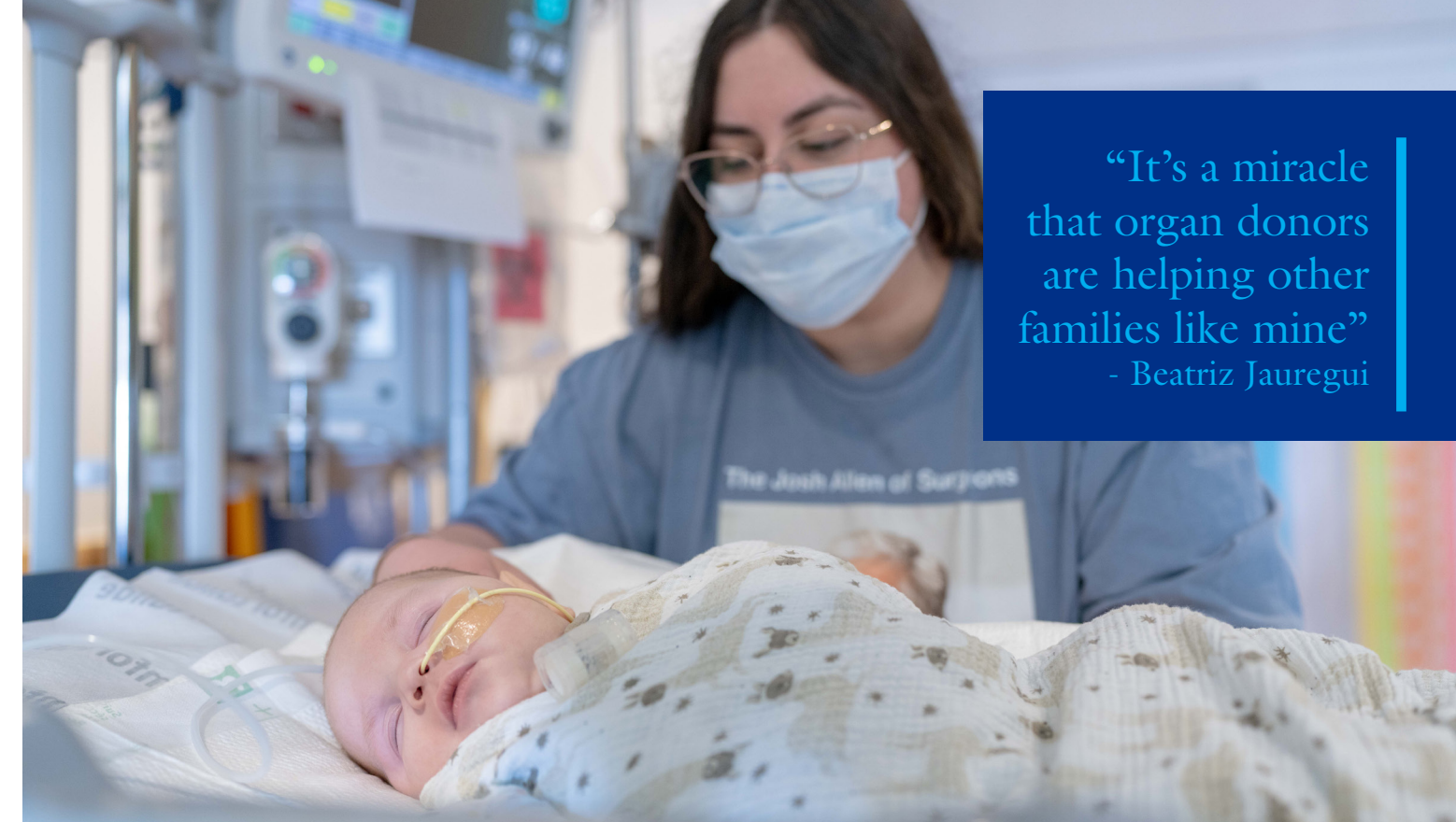
Baylor St. Luke's Medical Center, in partnership with Baylor College of Medicine celebrated a historic milestone, performing 153 kidney transplants in 2025. This represents the highest annual total since the program's launch in 1988.

This represents the highest annual total since the program's launch in 1988. This benchmark reflects the contributions of an experienced and comprehensive transplant team who have assured quality care for decades, as well as the leadership of our new kidney transplant surgical director, associate professor Dr. Vidya Fleetwood, who joined the department from St. Louis University earlier in 2025.

