

THE *Gill* GAZETTE

July-September
2019



University of Kentucky Gill Heart & Vascular Institute Quarterly News

TABLE OF CONTENTS



**Featured
Research Pages 10-13**

Clinical Trials

Active Clinical Trials 4

Fellows

Fellows News and Accomplishments 6

Affiliate News

LCRH and EMRH join Affiliate 8

Current Research Funding

Funding at UK by department 21

Publications

July through September 28

The Gill Heart & Vascular Institute

1000 South Limestone
University of Kentucky
Lexington KY 40536

859-257-1999

1-800-333-8874

<https://ukhealthcare.uky.edu/gill-heart-vascular-institute>

FEATURED CLINICAL TRIAL

BIO-LIBRA Study- PI Hesselson
AnaLysIs of Both Sex and Device
Specific FactoRs on Outcomes in
PATients with Non-Ischemic
Cardiomyopathy

Purpose

This multi-center, observational study is designed to prospectively assess outcomes of device-treated ventricular tachyarrhythmias and all-cause mortality in non-ischemic cardiomyopathy patients indicated for



ICD or CRT-D implantation for the primary prevention of sudden cardiac death. Differences in outcomes will be evaluated by sex and by device type. The BIO-LIBRA Study is sponsored by BIOTRONIK, Inc. in collaboration with the University of Rochester, Rochester, NY (Scientific Coordinating Center).

Inclusion Criteria

All the following inclusion criteria have to be fulfilled at the time of patient consent for study participation:

- Patient meets current guideline-defined indication for de novo, primary prevention ICD or CRT-D implantation
- Patient has non-ischemic etiology of cardiomyopathy
- Patient is successfully implanted with a de novo BIOTRONIK ICD or CRT-D device and commercially available leads no more than 30 days prior to consent or is scheduled for de novo implantation of a BIOTRONIK ICD or CRT-D device no more than 30 days post consent
- Patient is able to understand the nature of the study and provide informed consent
- Patient is available for standard of care follow-up visits to occur at least yearly at the study site for to the expected 3 years of follow-up
- Patient is willing to utilize BIOTRONIK Home Monitoring® via CardioMessenger
- Patient age is greater than or equal to 18 years



CURRENTLY ENROLLING CLINICAL TRIALS

[The PRECISE Protocol: Prospective Randomized Trial of the Optimal Evaluation of Cardiac Symptoms and Revascularization \(PRECISE\)](#)

PI: Sorrell

Coordinator: Chris Webb 323-1082

Brief Summary:

The study will be a prospective, pragmatic, randomized clinical trial of the comparative effectiveness of diagnostic evaluation strategies for stable CAD, to be performed in outpatient settings, including primary care and cardiology practices.

[Women's Ischemia TRIal to Reduce Events In Non-ObstruCTive CAD \(WARRIOR\)](#)

PI: Wells

Coordinator: Denise Sparks, RN 218-6713

Brief Summary:

The Ischemia-IMT (Ischemia-Intensive Medical Treatment Reduces Events in Women with Non-Obstructive CAD), subtitle: Women's Ischemia Trial to Reduce Events in Non-Obstructive CAD (WARRIOR) trial is a multicenter, prospective, randomized, blinded outcome evaluation (PROBE design) evaluating intensive statin/ACE-I (or ARB)/aspirin treatment (IMT) vs. usual care (UC) in 4,422 symptomatic women patients with symptoms and/or signs of ischemia but no obstructive CAD. The hypothesis is that IMT will reduce major adverse coronary events (MACE) 20% vs. UC. This study is being conducted to determine whether intensive medication treatment to modify risk factors and vascular function in women patients with coronary arteries showing no flow limit obstruction but with cardiac symptoms (i.e., chest pain, shortness of breath) will reduce the patient's likelihood of dying, having a heart attack, stroke/TIA or being hospitalized for cardiac reasons. The results will provide evidence data necessary to inform future guidelines regarding how best to treat this growing population of patients, and ultimately improve the patient's cardiac health and quality of life and reduce health-care costs.

[Sentus QP - Extended CRT Evaluation With Quadripolar Left Ventricular Leads \(QP ExCELS\)](#)

PI: Hesselson

Coordinator: Robert Rushing 323-5259

Brief Summary:

The QP ExCELS study is designed to confirm safety and efficacy of the BIOTRONIK Sentus OTW QP left ventricular leads to satisfy FDA requirements for regulatory approval of the leads in the US. The Sentus OTW QP leads received FDA approval on May 4, 2017.

Long-term safety of the BIOTRONIK Sentus OTW QP left ventricular leads will be confirmed during the ongoing post approval phase (US sites only).

[COMPASSION S3 - Evaluation of the SAPIEN 3 Transcatheter Heart Valve in Patients With Pulmonary Valve Dysfunction](#)

PI: Leventhal

Coordinator: Jennifer Isaacs 323-4738

Brief Summary:

The purpose of this study is to evaluate the hypothesis that valve dysfunction of the Edwards Lifesciences SAPIEN 3 Transcatheter Heart Valve (THV) System is within the performance goal of 25% in subjects with a dysfunctional right ventricular outflow tract (RVOT) conduit or previously implanted valve in the pulmonic position with a clinical indication for intervention.

