Research... It’s in our blood

3rd Annual Resident Research Day Symposium
Michael E. DeBakey Department of Surgery

Wednesday, June 3, 2015
Denton A. Cooley Auditorium
We are pleased to welcome you to the Third Annual Michael E. DeBakey Department of Surgery Resident Research Day.

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. Today’s symposium underscores both aspects of this mission by highlighting the exciting research activities of our residents, fellows, and students. Our trainees will present work that spans across all of our divisions and all of our affiliated hospitals. Their accomplishments also reflect the outstanding mentorship that our faculty members provide to our trainees.

We are honored to welcome Dr. Melina R. Kibbe, Professor and Vice Chair of Research in the Department of Surgery at Northwestern University Feinberg School of Medicine, a past president of the Association for Academic Surgery, and current Editor-in-Chief of *JAMA Surgery* as our keynote speaker presenting, “Sex Bias in Biomedical Research.”

We are extremely grateful to our panel of guest physician-scientists—Drs. Ashok Balasubramanian, Jizhong Cheng, Jennifer Cowart, Yong-Jian Geng, Larissa Grigoryan, Molly Horstman, Farrah Kheradmand, Charles Miller III, Shane Morris, Bich Ngoc Dang, David Rubio, Huamin Wang, and Xiaodong Zhou—who have generously given their time to score the submitted scientific abstracts and to serve as judges in today’s competitions.

Finally, we sincerely thank André Hite, Laurie Fondren, Scott Holmes, and Ana María Rodríguez for their invaluable assistance in organizing this event.

We hope that you will join us in congratulating all of today’s participants on their achievements.

**Todd K. Rosengart, M.D.**
Chairman

**Scott A. LeMaire, M.D.**
Vice Chair for Research

**Changyi (Johnny) Chen, M.D., Ph.D.**
Chief, Division of Surgical Research

**Barbara Trautner, M.D., Ph.D.**
Director of Clinical Research

Today, the Department has over 125 full-time faculty, who are organized into the following surgical divisions: Abdominal Transplantation, Cardiothoracic Surgery, Congenital Heart Surgery, General Surgery, General Thoracic Surgery, Pediatric Surgery, Plastic Surgery, Surgical Oncology, Surgical Research, Transplant & Assist Devices, and Vascular Surgery & Endovascular Therapy. Each year, patients from around the world seek the surgical care of our faculty. In all, the Department serves the surgical needs of more than 100,000 patients annually at six affiliated institutions. These modern facilities, all located within the Texas Medical Center, are fully equipped to support state-of-the-art surgical techniques and surgical care.

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Melina R. Kibbe, MD, FACS, FAHA
Professor and Vice Chair of Research
Edward G. Elcock Professor of Surgical Research
Department of Surgery, Northwestern University Feinberg School of Medicine, Chicago, IL

Melina R. Kibbe, MD, is Professor of Surgery with tenure, the Edward G. Elcock Professor of Surgical Research, and Vice Chair of Research in the Department of Surgery at Northwestern University, and co-Chief of the Vascular Surgery service at the Jesse Brown VA Medical Center. Dr. Kibbe also serves as Deputy Director for the Simpson Querrey Institute for BioNanotechnology at Northwestern University. She has significant experience with both open and endovascular surgery, including the treatment of carotid stenosis, peripheral vascular disease, and abdominal aortic aneurysms. She is board certified in general and vascular surgery and is RVT and RPVI certified by ARDMS. Dr. Kibbe completed a fellowship in The Hedwig van Ameringen Executive Leadership in Academic Medicine (ELAM) Program for Women at Drexel University College of Medicine in 2012.

Dr. Kibbe’s research interests focus on developing novel therapies for patients with vascular disease while simultaneously studying the mechanism of how these therapies impact the vascular wall. She is currently PI on 3 NIH R01 awards, 1 NIH T32 award, and 1 VA Merit award, in addition to serving as co-investigator on several other awards. Currently funded projects include developing a novel biodegradable drug-eluting liquid cast stent, developing a new methodology to treat atherosclerosis by reducing plaque burden, investigating the role of resident adventitial progenitor cells in the vasculature, developing and evaluating an endothelial progenitor cell-derived bioengineered ePTFE graft, developing highly innovative targeted therapeutics to prevent restenosis after cardiovascular interventions, and evaluating the efficacy of nitric oxide-based therapies in diabetic environments. She holds seven patents or provisional patents. Her research was recognized by President Obama with the Presidential Early Career Award for Scientists and Engineers in 2009.