Surpassing our previous record of 150 transplants set in 2019, this achievement reflects nearly four decades of dedication to advancing transplant innovation, improving patient outcomes, and transforming lives.

Reaching this level of excellence is the result of unwavering collaboration across our multidisciplinary teams of surgeons, nephrologists, APPs, nurses, transplant coordinators, pharmacists, social workers, administrative staff, and our health system partners. The commitment of this broad staff ensures that every patient receives world-class, compassionate care.

Texas Children's Sets National Benchmark in Pediatric Organ Transplants



“It’s a miracle that organ donors are helping other families like mine”
- Beatriz Jauregui

Baylor and Beatriz Jauregui - photo courtesy Texas Children's Hospital

Texas Children's once again continues to lead the nation in performing the most pediatric transplants, as reported by the Organ Procurement & Transplantation Network (OPTN), the country's unique public-private registry for organ matching.

In 2025, the Texas Children's Transplant Services team performed 144 organ transplants, the highest annual total in program history, and the most of any pediatric hospital in the country. The milestone represents a 22-percent increase over the program's previous peak year in 2021 of 118.

Texas Children's unwavering commitment to exceptional patient care has positioned the Transplant Services team as a national leader in post-transplant survival. This is demonstrated by 5-month-old Baylor, who received a new liver in October after being diagnosed at birth with liver disease and acute liver failure. Baylor was flown to Texas Children's at two weeks old and has been treated here since.

“Baylor fought to be here. He’s a strong baby. He’s been hospitalized for his whole life. It’s a miracle that organ donors are helping other families like mine,” said Beatriz Jauregui, Baylor’s mother. “The Texas Children’s staff is amazing. They save so many lives. My family is nine hours away, so a lot of the staff have stepped in to check on Baylor and me throughout this process—making sure I’m taking care of myself. I appreciate it.”

Texas Children's also completed more than 100 pediatric abdominal transplants, representing the largest annual volume performed by a single center in the United States since 1988.

Together, these accomplishments reinforce Texas Children's long-standing mission to advance transplant medicine, deliver exceptional outcomes, and remain a trusted choice for families facing the most complex medical journeys.

Baylor Advances Hybrid OR Innovation with First-in-U.S. Imaging Platform

The Michael E. DeBakey Department of Surgery continues to advance the boundaries of minimally invasive and image-guided surgery with the clinical launch of a next-generation imaging system inside a newly enhanced hybrid operating room at Baylor St. Luke's Medical Center. Surgeons are now using GE HealthCare's Allia Moveo platform, the first installation of its kind in the United States, to support complex vascular, cardiovascular, and interventional procedures.

"Allia Moveo gives us the flexibility and image quality needed to manage increasingly complex minimally invasive procedures with greater confidence," said Dr. Gustavo Oderich, professor of surgery and chief of the Division of Vascular Surgery and Endovascular Therapy in the department. "The ability to quickly reposition the system, obtain high-quality 3D imaging, and integrate advanced guidance tools directly into the workflow enhances procedural accuracy. This technology supports our mission to push the boundaries of what is possible in endovascular and interventional surgery."

"From an academic and surgical leadership perspective, the innovation reflects the Department's commitment to equipping faculty with technology that advances both patient care and surgical science," said Oderich.



The Baylor St. Luke's surgical team with the GE HealthCare's Allia™ Moveo platform

A hybrid operating room merges the traditional surgical suite with advanced, high-resolution imaging technology. For surgeons, that integration is transformative. Instead of moving a patient between procedural areas or relying on static imaging, physicians can access real-time, high-quality 3D visualization during surgery. The environment allows them to combine open surgical techniques and catheter-based interventions seamlessly, adjusting strategies instantly based on what they see.

The Allia system elevates that capability. Its compact, cable-free C-arm design allows rapid repositioning around the patient, improving workflow efficiency in space-constrained surgical environments. AI-powered imaging tools reduce visual distortion, compensate for respiratory motion, and minimize interference from metallic implants, producing clearer, more reliable visualization during technically demanding procedures. For surgeons managing increasingly complex anatomy and high-risk cases, those enhancements directly impact procedural precision.