[OPsumit USers Registry \(OPUS\)](#)

PI: Booth

Coordinator: Chris Webb 323-1082

Brief Summary:

Prospective observational drug registry developed to characterize the safety profile (including primarily potential serious hepatic risks) and to describe clinical characteristics and outcomes of patients newly treated with Opsumit in the post-marketing setting.

[AMPLATZER PFO Occluder Post Approval Study \(PFO PAS\)](#)

PI: Gurley

Coordinator: Jennifer Isaacs 323-4738

Brief Summary:

The purpose of this single arm, multi-center study is to confirm the safety and effectiveness of the AMPLATZER™ PFO Occluder in the post Approval Setting

[Oral Treprostinil in Subjects With Pulmonary Hypertension Associated With Heart Failure With Preserved Ejection Fraction](#)

PI: Booth

Coordinator: Chris Webb 323-1082

Brief Summary:

This is a multicenter, randomized (1:1; oral treprostinil to placebo), double-blind, placebo-controlled study in subjects with World Health Organization (WHO) Group 2 pulmonary hypertension (PH) associated with heart failure with preserved ejection fraction (HFpEF). Once randomized, subjects will take the initial dose of study drug at the study site on the day of randomization. Subjects will return to the study site for visits scheduled at Weeks 6, 12, 18, and 24. The treatment phase of the study will last approximately 24 weeks.

[An International Pulmonary Embolism Registry Using EKOS \(KNOCOUT PE\)](#)

PI: Messerli

Coordinator: Travis Sexton 323-3617

Brief Summary:

This registry is designed to understand acoustic pulse thrombolysis (APT) treatment regimens used as standard of care globally for pulmonary embolism. The registry will include individuals who have already received the APT treatment and those that will undergo APT treatment.

For more information on any of these studies please contact:

Stephanie Morris, CCRP

Clinical Research Manager – Cardiovascular and Radiology Services

Gill Heart & Vascular Institute Clinical Research Organization

Phone: 859-323-5366

Fax: 859-257-7383

Stephanie.A.Morris@uky.edu

Jennifer Isaacs, MS, MS, CCRP

Clinical Research Director– Cardiovascular and Radiology Services

Gill Heart & Vascular Institute Clinical Research Organization

Phone: 859-323-4738

Fax: 859-257-7383

Jennifer.isaacs@uky.edu

FELLOWS NEWS

WELCOME NEW FELLOWS!



FELLOWS



Julia Skidmore, DO
Cardiovascular Disease
Surgical Chief



Ashley Burnham, MD
Cardiovascular Disease
Surgical Chief



Wael Alsayid, MBChB
Advanced Cardiac Imaging



Taha Alotaibi, MBChB
Cardiovascular Disease



Fahad Alotaibi, MBBS
Interventional Cardiology



Kristof Andras, MD
Cardiovascular Disease



Eren Aydin, MBBS
Cardiovascular Disease



Francis Bero, MD
Cardiovascular Disease



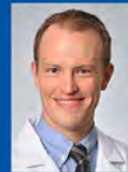
Joshua Dushane, MD
Cardiovascular Disease



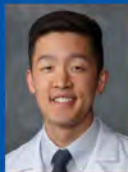
Joshua Elson, DO
Cardiovascular Disease



Mary Beth Foster, DO
Cardiovascular Disease



Dylan Henson, MD
Cardiovascular Disease



Brian Kadi, MD
Cardiovascular Disease



Isaac Khan, MBBS
Advanced Heart Failure and
Transplant



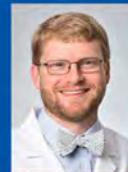
Daniel Krause, MD
Cardiovascular Disease



Eric Kragg, MD
Cardiovascular Disease



Zariyat Razaq Memon, MD
Cardiovascular Disease



Austin Muller, MD
Cardiovascular Disease



Tsung-Tsung Nguyen, DO
Cardiovascular Disease



David van Gorphey, MBChB
Interventional Cardiology



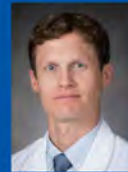
Marc Penasanti, DO
Cardiovascular Disease



Matthew Rahn, MD
Cardiovascular Disease



Neena Ramesh, MD
Advanced Cardiac Imaging



Gregory Seneff, MD
Cardiovascular Disease



Matthew Soosa, MD
Cardiovascular Disease



Hoyle (Ray) Whitlock, MD
Cardiovascular Disease



Murali Shah, MD
Cardiothoracic Surgery
Chief



Matthew Lento, MD
Cardiothoracic Surgery



Glen Batta, DO
Vascular Surgery



Lauren Frye, DO
Vascular Surgery

FELLOWS NEWS

WELCOME PARTY



Check out the newly redesigned **Cardiovascular
Fellows** Website for upcoming events:

<https://cvfellowship.med.uky.edu/>

Vascular can be found at:

<https://surgery.med.uky.edu/surgery-vascular-fellows>

CT Surgery:

<https://surgery.med.uky.edu/surgery-cardiothoracic-surgery-fellowship>

AFFILIATE & OUTREACH NEWS

Please Welcome Lake Cumberland Regional Hospital in Somerset, KY, to the Gill Heart & Vascular Institute Affiliate Network!