Her bibliography includes over 190 peer-reviewed manuscripts, review articles, and book chapters with an emphasis on nitric oxide vascular biology and nitric oxide-based therapies. She has authored or co-authored over 190 nationally and internationally presented abstracts, and has received numerous awards, including the Society of Vascular Surgery Lifeline Research Award, 2010 Women’s Leadership Award, the Society of Gene Therapy Young Investigator Award, the Association of Women Surgeons Outstanding Woman Surgeon 2002 Resident Award, and an AMWA Gender Equity Award. She was also inducted into Alpha Omega Alpha Medical Honor Society, in 1994, and has received 16 awards for teaching excellence from Northwestern University as a faculty member.

Dr. Kibbe co-founded and is the Chief Medical Officer for VesselTek BioMedical, LLC, a company that specializes in the development of medical devices to treat vascular disease.

Dr. Kibbe graduated from the University of Chicago Pritzker School of Medicine in 1994. She completed her internship, residency, and research fellowship at the University of Pittsburgh Medical Center in 2002, and her vascular surgery fellowship at Northwestern University Feinberg School of Medicine in 2003.
Program Schedule

6:30 – 7:00 Breakfast

7:00 – 7:10 Welcome
Dr. Todd K. Rosengart

7:10 – 7:20 Opening Remarks
Dr. Robert C. Robbins
President and CEO, Texas Medical Center

Dr. Alicia Monroe
Provost and Senior Vice President
for Academic and Faculty Affairs,
Baylor College of Medicine

7:20 – 8:05 Keynote Address
“Sex bias in biomedical research”
Dr. Mellina R. Kibbe

8:05 – 9:05 Quick Shot Scientific Presentations
(3 min + 3 min questions)
Moderators: Drs. Stephanie Gordy and Shuab Omer

“A systematic review and meta-analysis of management and outcomes of blunt pancreatic trauma in children”
Dr. Adesola Akinkuotu

“Feasibility of a symptom tracking smartphone application”
Dr. Aaron Scott

“MDM4 is a potential novel therapeutic target in hepatocellular malignancy”
Dr. Yan Shi

“Postoperative chylothorax after thoracoabdominal aortic aneurysm repair”
Dr. Darrell Wu

“More than a camera holder: teaching surgical skills to medical students”
Dr. Paulette Abbas

“Hepatitis C status and infection complications in the surgical intensive care unit”
Dr. Michael Kueht

“Patterns of care for colorectal liver metastasis within an integrated health system: secular trends and outcomes”
Dr. Sonia Orcutt

“The clinical impact of lung biopsy in children for non-metastasis-related indications”
Dr. Sara Fallon
9:05 – 9:25 Coffee Break – Visit Posters

9:25 – 10:05 Scientific Presentations – Clinical Research (7 min + 3 min questions)
Moderators: Drs. Bryan Burt and Nader Massarweh

“Long-term health-related quality of life after cancer surgery: a prospective study”
Dr. Meredith Mason
Invited discussant: Dr. George Van Buren

“Association of surgical site infection with survival and receipt of adjuvant chemotherapy after curative resection for non-metastatic colon cancer”
Dr. Gala Barden
Invited discussant: Dr. Kathleen Liscum

10:05 – 10:45 Scientific Presentations – Basic Science (7 min + 3 min questions)
Moderators: Drs. Sundeep Keswani and Qizhi (Cathy) Yao

“Non-invasive radiofrequency-induced hyperthermia increases vascular permeability”
Dr. Jason Ho
Invited discussant: Dr. Kaiyi (Kelly) Li

“Application of a new PLGA-PEI copolymer to deliver plasmid DNA into difficult-to-transfect cells and to deliver large DNA into cancer cells”
Dr. XiaoXiao Wang
Invited discussant: Dr. Rita Serda

10:45 – 11:15 Coffee Break – Visit Posters

11:15 – 11:45 Student Quick Shot Presentations (Top 5 – 3 min + 3 min questions)
Moderators: Drs. Stuart Corr and James Suliburk

“Association between corneal sensitivity, blink rate and clinical patients with tear dysfunction”
Effie Rahman

“Evaluation of intravesical administration of onabotulinum type A (Botox) in rats with neurogenic bladder: preliminary results”
Rachel Pferdehirt

“Potential of highly angiogenic peptides for ischemic tissue disease”
Omar Merchant

“Novel roles of axon guidance molecule semaphorin-3e in pancreatic cancer”
Lin-Kin Yong