"The hybrid operating room represents the convergence of surgical expertise and advanced imaging science," said Dr. Todd Rosengart, chair of the Department of Surgery. "By integrating next-generation visualization and AI-guided tools directly into the surgical environment, we are empowering our physicians to operate with greater precision, adapt in real time, and expand what is surgically achievable. This is the kind of innovation that defines academic surgery and drives meaningful progress in patient care."

Rosengart added, "As procedures grow more sophisticated, the hybrid OR has become essential infrastructure for modern academic surgical programs. This milestone goes beyond adopting new technology, it is about strengthening a platform where innovation, physician expertise, and multidisciplinary collaboration intersect to deliver the highest level of care."

“Adding a categorical slot lets us welcome another exceptionally qualified trainee each year without compromising our intensity of operative experience, academic rigor, or the individualized coaching our residents receive.”
- Dr. Ronald Cotton



The Lillie and Roy Cullen Tower

Eleventh categorical spot makes program one of the largest in the Nation

The department received approval from the American College of Graduate Medical Education (ACGME) to expand its categorical General Surgery Residency Program to eleven positions per entering class this year, Making it one of the largest general surgery programs in the nation. Department leadership is confident that this expansion will strengthen the program's capacity to train future leaders in surgical care, research, and innovation.

The additional position will be added to the program's seven-year research track, allowing the program to accommodate more top candidates while preserving the tailored mentorship and case volume that have long distinguished Baylor surgery training.

Baylor's residents rotate across the Texas Medical Center's high-acuity sites including Baylor St. Luke's Medical Center, Ben Taub Hospital, Texas Children's Hospital, and the Michael E. DeBakey VA Medical Center gaining exposure to an unparalleled breadth of complex pathology and operative experiences. Baylor participates in the National Resident Matching Program (NRMP) and utilizes ERAS for applications. The multiple programs in the general surgery residency include seven-year global surgery, innovation, and education tracks. Details on this program can be found on the program website at www.bcm.edu/departments/surgery/education.



Dr. Travis Miles, 4-3 thoracic surgery track resident

“It is a tremendous honor to be part of the new 4-3 joint general and cardiothoracic surgery training program.”
- Dr. Travis Miles

Baylor expands training program with 4-3 thoracic surgery track

General surgery residents at Baylor College of Medicine now have a more direct route to becoming a cardiothoracic surgeon. The Department has recently added a 4-3 thoracic surgery track to its ACGME-accredited General Surgery Residency program. Also known as the fast-track or joint general surgery/thoracic surgery pathway, the 4-3 program is a seven-year integrated curriculum that combines four years of general surgery training with three years of dedicated thoracic (cardiothoracic) surgery residency at the same institution. Current Baylor general surgery resident Dr. Travis Miles (PGY-3) will be the inaugural entrant into this program, beginning his fourth year of training in the track next year.

The accelerated structure allows residents to begin thoracic surgery education earlier than in the traditional model, with cardiothoracic rotations incorporated into the later years of general surgery. These programs integrate several months of cardiothoracic experience during the fourth and fifth years of general surgery, giving trainees earlier exposure to complex cardiac, thoracic, and thoracic oncology care. Throughout the program, residents participate in progressive clinical responsibilities, simulation training, and mentorship with cardiothoracic faculty, helping them develop operative skill, clinical judgment, and leadership capacity earlier in their training.

The Marcus Foundation awards \$14.4 million to create Marcus VITAL Laboratory

“This work is about providing better care for patients, by harnessing artificial intelligence and the world’s largest aortic datasets, we can better understand disease, personalize treatment and improve outcomes for patients in ways that simply weren’t possible before.”
- Dr. Gustavo S. Oderich

Baylor College of Medicine recently received a \$14.4 million philanthropic research award from The Marcus Foundation to establish the Marcus VITAL (Vascular Intelligence for Translational AI and Learning) Laboratory, a first-of-its-kind research and education hub in Baylor’s Center for Aortic Surgery.

This transformative investment will accelerate the integration of artificial intelligence, advanced imaging and clinical data to advance precision medicine for patients with complex aortic disease—conditions that remain among the most life-threatening and challenging in cardiovascular care.

The Marcus VITAL Laboratory, located at the Texas Heart Institute at Baylor College of Medicine, will serve as a national and international model for how data-driven discovery can be rapidly translated into real-world clinical impact.