We proudly welcome Lake Cumberland Regional Hospital in Somerset, Ky., as a member of the Gill Heart & Vascular Institute Affiliate Network, enhancing access to high-quality cardiovascular care through collaboration – ensuring that the full complement of heart care is accessible to the citizens of Kentucky – and helping patients receive local care for as long as possible:

“Lake Cumberland Regional Hospital has a long history of providing this south-central region of Ky. with high quality CV care, and now, as a network affiliate, we are looking forward to partnering with your teams in order to continue providing that high-quality cardiovascular care.

The goal of the Gill Heart & Vascular Institute Affiliate Network is to enhance access to high-quality cardiovascular care by partnering with community hospitals such as Lake Cumberland Regional Hospital making sure that our patients get the right care in the right place at the right time.” – Dr. Rick McClure, Medical Director, Gill Heart & Vascular Institute Affiliate Network

Pictured from left to right: Dr. Mark F. Newman, UK EVPHA; Dr. Rick McClure; Dr. Mike McKinney, cardiologist; Robert Parker, CEO, Lake Cumberland Regional Hospital; and Justin Campbell, associate hospital administrator, UK HealthCare.



It was a great day talking quality and care delivery with Gill Affiliate, Lake Cumberland Regional Hospital. Thank you to Dr Ziada, Kim Morton, Dr Kuvlieva for leading the charge for GHVI!



“LDL is the gold standard of CV risk and it is essential to make it a target of prevention,” GHVI Dr. Thomas Whayne shares updates in CAD with Gill Affiliate, Georgetown Community Hospital. Thank you for hosting and the opportunity to work together to elevate cardiac care in KY!



“The earlier we reach the goal of reperfusion the more lives we save,” Dr Ziada discussing STEMI care with Life Point Health’s Regional Clark, Georgetown Community Hospital, and Bourbon Community Hospital. We always enjoy collaborating with our Gill Affiliates!

Fat-Absorbing XX Chromosomes Raise Heart Disease **RISK IN WOMEN**

New research at the University of Kentucky has confirmed that the presence of XX sex chromosomes increases the amount of fat circulating in the blood, which leads to narrowing of the arteries and ultimately a higher risk of heart attacks and coronary artery disease.

The research was published in June 2019 in *Nature Communications*.

The leading cause of death in women is coronary artery disease (CAD), but women develop CAD almost 10 years later than men. For many years, scientists attributed this decade-long delay in disease development to the protective effects of sex hormones. There is a lot of evidence that hormones like estrogen and progesterone protect the heart, but scientists had little data on the influence of the genetic component — the X chromosome — on the heart.

A team led by Lisa Cassis, Ph.D., a researcher in the UK College of Medicine's Pharmacology and Nutritional Sciences department, set out to understand the role of sex chromosomes in the cardiovascular

We looked at how our X sex chromosomes were influencing the levels of lipids in the blood and in the arteries." What they found is that an XX sex chromosome combination promotes efficient use of fat.

Lisa Cassis, Ph.D.
Vice President of Research
Professor of Pharmacology and Nutritional Sciences

system. Cassis's team studies chromosome effects in mice, and for this most recent discovery they were able to zero in on XX chromosomes by removing hormones. "According to Yasir Al-Siraj, a postdoctoral scholar and the paper's first author, if the levels of circulating lipids transported by the blood are too high, they will start to accumulate in and on the artery wall, leading to plaque buildup. These plaques harden and narrow the artery, reducing blood flow to the vital organs.

The team looked at lipids absorbed from the diet and made in the liver. Cassis, who also serves as the UK vice president for research, said, "We looked at how our X sex chromosomes were influencing the levels of lipids in the blood and in the arteries."

What they found is that an XX sex chromosome combination promotes efficient use of fat. Women need fat to bear and feed babies, Cassis explained: "We're set up, potentially through our XX sex chromosomes, so





The research team includes (front row) Heba Ali, Yasir Al-Siraj, Sean Thatcher, & Wendy Katz. (Back) Eric Blalock, Lisa Cassis, Pan Deng & Ryan Temel. Mark Cornelison | UK Photo

that we can effectively absorb that lipid from the diet and put it into our fat cells and maybe even make it in the liver.”

Everything is fine until women hit menopause and the protective effects of hormones disappear, leaving women with what Cassis calls “that XX thrifty, fat-absorbing kind of genotype.”

The team is looking at genes that are changed in the liver and in the intestine to find novel targets for drug development. If they can find

target genes that influence atherosclerosis, scientists can then explore the effects of existing drugs or develop new ones

Al-Siraj said his next step is to study the role of the number of X chromosomes in atherosclerosis. “We don’t know if our findings are due to the presence of two X chromosomes or due to the absence of the Y chromosome,” he said.

These findings may also drive choice of diet for post-menopausal women. Cassis said, “For example, if they’re

very effective fat absorbers, obviously, once they get post-menopausal, they need to be careful about the fat content.”

This research was conducted with funding from the National Institutes of Health Heart Lung and Blood Institute, National Institute of General Medical Sciences and the American Heart Association.

From UKNOW By Alicia Gregory and Laura Wright Sept. 9, 2019

Innovative Research Finds HIV Patients at Higher **RISK FOR BLOOD CLOTS**

Decades of research and treatment advances have helped extend the lives of many people living with HIV, but while these patients live longer, their risk of developing dangerous blood clots increases as much as tenfold. Blood clots – also known as thrombi – can wreak havoc on the body, causing events such as debilitating strokes and heart attacks.

