

Michael E. DeBakey Department of Surgery

# 9<sup>th</sup> Annual Research Symposium



June 1-2  
**2021**

Webcast Live from the  
Texas Medical Center

Baylor  
College of  
Medicine

MICHAEL E. DeBAKEY  
DEPARTMENT OF  
SURGERY

## 9<sup>th</sup> Annual Research Symposium



The Pursuit of Excellence is  
Our Objective

**The overarching mission of the Michael E. DeBakey Department of Surgery is to be internationally recognized as the premier department of surgery in innovating breakthrough improvements in the quality and efficiency of patient care, and for training the next generation of surgical scientists, educators and innovators as leaders of our field.**

We are excited to present our ninth annual Research Symposium, which highlights the academic achievements of our department trainees and staff. The mission of the department's research program is to conduct important research in surgical disease that will improve treatment and quality of life for affected patients and to train future leaders in academic surgery. This year's symposium underscores both aspects of this mission by highlighting the exciting research activities of our residents, fellows, staff, and students. Our trainees and staff will present work that spans our divisions and affiliated hospitals. Their accomplishments also reflect the outstanding mentorship provided by our faculty members.

## Keynote Speaker

**Craig A. Miller, M.D.**  
OhioHealth Heart, Lung and  
Vascular Surgeons,  
Riverside Methodist Hospital



## Excellence in Research: The Enduring Legacy of Michael E. DeBakey

Dr. Craig A. Miller was born in Columbus, Ohio and educated at Northwestern University, The Ohio State University, and the University of California, San Francisco. He is a board-certified vascular surgeon with OhioHealth Heart, Lung, and Vascular Surgeons at Riverside Methodist Hospital in Columbus.

He is the author of three books: *The Making of a Surgeon in the 20th Century*, which is in its fourth U.S. edition and has been translated into several languages, *The Big Z: The Life of Robert M. Zollinger*, which was nominated for the Welch Medal of the American Association for the History of Medicine as the most outstanding book on American medical history for 2015 and, most recently, *A Time for All Things: The Life of Michael E. DeBakey*, which has been published this year by the Oxford University Press. He is a Scholar-in-Residence at the Medical Heritage Center of The Ohio State University College of Medicine, and Michael E. DeBakey Fellow in the History of Medicine at the National Library of Medicine in Bethesda, Maryland.

## Poster Reception Tuesday, June 1, 2021

4:00 - 6:00 pm Poster Reception

### Resident and Fellow Poster Competition

*Moderators: Drs. Subhasis Chatterjee and N Thao N Galvan*

#### Poster #1

“Hollow Viscus Injuries in Children: Tools for Diagnosis and Timing of Intervention”

Dr. Lindsay Dean

Mentor: Dr. Bindi Naik-Mathuria

#### Poster #2

“Sex-Specific DNA Methylation and Expression Profiles of X-Chromosome Genes in Human Aortic Smooth Muscle Cells”

Dr. Yanming Li

Mentors: Drs. Scott LeMaire and Ying Shen

#### Poster #3

“Long-term Results Using Glutaraldehyde-Treated Homograft Pericardium in Congenital Heart Surgery”

Dr. Trenton Gluck

Mentor: Dr. Raghav Murthy

#### Poster #4

“Decrease in Mobility During COVID-19 Pandemic and its Association with Increase in Depression Among Older Adults: A Longitudinal Remote Mobility Monitoring Using a Wearable Sensor”

Dr. Ram Mishra

Mentor: Dr. Bijan Najafi

#### Poster #5

“Challenging the Requirement of Immediate Surgery for Small Bowel Obstruction in Patients with No Surgical History”

Dr. Youmna Sherif

Mentor: Dr. Natasha Becker

#### Poster #6

“Toward Remote Assessment of Physical Frailty: Digital Biomarkers Using Sensor-Based Sit-to-Stand Test and Machine Learning”

Dr. Catherine Park

Mentor: Dr. Bijan Najafi

#### Poster #7

“Isolated Subclavian Vein Trauma: A National Review of a Rare Injury Associated with Significant Morbidity and Mortality”

Dr. Gabriel Glaun

Mentor: Dr. Chad Wilson

#### Poster #8

“Wound, ischemia, foot infection (WIFI) and Angiographic Predictors of Amputation Free Survival in Chronic Limb-Threatening Ischemia”

Dr. Jorge Miranda

Mentor: Dr. Jayer Chung

#### Poster #9

“Single-Cell RNA Sequencing Reveals the Heterogeneity of Aortic Fibroblasts During Aortic Disease Development in Mice”

Dr. Chen Zhang

Mentor: Drs. Ying Shen and Scott LeMaire

## **Student and Clinical, Research and Education Staff Poster Competition**

*Moderators: Drs. Raymon Grogan and Crystal Shin*

### Poster #22

“Potential Benefit of a Pooled Liver Allocation System”

Brian Hickner

Mentor: Dr. Abbas Rana

### Poster #23

“Comparing the Incidence and Indications of Readmission for Mechanical and Bioprosthetic Mitral Valve Replacement in the United States”

Christopher Sylvester

Mentor: Dr. Ravi Ghanta

### Poster #24

“Os Subtibiale in Children: How Often are They Symptomatic and Need Treatment?”