The laboratory honors the legacy of Bernie Marcus, whose philanthropic vision has transformed institutions and communities across the country. Marcus, who co-founded Home Depot in 1978, experienced firsthand the life-extending potential of advanced aortic care under the leadership of Oderich, a journey that helped inspire this landmark investment in research, education and innovation.

“The Marcus Foundation is proud to support the work Dr. Oderich and his team are advancing at Baylor,” said Frank Blake, chairman of the board of The Marcus Foundation. “Bernie would often say his hope was that he had changed the world for the better. He also believed in the power of people and enabling bold ideas that improve lives. The Marcus VITAL Laboratory is a powerful reflection of his incredible legacy.”

The Marcus VITAL Laboratory will support a comprehensive, multidisciplinary approach to aortic care—combining advanced data analysis, digital twin modeling, genetic research and clinical trials with hands-on training for the next generation of cardiovascular leaders. The laboratory also will expand a set of highly specialized fellowships, giving future surgeons rare, high-volume experience in complex aortic procedures that are seldom encountered during traditional training.

“This philanthropic research award represents the very best of what partnership can achieve,” said Greg Brenneman, chair of Baylor College of Medicine’s Board of Trustees. “Baylor has the people, the platform and the purpose to translate bold ideas into better care for patients. By uniting The Marcus Foundation and Baylor around the values Bernie Marcus championed, this partnership sets in motion progress that will improve lives around the world for years to come.”

A new chapter in innovation: The Center for Biomedical Engineering



Center for Nano-Biophotonic Engineering



Center for Biomedical Prototype Development



Laboratory for Medical Mass Spectrometry Technologies



Advanced Materials and Drug Delivery Research Group

The Center for Biomedical Engineering serves as a unifying hub for engineering driven discovery and innovation within the Michael E. DeBakey Department of Surgery at Baylor College of Medicine. Established to accelerate the translation of advanced technologies into surgical and clinical practice, the Center brings together complementary expertise in engineering, analytics, fabrication, and biomaterials under a single, collaborative framework.

Specialized Resources, Working in Concert

The Center for Biomedical Engineering brings together four specialized entities, each contributing unique strengths:

Center for Nano-Biophotonic Engineering

Focuses on optical and photonic technologies that enable advanced imaging, sensing, and analytical approaches for biomedical and clinical applications.

Center for Biomedical Prototype Development

Provides expertise in custom instrumentation, device design, fabrication, and prototyping, supported by advanced machining and manufacturing capabilities.

Laboratory for Medical Mass Spectrometry Technologies

Offers cutting-edge analytical tools for molecular- and tissue-level characterization, supporting surgical decision-making and disease diagnostics.

Advanced Materials & Drug Delivery Research Group

Advances the design and application of biomaterials for implants, therapeutics, and tissue repair, bridging materials science with clinical needs.

A Unified Platform for Innovation

At its core, the Center for Biomedical Engineering is designed to break down traditional research silos. Each of its four component resources contributes distinct technical capabilities, while operating within a shared mission of advancing patient centered solutions. This unified structure allows ideas to move seamlessly from concept and design to analysis, prototyping, and validation.

The Center’s integrated model supports rapid iteration and cross disciplinary problem solving, ensuring that innovations are driven by clinical need and refined through engineering rigor. By unifying these resources, the Center creates a comprehensive platform that supports early stage discovery as well as translational and applied research efforts.

The Center’s collective capabilities directly support translational research aimed at improving surgical outcomes and patient care. By embedding engineering and analytical expertise within a clinical environment, the Center enables rapid testing and refinement of technologies intended for real world use.

This approach aligns with the Department of Surgery’s broader commitment to innovation, discovery, and the development of new tools that enhance precision, safety, and effectiveness in surgical practice.

Together, these resources form a comprehensive innovation ecosystem that supports investigators across the full spectrum of biomedical engineering research and development.



Drs. Livia S. Eberlin, Thomas Milner and Todd K. Rosengart

The Center for Nano-Biophotonic Engineering

The Center for Nano-Biophotonic Engineering, housed within the department, is a pioneering research hub dedicated to advancing optical and photonic technologies for clinical applications. Established with a grant from the Cancer Prevention and Research Institute of Texas (CPRIT) to center director and professor of surgery Dr. Thomas Milner, the Center's mission is to translate nano-biophotonic innovations into practical tools for cancer diagnostics and therapy.