"We have come so far to save these patients and improve their life expectancy, only to lose them to another disease," said Dr. Jeremy Wood, an assistant professor in Internal Medicine and the UK Gill Heart and Vascular Institute.

Wood is working in partnership with Sidney Whiteheart, a professor in Molecular and Cellular Biochemistry, Beth Garvy, chair of Microbiology, Immunology & Molecular Genetics and associate dean for Biomedical Education, and Dr. Thein Myint, an infectious disease specialist with UK HealthCare, on the first collaborative approach to understanding clot risk in patients with HIV in Kentucky. They hope the results will allow doctors to identify who is at the greatest risk of a clotting event, which could open the door to new treatment strategies.

This research has the potential to improve patient care in multiple ways. In addition to helping patients with HIV, we believe we can apply the study results to other patient populations, as increased clotting risk is associated with many different viral infections.

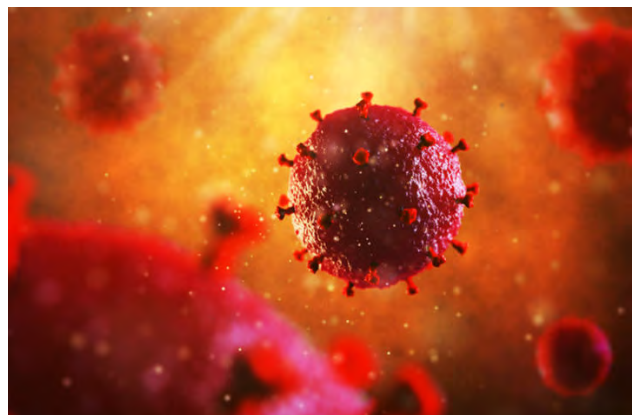
Jeremy Wood, Ph.D.
Assistant Professor in Cardiology

The treatment of choice for HIV patients is antiretroviral therapy (ART), which is a cocktail of drugs that helps suppress the HIV virus and stop disease progression. The group wants to understand the mechanisms by which HIV infection and ART impact blood clotting proteins.

"We've learned that ART treatment does not reduce the risk of blood clotting, which suggests that clots are not just related to viral load in HIV patients," Wood said. "Our goal is to identify what changes are caused by HIV virus and what changes are caused by ART treatment."

There are different factors that collectively cause blood clots, including platelets, white blood cells, and plasma proteins which, says Wood, can function as "good guys" or "bad guys," either increasing risk of clot formation or preventing the clot from getting too big.

In collaboration with Myint, associate professor in the UK Division of Infectious Diseases, the group is able to study blood samples from patients, in addition to looking at mechanisms with isolated platelets, white blood cells, and plasma. In doing so, Wood's laboratory has





Whiteheart and Wood labs Left to Right: Ming Zhang, Xiao Hong Song, Sidney Whiteheart, Martha Sim, Harry Chanzu, Meenakshi Banerjee, Russell Hawes, Alexis Smith, Jeremy Wood.

shown that about 60% of HIV patients have lower levels of protein S, one of the blood proteins that suppresses clotting. Since a deficiency in this protein has a strong correlation with the progression of HIV disease and with increased risk of blood clots, and this deficiency seems to have contributors other than the HIV virus, the team's next step is to identify the mechanisms by which this deficiency occurs.

“This research is leading the way to bettering the lives of thousands of HIV patients across the Commonwealth of Kentucky,” said

Dr. Susan Smyth, director of the UK Gill Heart and Vascular Institute. “It’s crucial that we continue to support these efforts, as the number of new HIV cases in Kentucky continues to rise. That’s just one reason why Cardiovascular Research Day at UK is so important.”

Martha Sim, a graduate student with Wood, will presented their data at this years Cardiovascular Research Day at UK on Friday, Sept. 20, in the UK Bill Gatton Student Center Ballroom. There were 84 research posters at the event. Cardiovascular Research Day is one of the largest research symposiums in the Southeastern Conference.

It’s an opportunity to highlight important research taking place at UK.

“This research has the potential to improve patient care in multiple ways,” Wood said. “In addition to helping patients with HIV, we believe we can apply the study results to other patient populations, as increased clotting risk is associated with many different viral infections.”

From UKNOW By Mallory Olson and Laura Wright Sept. 19, 2019

AUGUST DEMONSTRATION, SIMULATION AND IMPLANTATION: A HANDS-ON TAVR EVENT

OVERVIEW

Lectures focused on the history of the advancement of transcatheter valves and when to choose TAVR therapy for patients. Presentations were reinforced by two hands-on educational activities. First, attendees participated in a live TAVR simulation. Second, participants were given an animal heart, which they could dissect, and implant their own TAVR valve.

Meeting Agenda

Evolution of transcatheter valves
John Gurley, MD /UK

TAVR Simulation
John Gurley, MD/UK
Andrew Leventhal, MD/UK

Heart Dissection
William O'Connor/John Gurley/Andrew Leventhal, UK/MDs

When to Choose TAVR for your Patient
John Gurley, MD /UK



TAVR EVENT CONT.



SEPTEMBER FLOWERS & HORAN LECTURESHIP

NANETTE K. WENGER, M.D., M.A.C.C., M.A.C.P., F.A.H.A.