Delia Rospigliosi

Mentor: Dr. Indrani Kushare

### Poster # 25

“Outcomes of Adults with Congenital Heart Disease Supported by Percutaneous and Durable Continuous-flow Ventricular Assist Devices”

William Frankel

Mentor: Dr. Iki Adachi

### Poster # 26

“Allograft Discard Risk Index for Lung Transplantation”

Ross Reul

Mentor: Dr. Abbas Rana

### Poster # 27

“Seymour Fracture Variants Demonstrate Similar Complications Rates to Classic Seymour Fractures”

Rami Dibbs

Mentor: Dr. Bryce Bell

### Poster # 28

“Outcomes of Elbow Fracture-Dislocations Treated with and Without an Internal Joint Stabilizer of the Elbow (IJS-E): A Retrospective Cohort Study”

Tristen Taylor

Mentor: Dr. Scott Mitchell

### Poster # 29

“Iliac Crest Vascularized Bone Graft Perfusion Via the Quadratus Lumborum Muscle”

Richard Appel

Mentor: Dr. Sebastian Winocour

### Poster # 30

“Operative Pediatric Hand Infections: A Retrospective Review”

Sarth Raj

Mentor: Dr. John Koshy

### Poster # 37

“Toward Remote Assessment of Physical Frailty Using Sensor-Based Sit-to-Stand Test”

Nesreen El-Refaei

Mentor: Dr. Bijan Najafi

### Poster # 38

“Current Options and Future Perspectives for Breast Margin Assessment In Clinical Practice”

Huma Javaid

Mentor: Dr. Alastair Thompson

### Poster # 39

“Dynamic BH3 Profiling as Preclinical Models for Precision-Based Therapy in Malignant Pleural Mesothelioma”

Yuan Xu

Mentor: Dr. R. Taylor Ripley

## Symposium Wednesday, June 2, 2021

7:00 – 7:10 am **Welcome**

*Dr. Todd Rosengart*

**Announcement of Recipients: Quality Improvement Seed Grant Awards for Advanced Practice Providers**

*Dr. Atif Iqbal*

7:10 – 8:05 am **Keynote Address**

“Excellence in Research: The Enduring Legacy of Michael E. DeBakey” - Dr. Craig Miller

8:05 – 8:55 am **Quick Shot Scientific Presentations**

*Moderators: Drs. Swathi Balaji  
and Samer Mattar*

“Right Ventricle to Pulmonary Artery Conduit Size Is Associated with Conduit and Pulmonary Artery Reinterventions After Truncus Arteriosus Repair”

Dr. Carlos Bonilla-Ramirez

Mentor: Dr. Michiaki Imamura

“Donor-Recipient Body Mass Index Matching in Lung Transplantation”

Dr. William Lightle

Mentor: Dr. Nader Massarweh

“Efficacy of Dinaciclib in Hepatoblastoma Through Inhibition of Cyclin Dependent Kinases”

Dr. Rohit Srivastava

Mentor: Dr. Sanjeev Vasudevan

“Epithelial Cell Death Biomarkers May Be Associated with In-Hospital Acute Cellular Rejection After Lung Transplantation”

Dr. Jenalee Coster

Mentor: Dr. Gabriel Loor

“Pathologic Correlation with Near Infrared-Indocyanine Green Guided Surgery for Pediatric Liver Cancer”

Dr. Richard Whitlock

Mentors: Dr. Sanjeev Vasudevan

“TBK1 Mediates Metabolic Rewiring in M1 Macrophage by Phosphorylating Pyruvate Dehydrogenase-Potential Implication in Aortic Inflammation”

Dr. Yang Li

Mentor: Dr. Ying Shen

“Hospital Variation in Long-Term Mortality After Non-Cardiac Surgery”

Dr. Jorge Portuondo

Mentor: Dr. Nader Massarweh

“Persistent Underrepresentation of Female Patients in United States Trials of Common Vascular Diseases from 2008-2020”

Dr. Jessica Mayor

Mentor: Dr. Jayer Chung

8:55 – 9:15

Coffee Break

9:15 – 9:55

**Clinical Research Abstracts of Distinction – Residents and Fellows**

*Moderators: Drs. Christy Chai*

*and Alastair Thompson*

“The Relationship of Left Ventricular Mass Regression to Survival: A Long-Term Analysis of Veterans Undergoing Surgical or Transcatheter Aortic Valve Replacement”