Under the leadership of Dr. Thomas Milner, a renowned expert in biophotonics and optical imaging, the Center focuses on developing cutting-edge devices and techniques that improve disease detection and treatment. Research efforts include intravascular imaging, optoacoustic technologies, and biophotonic sensors designed to analyze human tissue and biological fluids with unprecedented accuracy and precision. These innovations aim to enhance surgical guidance, enable real-time diagnostics, and reduce healthcare disparities through advanced imaging solutions.

The Center fosters collaboration across disciplines, bringing together clinicians, engineers, and scientists from Baylor and the Texas Medical Center. By integrating engineering principles with medical science, it serves as a catalyst for breakthroughs in laser surgery, optical coherence tomography, and nano-scale imaging systems. Research not only drives scientific discovery but also accelerates the commercialization of life-saving technologies.

With a commitment to innovation and patient-centered care, the Center for Nanophotonic Analytics and Fabrication is positioning Baylor College of Medicine at the forefront of biomedical engineering and photonics research, shaping the future of precision medicine.

A reimaged engineering resource built on DeBakey's legacy

The Center for Biomedical Prototype Development is led by Dr. I-Chih Tan, assistant professor of surgery, who brings more than 30 years of experience in designing and fabricating custom devices for industry and biomedical research.



Innovation has always been at the core of Baylor College of Medicine. From transformative surgical breakthroughs to state-of-the-art research technologies, Baylor has long stood at the forefront of medical discovery. With the launch of its newly expanded Center for Biomedical Prototype Development (formerly the Bioengineering Core), housed within the Michael E. DeBakey Department of Surgery, the College takes another major step forward—one that echoes the spirit of ingenuity first embodied in the machine shop of legendary cardiovascular surgeon Dr. Michael E. DeBakey.

A Legacy Forged in the Workshop

Long before 3D printers, microfabrication facilities, and integrated research cores, Dr. DeBakey understood the power of engineering in medicine. His workshop—part sewing station, part mechanical studio—was the birthplace of innovations that reshaped modern surgery.

The DeBakey Library & Museum highlights several of these inventions, including a replica of the sewing machine he used to create the first Dacron graft, a device that revolutionized vascular surgery and remains foundational today. The museum also preserves countless artifacts from his career, illustrating his hands-on approach to solving clinical problems through engineering creativity.

DeBakey's practical ingenuity laid the groundwork for a culture that values experimentation, design, and technological advancement. His legacy is not just preserved in exhibits—it's embedded in the spirit of Baylor's research enterprise.

An Engine for Discovery

Today, that spirit continues through Baylor's Center for Biomedical Prototype Development. The Center provides cutting edge scientific instrumentation and engineering resources that empower researchers to design high precision, experimentally elegant studies across disciplines.

The mission is simple yet ambitious:

Enable investigators to ask and answer the most innovative research questions possible.

By offering advanced tools, consultation, and fabrication capabilities, the Center ensures that scientists are equipped to transform ideas into functional prototypes, imaging systems, mechanical tools, and experimental apparatus—just as DeBakey once did in his own machine shop.

Interdisciplinary collaboration

DeBakey worked at the intersection of medicine, mechanics, and design. The Center similarly serves as a hub where engineers, clinicians, and scientists from Baylor collaborate to develop innovative solutions.

A New Era Begins

With this launch, Baylor reinforces its commitment to pioneering discovery. The center is not just a research lab—it is the next evolution of an engineering tradition begun decades ago by one of the most influential surgeons in history.



Department Ranks in the Top 20 for NIH funding

The Department of Surgery at Baylor College of Medicine ranks 19 among 76 surgery departments in NIH funding, according to the ranking tables released by the Blue Ridge Institute for Medical Research. 15 faculty members in the department garnered a total of ten million dollars in NIH funding in 2025; an increase of over 40% compared to 2024 (\$7,195,182).

The Department has seen a surge in NIH research funding over the past several years. As recently as 2014 the department ranked 59th (\$0.57M) in the nation. The move to 19th spot in NIH funding marks our continued ascent in the rankings of the nation's most competitive research-intensive surgery departments.

In addition to a highly productive cohort of almost 70 faculty investigators in the department. The engine that has fueled this ascent is our Office of Surgical Research and our various research cores. These include our ATLAS data science group led by Drs. Ravi Ghanta and Abbas Rana, our INSTINCTSM innovation core led by Drs. Feibi Zheng and Livia Eberlin, and our new Center for Biomedical Engineering (page 10). All told, nearly one hundred staff support this infrastructure.