Brief Narrative Biography

Dr. Wenger is Professor of Medicine in the Division of Cardiology at the Emory University School of Medicine. She is a Consultant to the Emory Heart and Vascular Center and Founding Consultant, Emory Women's Heart Center. Heart disease in women is one of Dr. Wenger's major clinical and research interests. Dr. Wenger has had a longstanding interest in geriatric cardiology and was Editor-in-Chief of the American Journal of Geriatric Cardiology for more than 15 years.

Dr. Wenger has participated as an author of several American College of Cardiology/American Heart Association Clinical Practice Guidelines. She serves on the editorial boards of numerous professional journals and is a sought after lecturer for issues related to heart disease in women, heart disease in the elderly, cardiac rehabilitation, coronary prevention, and contemporary cardiac care. She is listed in Best Doctors in America. Dr. Wenger has authored or coauthored over 1600 scientific and review articles and book chapters.





SEPTEMBER CVRC RESEARCH DAY

GILL AWARD RECIPIENTS



Ann Marie Schmidt, MD

The Iven Young Professor of Endocrinology
Professor of Medicine
Director, Diabetes Research Program
Department of Medicine
NYU School of Medicine

*Gill Heart Institute Outstanding
Contributions to Cardiovascular
Research Award*



Babak Razani, MD, PhD

Associate Professor of Medicine;
Pathology & Immunology
Center for Cardiovascular Research
Washington University School of Medicine

*Gill Heart Institute Translational
Early Career Award*

FEATURED SPEAKERS



Ushma Savla Neill, PhD

Vice President,
Scientific Education & Training,
Memorial Sloan Kettering Cancer Center
Editor at Large, The Journal of Clinical
Investigation



Steven R. Steinhubl, MD

Director, Digital Medicine
Associate Professor of Genomic Research
Scripps Research Translational Institute





Congratulations to our Poster Award Winners for 2019:

Staff - Nate Helsley, PhD

Stewart Whitman Award for Outstanding Post Doc Presentation - Smita Joshi, PhD

2nd Place Post Doc - Velmurugan Gopal Viswanathan, PhD

Deneys van der Westhuyzen Award for Outstanding Graduate Student Presentation - Rupinder Kaur

2nd Place Graduate Student - Dan Hao

3rd Place Graduate Student - Jeff Chen

Undergraduate - Jennifer Wayland

Trainee Opportunities

Podium Presentations -Congratulations to the 4 trainees selected to present podium presentations:

Kurtis Mann | University of Kentucky | Mechanical Engineering

Smita Joshi | University of Kentucky | Molecular and Cellular Biochemistry

Maria Kraemer | University of Kentucky | Internal Medicine

Yanming Li | Baylor College of Medicine



UK EMPLOYEE ARTWORK **GERRI FOSTER**



Congratulations to Gerri Foster! Her artwork entitled "Vintage Series- A Celebration of Diversity and Creativity" can be seen in Pav A across from the Donate Life Wall. Her artwork was chosen as part of the UK employee art series Arts in HealthCare. For more information see <https://ukhealthcare.uky.edu/arts-in-healthcare>



CURRENT RESEARCH FUNDING

Ahmed Abdel-Latif

Lysophosphatidic Acid Mediates Cardiac Inflammation After Acute Infarction
National Heart Lung and Blood Institute
08/01/17-07/31/22

Doug Andres

RIT1-Mediated Protection Following Traumatic Brain Injury
National Institute of Neurological Disorders & Stroke
02/15/2018-01/31/23

G-protein Signaling Reduces Neurodegeneration and Promotes Recovery of Synaptic Strength following Traumatic Brain Injury
KY Spinal Cord and Head Injury Research Trust
01/15/17-01/14/20

RIT1 as Novel Driver Oncogene in Lung Adenocarcinoma
KY Lung Cancer Research Fund
07/01/16-06/30/19

Inhibition of Rin GTPase Signaling Reduces Neurodegeneration and Attenuates Axonal Injury following Traumatic Brain Injury
KY Spinal Cord and Head Injury Research Trust
01/15/15-01/31/20

Donna Arnett

Genomewide Association Study of Lipid Response to Fenofibrate and Dietary Fat
National Heart Lung and Blood Institute
12/01/07-02/29/20

Maher Baz

Extracorporeal Photopheresis for the Management of Progressive Bronchiolitis Obliterans Syndrome in Medicare Eligible Recipients of Lung Allografts
Washington University School of Medicine
09/05/18-07/16/19

Ken Campbell

Multiscale Modeling of Inherited Cardiomyopathies and Therapeutic Interventions
National Heart Lung and Blood Institute
08/03/17-07/31/22

Computer Modeling of Myosin Binding Protein C and its Effect on Cardiac Contraction
Case Western Reserve
04/01/19-03/31/20

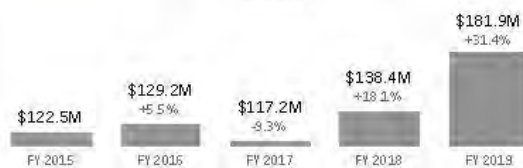
Academic Fiscal Year
FY 2019

College or Unit
College of Medicine

College or Unit Department
All

Source of Funding
All

FY 2015-2019
TOTAL AWARDS (\$), 5-YEAR TREND
FY CHANGE (%)



\$181,861,486

AWARDS (\$)