11:45 – 12:00 Awards
Poster #1
“Novel multimodal computational system using near-infrared spectroscopy to monitor cerebral oxygenation during assisted ventilation in CDH patients”
Dr. Stephanie Cruz

Poster #2
“Incidence, predictors and impact of post-operative atrial fibrillation after surgical coronary revascularization in a veteran population”
Dr. Ankur Bakshi

Poster #3
“Responsibly managing the clinical application of tissue-engineered scaffolds: how ontology may dictate ethics”
Dr. Brandi Scully

Poster #4
“Biliary reconstruction in pediatric liver transplantation: a case report of biliary complications and a review of the literature”
Dr. Thao Nguyen

Poster #5
“The implementation of a comprehensive discharge pathway for colorectal surgery patients (project RED-surgery)”
Dr. Celia Robinson

Poster #6
Amita Pathak

Poster #7
“Preoperative hypoalbuminemia is a predictor of short and long-term mortality after major vascular surgery”
Sherene Sharath

Poster #8
“Management of traumatic duodenal hematomas in children”
Michelle Peterson
Poster #9
“Clinical experience of isolated metachronous brain metastases after colorectal cancer hepatic mastectomy in a single, high-volume institute”
Dr. Anna Lakoma

Poster #10
“Determining the long-term effect of endovascular abdominal aortic aneurysm repair on renal function and mortality”
Dr. Nader Zamani

Poster #11
“Documentation education for general surgery residents”
Dr. Andrea Garcia

Poster #12
“A multicenter, randomized clinical trial in pediatric pancreatic trauma”
Dr. Eric Rosenfeld

Poster #13
“Should TIPS be used as a bridge to transplantation?”
Dr. Victor Portillo

Poster #14
“De Quervain’s disease and its relations with a first dorsal compartment septum: an anatomic and surgical study”
Dr. Mirtha González

Poster #15
“Functionalizing metabolic pathway aberrations in pancreatic cancer”
Dr. Nicole Villafane-Ferriol

Poster #16
“A novel method of the modified early warning score (MEWS) for cardiothoracic surgery patients”
Dr. Justin Choi

Poster #17
“Evaluating the impact of a shared savings initiative on hospital costs and patient outcomes”
Dr. Yangyang Yu

Poster #18
“Dual antiplatelet therapy after peripheral arterial stents”
Dr. J. Adam Davis

Poster #19
“Functional outcomes of minimally invasive surgery versus open surgery of rectal cancer”
Dr. William Buitrago
Poster #20
“Intraoperative ultrasound for primary liver tumor resection in children”
Amy Felsted

Poster #21
“Efficacy of 8-plates in epiphysiodesis for pediatric patients with lower limb discrepancy”
Ali Qadeer

Poster #22
“The impact of level one data on pancreatic surgical practice”
Michael Mederos

Poster #23
“Comparison of the Coloplast Titan inflatable penile implant vs. the American Medical Systems 700 LGX and the 700 CX inflatable penile implant”
Affan Zafar

Poster #24
“Pediatric medical device consortia - a novel pathway of pediatric device development for pediatric urologists and other pediatric specialists”
Matthew Grant

Poster #25
“Sumoylation of Smad nuclear interacting protein-1 negatively regulates its activity on TGF-beta signaling”
Sisi Liu
RESIDENTS
“A clinical model for early predictors of necrotizing enterocolitis in neonates”
Dr. Patricio Lau

“Bleeding or not: is the answer in the drain?”
Dr. Stacey Carter

“Transumbilical hernia repair in children: the covert scar approach”
Dr. Zachary Pallister

“Thoracotomy for hemothorax in blunt trauma: should our threshold for operation be higher?”
Dr. Catherine Seger

“Focusing on resident non-operative technical surgical skills (NOTSS)”
Dr. Nicole Tapia

“Incidence of congenital heart defects in Duhok, Iraq”
Dr. Alicia Lay

“Serum mesothelin as a biomarker of disease state in the evaluation, progression and multimodality treatment of malignant pleural mesothelioma”
Dr. Ricky Haywood-Watson II

“Aortic occlusion for resuscitation in trauma and acute care surgery (AORTA): A prospective observational study of the Endovascular Skills in Trauma and Resuscitative Surgery (ESTARS) Working Group”
Dr. Michael Long

“Patient satisfaction, chronic pain, and functional status after laparoscopic ventral hernia repair”
Dr. Jennifer Moffett

“Characteristics and microbiology of patients with perforated appendicitis”
Dr. Carlos Palacio

“Effect of a preoperative decontamination protocol on surgical site infections in patients undergoing oncologic surgery”
Dr. Elaine Vo