Dr. Vivek Patel

Mentor: Dr. Ernesto Jimenez

Invited discussant: Dr. Joseph Coselli

“Artificial Intelligence Reliably Predicts Outcomes and Cost after Isolated Coronary Artery Bypass Grafting”

Dr. Rodrigo Zea-Vera

Mentor: Dr. Ravi Ghanta

Invited discussant: Dr. Alex Schutz

“Efficacy of Telerehabilitation on Mobility and Frailty in Veterans with Chronic Heart and Lung Disease”

Dr. Gu Kang

Mentor: Dr. Bijan Najafi

Invited discussant: Dr. Michele Loor

“Machine Learning to Predict Outcomes and Cost after Cardiac Surgery”

Dr. Christopher Ryan

Mentor: Dr. Ravi Ghanta

Invited discussant: Dr. Ourania Preventza

9:55 – 10:35      **Basic Science Research Abstracts of Distinction – Residents and Fellows**

*Moderators: Drs. Yesenia Rojas-Khalil and Sanjeev Vasudevan*

“Tumor-Derived Fibrinogen Contributes to Systemic Fibrin Clot Formation in Pancreatic Ductal Adenocarcinoma”

Dr. Lisa Brubaker

Mentor: Dr. Qizhi Cathy Yao

Invited discussant: Dr. Ramsay Camp

“Single-Cell Analysis Reveals Paradoxical TGF-Beta Signaling and Increased Expression of Elastin in the Aortic Wall Specific to Ascending Aortic Aneurysms in Patients with Marfan Syndrome”

Dr. Ashley Dawson

Mentor: Drs. Scott LeMaire and Ying Shen

Invited discussant: Dr. Ravi Birla

“IL-10 Producing Regulatory T Cells Reduce Inflammation and Fibrosis in Murine Dermal Wounds”

Dr. Walker Short

Mentors: Dr. Sundeep Keswani

Invited discussant: Dr. Vivek Singh

“Immunosuppressive Roles of Mesothelin in Pancreatic Ductal Adenocarcinoma Tumor Microenvironment”

Dr. Dongliang Liu

Mentor: Dr. Qizhi Cathy Yao

Invited discussant: Dr. R. Taylor Ripley

10:35 – 11:10

**Student Quick Shot Presentations**

*Moderators: Drs. Jayer Chung*

*and S. Julie-Ann Lloyd*

“Trends and Outcomes of Coronary Revascularization Among Patients with End-Stage Renal Disease in the United States”

Sainath Asokan

Mentor: Dr. Ravi Ghanta

“Total Intravenous Anesthesia Compared to Traditional General Anesthesia in Shoulder Arthroscopy in the Beach Chair Position”

Poornima Tamma

Mentor: Dr. Anup Shah

“Medicaid Insurance and Leg Amputations among Texas Limb Salvage Patients”

Deeksha Bidare

Mentor: Dr. Neal Barshes

“Allograft Discard Risk Index for Heart Transplantation”

Asad Saleem

Mentor: Dr. Abbas Rana

“Constructing a Reference Dataset of Neck Anatomy Utilizing CT Imaging to Assist in the Design of Novel Transoral Thyroidectomy Instruments”

Ryan Nowrouzi

Mentor: Dr. Fanny Moron



11:10 – 11:45

**Clinical, Research, and Education  
Staff Quick Shot Presentations**

*Moderators: Drs. Shawn Groth  
and Sarah Woodfield*

“Variation in Long-Term Survival Probabilities by Race/  
Ethnicity After Complex Operative Interventions in the  
Veterans Affairs Health System”

Sherene Sharath

Mentor: Dr. Panos Kougiaris

“The Use of Wearable to Screen the Impact of Workstation  
Design on Sleep Quality in Office Workers”

Maria Noun

Mentor: Dr. Bijan Najafi

“Portable Ex-Vivo Lung Perfusion for Preservation of  
Standard and Extended Criteria Donor Lungs Prior to Lung  
Transplantation”

Dr. Daoud Daoud

Mentor: Dr. Gabriel Loor

“Magseed/Magtrace-Guided Surgery in Breast Cancer: An  
Institutional Perspective”

Jessica Montalvan

Mentor: Dr. Alastair Thompson

“Effectiveness of Electrical Stimulation to Improve Lower  
Extremity Muscle Perfusion in Critical Ill ICU Patients with  
Severe COVID-19 Infection”

Naima Rodriguez

Mentor: Dr. Alejandro Zulbaran y Rojas

11:45 – 12:00 pm

**Awards**