+\$49.5M

756

AWARDS

+39

FY 2017-2019
COMPOUND ANNUAL GROWTH RATE OF FUNDING SOURCES

	FY 2017	FY 2018	FY 2019	
Federal Government	\$82,754,290	\$100,656,871	\$121,324,925	21.1%
State Government	\$16,704,446	\$16,673,602	\$29,876,262	33.7%
Industry	\$7,677,999	\$9,507,641	\$9,245,305	9.7%
Nonprofit	\$6,500,725	\$7,139,698	\$13,883,401	46.1%
Other	\$3,532,014	\$4,412,993	\$7,531,593	46.0%
Total	\$117,169,474	\$138,390,805	\$181,861,486	24.6%

330

PRINCIPAL INVESTIGATORS

+41

286

SPONSORS

0

FY 2019
CUMULATIVE TREND OF AWARD DOLLARS



FY 2019
HIGHEST FUNDED DEPARTMENTS

Sanders-Brown Center on Aging (SB CoA)	\$23,385,390
Markey Cancer Network	\$22,897,339
Center on Drug and Alcohol Research (CDAR)	\$17,733,789
Physiology	\$14,169,706
Internal Medicine	\$13,221,399
Molecular and Cellular Biochemistry	\$9,580,497
Pharmacology and Nutritional Sciences	\$9,378,381
Toxicology and Cancer Biology	\$9,353,310
Obstetrics and Gynecology	\$9,237,183
Saha Cardiovascular Research Center (SCRC)	\$7,458,541
Behavioral Science	\$6,706,721
Center for Research on Environmental Disease	\$4,344,064

Source: University of Kentucky, Office of Sponsored Projects Administration (OSPA) Database
Compiled by: University of Kentucky, Office of the Vice President for Research

Accessed: 7/16/2019 3:23:29 AM
Data Updated: 4th day of every month at 6:00 AM

Sponsored Project Grants and Contracts, NIH Awards, Q2 2019

Lisa Cassis

Sexual Dimorphism of Aortopathies

American Heart Association

04/01/18-03/31/22

Angiotensin- A link between Obesity and Hypertension

National Heart Lung and Blood Institute

06/03/03-04/30/20

Center of Research in Obesity and Cardiovascular Disease COBRE Core A: Admin Core

National Institute of General Medical Sciences

09/08/08-07/31/19

Supplemental Environmental Project Compliance Assistance Tools and Services

KY Department of Environmental Protection

07/01/07-12/31/19

EPSCoR Administrative

KY Economic Development Cab

02/01/19-06/30/20

Misook Lee Chung

Effects of Family Sodium Watchers Program on Outcomes in Heart Failure Patient-

Family Caregiver Dyads

National Institute of Nursing Research

09/26/14-07/31/20

FUNDING CONT.

Alan Daugherty

University of Kentucky- Baylor College of Medicine Aortopathy Research Center
American Heart Association
04/01/18-03/31/22

Role of Sex Hormones on Elastin Stability in Formation of Thoracic Aortopathies
American Heart Association
04/01/18-03/31/22

Brian Delisle

Tbx3-regulated Alternative RNA Processing in Cardiac Conduction System Development
Geisinger Health System
04/15/16-03/31/20

Transcriptional Regulation of KCNH2
National Heart Lung and Blood Institute
03/08/19-02/28/23

Ming Gong

Targeting Timing of Food Intake as a Novel Strategy against Disruption of Blood Pressure Circadian Rhythm in Diabetes
National Heart Lung and Blood Institute
01/15/19-10/31/22

A Novel Mechanism by which Smooth Muscle BMAL1 Regulates IL-6 and Sexual Dimorphism of Abdominal Aortic Aneurysm
National Heart Lung and Blood Institute
08/20/18-07/31/22

Mineralocorticoid receptor and abdominal aortic aneurysm
National Heart Lung and Blood Institute
11/15/14-10/31/19

Scott Gordon

The Role of High Density Lipoprotein Associated Protease Inhibitor Activity in Protection Against Atherosclerosis.
National Heart Lung and Blood Institute
08/20/18-07/31/21

Protease Activity in Atherosclerotic Plaque Formation and Protection by Novel HDL-targeting Protease Inhibitors
Medical Foundation
12/01/18-11/30/20

Gregory Graf

Contributions of hepatic and intestinal pathways to cholesterol excretion
National Institute Diabetes & Digestive & Kidney
09/13/17-07/31/22

Brian Jackson

Graduate Research Fellowship Program
National Science Foundation
08/01/18-07/31/23

Sangderk Lee

Deciphering the Regulatory Mechanism of Hepatic VLDL Production by Heparin Binding EGF-like Growth Factor (HB-EGF) Signaling.