At the same time, disruptions in grant processing and the termination or freezing of existing awards have resulted in several billion dollars less being committed to research compared with previous years, further tightening competition for available funds.

The Blue Ridge Institute for Medical Research is a nonprofit organization that tracks NIH funding trends for US medical schools and their departments. Figures include direct plus indirect costs but exclude research contracts and other specialized mechanisms.

NEW GRANTS

Dr. Rajat Bhattacharya – \$1,622,612 DOD Grant “Preclinical Validation of Novel Combination Therapeutic Strategies Targeting KRAS and BRAF Mutated Colorectal Cancer for Near-Term Clinical Examination” This project seeks to identify and validate the efficacy of cMet inhibitors in combination with multiple drugs identified by unbiased HTS screening strategies for near-term clinical studies.

Dr. Alastair Thompson - \$1,517,438 Artidis AG “Artidis Nanomechanical Generated Measurements for Early Breast Lesions (ANGEL)” This study aims to use Nanomechanical Profiling to stratify breast cancers into distinct Nanomechanical Subtypes and assess associations with molecular subtypes of breast cancer.

Dr. Thomas Milner - \$500,000 Clayton Foundation “The Use of Light for Cardiology, Surgical and Related Purposes Year 02” The purpose of the program is to develop photonic-based medical devices and procedures using light for cardiological, surgical and related purposes for the betterment of human health. In the current year, the goal is development of a novel fiber-optic catheter sensor for real-time perioperative PTH measurement.

Dr. Timo Nazari Shafti, – \$454,628 Sponsored Research Agreement “Cardiac Preservation and Assessment by Porcine Heart Transplant” This study aims to demonstrate feasibility of the Diatomic test device to extend donor heart preservation.

– \$67,871 Sponsored Research Agreement “Corvus Nerve Ablation Porcine Study” This study will observe the impact of the nerve ablation on cardiac health as well as local tissue and vessels over a 5 days observation window post procedure in a porcine model.

– \$262,440 Sponsored Research Agreement “NOUREXALTM: A Novel Bioenergetic Drug to Increase Donor Heart Utilization” The projects seeks to determine the in vivo efficacy of non-GMP CCRP in the pig heart transplantation model.

**Grants under \$50,000 not listed*

Dr. Todd K. Rosengart - \$357,581 Leducq “Addressing Rheumatic Heart Disease in Low-and-Middle-Income Countries” This project aims to perform an epidemiologic assessment of rheumatic heart disease and health system resources for transcatheter and surgical valve interventions in low-and-middle income countries across Africa, define the minimum requirements for surgical and interventional rheumatic heart disease in these areas, and quantify the relative cost/benefit as tailored to local resources and patient populations.

Dr. Gabriel Loor – \$300,000 JLH Foundation “Advancing the Science of Lung Transplantation Series” This project aims to develop a novel ex vivo lung perfusion (EVLV) based organ repair and long-term preservation platform for increasing utilization and functional performance of extended criteria donor (ECD) and other suboptimal organs.

Dr. Steven Maximus - \$290,056 Clinical Trial “Gore EXCLUDER Thoracoabdominal Branch Endoprosthesis Post-Approval Study” This project seeks to confirm that the benefit-risk assessment of the TAMBE Device remains positive in real-world use, and to ensure the adequacy of the TAMBE Device training program.

Dr. Derek Erstad - \$185,000 Vivtory Houston “Mesothelin-targeted Fluorescent Imaging for Enhanced Surgical Resection in Pancreatic Cancer” This project seeks to improve surgical disease clearance, and to develop a new way to help surgeons “see” cancer more clearly in the operating room.

Dr. R. Taylor Ripley - \$107,000 Clinical Trial “Combination of Induction Durvalumab and Tremelimumab Alone vs. Durvalumab and Tremelimumab with Chemotherapy for Potentially Resectable Pleural Mesothelioma” The primary objective is to determine whether neoadjuvant combinatorial immune checkpoint inhibitors will increase major pathological responses for patients with surgically resectable mesothelioma.

Dr. Sanjib Sarkar - \$77,852 AHA Fellowship “Lipid Nanoparticle-Based siRNA Delivery Targeting STING Pathway to Mitigate Aortic Aneurysm and Dissection” This project seeks to achieve localized STING silencing in the aorta, mitigating aortic aneurysm and dissection progression without systemic side effects.