“Use of a mobile application improves postoperative care in children after laparoscopic appendectomy for nonperforated appendicitis”
Dr. Linda Li

“Stuck like glue: does 2-octyl cyanoacrylate use decrease complications after circumcision?”
Dr. Rachel Davis

“A pilot study of bovine colostrum supplementation in surgical and trauma patients in the intensive care unit to prevent nosocomial infections”
Dr. Genna Lubrano

“Porcine liver mesh has lower wound-associated complications than porcine dermis mesh in high-risk ventral hernia repairs”
Dr. Paul Albini

STUDENTS
“Comparison of surgical methods for treatment of cam-type femoroacetabular impingement using a computer model”
Andrew Bolano

“Left ventricular internal dimension in diastole strongly predicts long-term survival after continuous flow left ventricular assist device implantation”
Rohan Shah
Past Awardees

Previous participants who left their mark

2013
Best Oral Presentation
Dr. Darrell Wu
“NLRP3 inflammasome cascade activates MMP-9 and induces smooth muscle cell contractile dysfunction and ECM destruction in thoracic aortic disease”
Mentors: Dr. Scott LeMaire and Dr. Ying Shen

Best Poster Presentation
Dr. Irene T. Ma
“DUSP26 inhibition: a potential therapeutic pathway in neuroblastoma”
Mentor: Dr. Sanjeev Vasudevan

2014
Best Quick Shot Scientific Presentation
Dr. Somala Mohammed
“Improving chimeric antigen receptor modified T-cell function by reversing the immunosuppressive tumor microenvironment of pancreatic cancer”
Mentor: Dr. William Fisher

Best Clinical Research Scientific Presentation
Dr. Nicole Tapia
“Checklist-enhanced handoffs: a randomized controlled trial of standardized surgical resident handoff”
Mentor: Dr. James Suliburk

Best Basic Science Scientific Presentation
Dr. Darrell Wu
“Oxidative stress induces smooth muscle cell contractile dysfunction leading to aortic wall failure”
Mentors: Dr. Scott LeMaire and Dr. Ying Shen

Best Student Quick Shot Presentation
Kelsey Lau
“The impact of a regional hepato-pancreaticoduodenal surgical program on clinical volume, quality of cancer care, and outcomes in the VA system”
Mentor: Dr. Daniel Anaya
Our comprehensive clinical trial management services, provided by the dedicated research support team housed in our department, allow us to offer you, as our research partner, an efficient, cost-effective, and high-fidelity way of performing clinical trials under a single IRB platform.

**Team**
Clinical trial coordinators, regulatory experts, grants and contract managers, research nurses, a biostatistician, a database expert, a medical editor, and a medical illustrator are available to assist with performing clinical trials and preparing the results for presentation.

**Clinical Research Support**
Our pool of research coordinators can help with clinical trials by working with a research partner to convey proposals all the way from IRB submission to enrollment of the final subject at one or all our 4 major clinical sites of Baylor College of Medicine. Our team includes research nurses, a physician assistant, and five trials management research assistants who are available to support clinical studies. These individuals are skilled at IRB submission, informed consent, clinical monitoring, completing case reports, regulatory compliance, and final report submission.

**Budget Planning**
In addition to the support with IRB preparation and actually carrying out the trial, our budget specialists stay on top of the invoicing process and keep the projects financially on track.

**Clinical Sites**
Baylor College of Medicine currently has four potential sites for clinical studies, covered under one IRB: the Michael E. DeBakey Veterans Affairs Medical Center, Ben Taub Hospital, Texas Children's Hospital, and the Baylor St. Luke's Medical Center. Our coordinators are credentialed to enroll subjects at all these sites.

Our experienced research core team can be a resource to you in getting your products tested. Please, consider the Department of Surgery at Baylor College of Medicine as a potential partner in your next trial.

**Services**
- IRB templates/examples
- Advice on required human subjects training and research regulations
- Statistical support
- Literature search
- Abstract/manuscript editing
- Preparation of figures, tables, and medical illustrations

**Contact Us**
To find out more:
Email: surgicalresearch@bcm.edu

Visit our web site at: www.bcm.edu/departments/surgery/research/core
The Pursuit of Excellence is Our Objective

The Michael E. DeBakey Department of Surgery at Baylor College of Medicine owns one of the great legacies in surgery. The outstanding surgeons and faculty of the Department—more than 160 in all—remain dedicated to advancing that legacy in the arenas of patient care, biomedical research, and medical education.

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