American Heart Association

07/01/17-06/30/19

Xiangnan Li

Mechanism of Adrenal Insufficiency as A Risk Factor for Sepsis

National Institute of General Medical Sciences

09/01/17-08/31/21

Synthetic HDL_ a Potential Sepsis Therapy

National Institute of General Medical Sciences

11/01/15-11/30/19

Zhenyu Li

Inflammasome Activation Triggers Systemic Coagulation in Sepsis

National Heart Lung and Blood Institute

05/15/19-04/30/23

Crosstalk Between Membrane Traffic Proteins and Integrin Activation

National Heart Lung and Blood Institute

09/25/14-6/30/19

Analía Loria

Effect of Early Life Stress on Obesity-Induced Hypertension in Mice

National Heart Lung and Blood Institute

12/01/17-11/30/22

Hong Lu

Atherosclerosis Mechanisms: Angiotensin II Production and Action

National Heart Lung and Blood Institute

05/01/18-03/31/22

Andrew Morris

Define the Twist-ATX-LPAR1 Signaling Axis in Promoting Obesity-Associated Triple Negative Breast Cancer

Army Medical Research and Materiel Command

04/15/16-04/14/20

Debra Moser

Rural Intervention for Caregivers' Heart Health (RICHH)

National Institute of Nursing Research

09/26/16-06/30/21

Reducing Health Disparities in Appalachians with Multiple Cardiovascular Disease Risk Factors

Patient Centered Outcomes Research Institute

05/01/13-12/31/19

Gia Mudd-Martin

Corazón de la Familia (Heart of the Family)

National Institute of Nursing Research

03/02/17-01/31/22

Timothy Mullett

KCTN Data Coordinator

KY Lung Cancer Research Fund

09/01/14-06/30/19

FUNDING CONT.

Mariana Nikolova-Karakashian

Ceramide and Acute Phase Proteins Elevation During Aging National
Institute on Aging
08/01/02-05/31/23

Fredrick Onono

Intestinal Phosphatidylcholine Exposure and Breast Cancer Risk National
Cancer Institute
07/01/15-06/30/20

Kevin Pearson

Prenatal Tobacco Exposure and Mechanisms of Offspring Obesity
National Institute of Environmental Health Sciences
09/30/17-08/31/19

Julie Pendergast

Estrogen Regulation of Daily Metabolic Rhythms
National Institute Diabetes & Digestive & Kidney
07/01/16-06/30/19

Jonathan Satin

Monomeric G-Proteins and Cardioprotection from Heart Failure
National Heart Lung and Blood Institute
09/01/17- 08/31/20

University of Kentucky Undergraduate Training in Cardiovascular Research
American Heart Association Great Rivers Affiliate
02/01/17-01/31/20

Nancy Schoenberg

Community to Clinic Navigation to Improve Diabetes Outcomes
National Institute Diabetes & Digestive & Kidney
08/01/17-07/31/22

Susan Smyth

Serum Amyloid A as a Novel Inflammatory Mediator of Thrombosis
UK-Center for Clinical and Translational Science
03/05/19-03/31/20

Lipid Phosphate Phosphatase 3 as a Novel Atherosclerosis Suppressor National
Heart Lung and Blood Institute
04/01/15-03/31/20

NRSA Training Core (Kentucky Center for Clinical and Translational Science)
National Center for Advancing Translational Sciences
08/15/16-05/31/20

NRSA T32: Clinical Scholars in Cardiovascular Science
National Heart Lung and Blood Institute
06/01/08-05/31/20

FASEB SRC on Lysophospholipid and Related Mediators: From Bench to Clinic
National Cancer Institute
07/01/2019-06/30/2020

Venkateswaran Subramanian
Calpains and Abdominal Aortic Aneurysms
National Heart Lung and Blood Institute
08/10/17-07/31/21

Ryan Temel
TRAF6 Nanoimmunotherapy to Resolve Plaque Inflammation
Mount Sinai
08/15/18-06/30/19

Targeting MicroRNA-33 To Reduce Intracranial Atherosclerosis and Other Neurovascular Hallmarks of Vascular Cognitive Impairment and Dementia
National Institute of Neurological Disorders & Stroke
04/01/19-03/31/21

Therapeutic Targeting of Metabolic microRNAs as a New Treatment Paradigm for NASH
Aalborg University
01/01/19-06/30/19

Dongfang Wang
SBIR Phase 1: Development of Percutaneous Pulmonary Artery Drainage Device to Unload LV During VA ECMO Support for Severe Cardiogenic Shock
W-Z Biotech LLC
09/01/18-02/29/20

SBIR: Development of a TransApical to Aorta Double Lumen Cannula for a Neonate LVAD.
W-Z Biotech LLC
04/01/19-07/31/19

SBIR [Phase II]: Development of Percutaneous DLC for Total Cavo-Pulmonary Assistance W-Z Biotech LL
08/15/16-07/31/19

Shuxia Wang
Thrombospondin 1 in obesity associated inflammation and insulin resistance
National Institute Diabetes & Digestive & Kidney
08/20/17-05/31/20

Christopher Mark Waters
ASK1 and Ventilator-Induced Lung Injury
National Heart Lung and Blood Institute
12/15/16-11/30/20

CXCR4 Signaling in Lung Epithelial Repair
National Heart Lung and Blood Institute
07/08/14-03/31/20

Regulation and Function of IL33 During Neonatal RSV Infection
Louisiana State University
05/05/18-07/31/19

HEART & VASCULAR RESEARCH GROUP



Vision: To catalyze clinical and translational science.

Mission: To provide a platform to receive critical feedback, identify collaborations, and develop shared research tools for clinical and translational CV science.

Time: Third Friday of each month at 4:00 PM in CTW312.

Format: Brief presentations of no more than 15 minutes each to allow time for discussion. Types of material to be presented: Power Point slides of ongoing work (limit 6-8 slides); specific aims; manuscripts under preparation; research concepts for development; 10-15 minute practice talk for a national audience; etc.