Baylor researchers advance real-time assessment of donor heart viability



Drs. Livia S. Eberlin et al

Innovative American Heart Association-funded project uses metabolic profiling to improve transplant outcomes

Investigators and their team in the Department of Surgery are pioneering a new approach to evaluating donor heart viability using rapid molecular analysis, thanks to support from the American Heart Association's Innovative Project Award (24IPA1258163).

As part of this study, investigators obtained donated human hearts initially offered for transplantation but ultimately declined due to factors such as donor age, size or weight mismatch, travel distance, and logistical constraints. These donation after brain death (DBD) and donation after circulatory death (DCD) hearts, though not suitable for clinical transplantation, provide invaluable insight for advancing transplant science.

The research is conducted under an established agreement with the region's organ procurement organization, LifeGift, ensuring that all donated hearts were ethically obtained, authorized, and approved for medical research.

Using a handheld technology known as the MSPen, researchers measure endogenous metabolites and lipids directly from cardiac tissue in real time—within just five seconds. The goal is to identify molecular signatures that reliably indicate whether a donor heart is viable for transplantation.

This breakthrough approach aims to reduce the number of viable donor hearts that go unused, ultimately expanding the donor pool and improving outcomes for patients awaiting life-saving heart transplants.

Dr. Mohamed Leads Baylor's Role in ARPA-H Drug Safety Initiative



Dr. Tamer Mohamed, associate professor in the Michael E. DeBakey Department of Surgery and director of the Center for Cardiac Engineering and Regenerative Therapeutics (CERT), will serve as principal investigator for Baylor and co-investigator on the national project team led by Inductive Bio. Baylor's team will spearhead the development of advanced human heart slice culture systems to assess drug-induced cardiotoxicity. This is an area that remains a leading cause of clinical trial failure.

By integrating cutting-edge cardiac tissue engineering with AI-driven analytics, Dr. Mohamed and his team will generate high-resolution functional data to help build validated, FDA-qualified in silico models capable of predicting human drug toxicity, particularly in the heart and liver. This innovative work represents one of the first ARPA-H contracts awarded to Baylor and underscores the institution's growing leadership in biomedical innovation, artificial intelligence and patient safety research.

Baylor College of Medicine has been selected as a key site for DATAMAP (Digital Acceleration of Toxicity Assessment with Mechanistic and AI-driven Predictions), a new multi-institution initiative funded by up to \$21 million from the Advanced Research Projects Agency for Health (ARPA-H) through its CATALYST program. The project aims to transform how drug safety is evaluated before clinical trials, accelerating the development of safer therapeutics.



Members of the Laboratory for Cardiac Regeneration

In the OR Light



Dr. Erik 'Eddie' Suarez

Assistant Professor of Surgery
Division of Cardiothoracic Transplantation
& Circulatory Support

Where did you grow up, and what path brought you to Baylor College of Medicine?

I was born in Los Angeles and my extended family is originally from Bolivia, South America. My father is an anesthesiologist who worked with Baylor, and I grew up in Saudi Arabia where I met many great and foundational heart surgeons, including Dr. DeBakey.

What drew you specifically to surgery, and how did you decide on your specialty?

I love the combination of using your mind as well as using your hands. The mental and physical/technical excellence required is profoundly fulfilling when caring for someone whose life you can change.

What is the most rewarding part of your work in the operating room?

Being part of a team where you can help everyone to be better than the sum of the whole.

What's a moment in your career that reminded you why you chose this field?

I had the opportunity to treat one of my mentors. I can legitimately say that I was an integral part of the successful effort to save their life. Any time I have had a tearful hug or a thank you for helping save someone's life has always renewed my sense of purpose.

What advice would you give students or trainees considering a career in surgery?

I remember hearing from other medical students how difficult life would be in surgery. Don't listen to them. If part of you is interested in surgery, learn about it for yourself and see how choosing a field that changes people's lives and brings you personal fulfillment not only can be compatible with a happy work-life balance, but is a necessary part of leading the life you want to live.

What might colleagues be surprised to learn about you outside of work?

I was an amateur sky diver for a few years, and approximately 200 jumps. That's actually a relatively low number for sky diving, but I loved every moment.

What's the best advice a mentor ever gave you?

The importance of confidence. When people are scared, uncertain of what they are facing and what may happen, being there for them and giving them your strength and confidence is an immeasurable gift. Cultivate your sense of meaning and worth not just for yourself, but them. I've found this to be true in life as well as work.





Morgan Fields
Supervisor, Program Management
Surgery Education Office

Where did you grow up, and what path brought you to Baylor College of Medicine?

I grew up in Conroe, Texas, and graduated from The University of Texas at San Antonio with a degree in Public Health, concentrating in Epidemiology. I have always had an interest in healthcare and education, which led me to pursue a career in graduate medical education. After gaining experience supporting residency programs and seeing how rewarding it is to help residents succeed, that path ultimately brought me to Baylor.

What is the most rewarding part of your work?

The most rewarding part is supporting residents throughout their training and watching their growth from interns into confident surgeons. It is incredibly fulfilling to play a role behind the scenes in helping them succeed both professionally and personally. Being part of a team that contributes to training the next generation of surgeons makes the work especially meaningful.

What might colleagues be surprised to learn about you outside of work?

Colleagues might be surprised to learn that outside of work I enjoy spending time exploring new restaurants, traveling, and singing karaoke. I also really value time with family and friends.

What drew you specifically to surgery?

During my graduate medical education experience at St. Luke's Hospital, I worked with trainees from many different specialties. I always connected well with the surgical trainees. They were very organized and detail-oriented, which aligns closely with how I work. Because of that, we collaborated really well and built great working relationships.

What's the best advice a mentor ever gave you?

"You don't have to know what you are doing. You just have to be willing to learn."



Dr. Matthew Davis
Resident, Plastic Surgery
Integrated Residency Program

Where are you from?

Sartell, MN

Why did you choose medicine?

My parents both have careers in healthcare, and my twin brother and I were in vitro babies born prematurely at 28 weeks...so I owe my entire existence to modern medicine. It was clear to me from an early age that I wanted to pay forward this profound debt by helping others.

Why surgery, and how will you choose a specialty?

I have always enjoyed working with my hands, and I love seeing the immediate impact of my work. I chose plastic and reconstructive surgery because of the attention to detail, the central importance of diagnosis and anatomy, and the joy of making people feel rejuvenated and/or whole again.

What advice would you give to someone considering medicine?

The road is long, winding, and full of obstacles. Make sure your motivation to pursue a career in medicine is unflappable and deeply rooted.

What do you do outside of work?

I enjoy traveling and being inspired by different cultures / ways of life, cooking, working out, and spending quality time with my friends, family, partner, and dog.



Honors and Awards

Drs. Emma Burke and Ava Mokhtari: top honors at the ACS Committee on Trauma Region 6 competition. Dr. Mokhtari won Best Basic Science Presentation and First Place Overall. Dr. Burke won Best Clinical Science Presentation and placed second overall.

Drs. Shanda Blackmon, Ronald Cotton, Matthew J. Wall Jr. and Sophia Williams-Perez: Alpha Omega Alpha Honor Medical Society, Baylor College of Medicine.

Dr. Joseph S. Coselli: honorary adjunct professorship from the Medical Hospital of Vienna / Medical University of Vienna.

Drs. Amelia Daley (PGY-1), Jean Paul Osula (PGY-3) and Sai Nelanthala (PGY-4): First Place, Surgical Skills Olympics.

Dr. Livia S. Eberlin: 15 Most Powerful Women in Brazil 2026, *Forbes Brazil*.

Dr. Ravi K. Ghanta: ACGME Review Committee for Thoracic Surgery.

Dr. Natasha Hansraj: Young Fellows Association Liaison to the Advisory Council for Vascular Surgery of the American College of Surgeons.

Dr. Sundeep Keswani: named president of the Society of University Surgeons Foundation.

Dr. Thomas Milner: inducted into the Academy of Distinguished Biomedical Engineers at The University of Texas at Austin.

Dr. Nandan Kumar Mondal: 2025 SOAR Research Mentor Champion for Medical Students, Baylor College of Medicine.

Dr. Ivan Murrieta-Alvarez: Presidential Recognition Award, AATS.

Dr. Gustavo S. Oderich: *Doctor Honoris Causa* from Semmelweis University.

Dr. Alastair Thompson: David Poplack Award for Clinical Research.



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