Seminars & Journal Clubs

Cardiovascular Seminar Series

Fridays at 7:30 am in TODD 234

This forum brings to campus prominent external speakers and provides presentations by UK faculty to ensure their research expertise is widely known.

<https://cvrc.med.uky.edu/cvrc-current-seminar-schedule>

Cardiovascular Journal Club

Tuesdays at 8:00 am in TODD 170

Presenters in this forum discuss specific citations including basis for this publication's selection, strengths and weaknesses, from the perspective as if he/she were the original reviewer. For more information contact:

Greg Graf, Ph.D. or Ryan Temel, Ph.D.

<https://cvrc.med.uky.edu/cvrc-current-journal-club-schedule>

Blood Cell Journal Club

4th Friday of each month at 4:00 pm in BBSRB B231

The journal club was started a number of years ago in an effort to provide a focal point for the hemostasis community at UK. The focus is usually on platelets but they also discuss papers on Coagulation and Immune responses. In addition to papers, the group often talks about upcoming meeting in the field and recent results members have seen at meeting.

<https://cvrc.med.uky.edu/cvrc-blood-cell-journal-club-2018>

PUBLICATIONS

July- September 2019

Abdel-Latif A, Misumida N. Ischemic Stroke After Percutaneous Coronary Intervention: Rare, But Devastating. *JACC Cardiovasc Interv.* 2019 Aug 12;12(15):1507-1509. doi: 10.1016/j.jcin.2019.05.013.

Abo-Aly M, **Misumida N**, Backer N, ElKholey K, Kim SM, **Ogunbayo GO, Abdel-Latif A, Ziada KM.** Percutaneous Coronary Intervention With Drug-Eluting Stent Versus Optimal Medical Therapy for Chronic Total Occlusion: Systematic Review and Meta-Analysis. *Angiology.* 2019 Nov;70(10):908-915. doi: 10.1177/0003319719858823.

Abraham CM, Kelly S, Wantland D, **Chung ML, Mudd-Martin G, Biddle MJ, Moser DK.** Factors Influencing Cardiovascular Risk Factors and Health Perception Among Kentuckians Living in Appalachia. *J Cardiovasc Nurs.* 2019 Jul 23. doi: 10.1097/JCN.0000000000000594.

Abu-Hijleh M, Styrvoky K, Anand V, Woll F, Yarmus L, Machuzak MS, Nader DA, **Mullett TW**, Hogarth DK, Toth JW, Acash G, Casal RF, Hazelrigg S, Wood DE. Intrabronchial Valves for Air Leaks After Lobectomy, Segmentectomy, and Lung Volume Reduction Surgery. *Lung.* 2019 Aug 28. doi: 10.1007/s00408-019-00268-7.

Ahern BM, **Levitan BM**, Veeranki S, Shah M, Ali N, Sebastian A, Su W, **Gong MC**, Li J, Stelzer JE, **Andres DA, Satin J.** Myocardial-restricted ablation of the GTPase RAD results in a pro-adaptive heart response in mice. *J Biol Chem.* 2019 Jul 12;294(28):10913-10927. doi: 10.1074/jbc.RA119.008782.

AlGhuraibawi W, Stromp T, Holtkamp R, Lam B, Rehwald W, **Leung SW**, Vandsburger M. CEST MRI reveals a correlation between visceral fat mass and reduced myocardial creatine in obese individuals despite preserved ventricular structure and function. *NMR Biomed.* 2019 Jul;32(7):e4104. doi: 10.1002/nbm.4104.

Alnabelsi T, Shafii AE, **Gurley JC, Dulnuan K**, Harris DD 2nd, Guglin M. Left Ventricular Assist Device Outflow Graft Obstruction: A Complication Specific to Polytetrafluoroethylene Covering. A Word of Caution! *ASAIO J.* 2019 Aug;65(6):e58-e62. doi: 10.1097/MAT.0000000000000929.

Arnett DK, Claas SA. Tracing and Assessing the Evolution of Clinical Guidelines. *J Am Heart Assoc.* 2019 Oct;8(19):e014060. doi: 10.1161/JAHA.119.014060.

Arnett DK, Khera A, Blumenthal RS. 2019 ACC/AHA Guideline on the Primary Prevention of Cardiovascular Disease: Part 1, Lifestyle and Behavioral Factors. *JAMA Cardiol.* 2019 Jul 31. doi: 10.1001/jamacardio.2019.2604.

Banerjee M, Huang Y, Ouseph MM, Joshi S, Pokrovskaya I, Storrie B, Zhang J, **Whiteheart SW**, Wang QJ. Autophagy in Platelets. *Methods Mol Biol.* 2019;1880:511-528. doi: 10.1007/978-1-4939-8873-0_32.

Becker MD, Butler PF, Siam M, Gress DA, Ghesani M, Harkness BA, Yoo DC, **Oates ME.** U.S. PET/CT and Gamma Camera Diagnostic Reference Levels and Achievable Administered Activities for Noncardiac Nuclear Medicine Studies. *Radiology.* 2019 Oct;293(1):203-211. doi: 10.1148/radiol.2019190623.

Chen J, **Wang S**, Zhang Z, Richards CI, Xu R. Heat shock protein 47 (HSP47) binds to discoidin domain-containing receptor 2 (DDR2) and regulates its protein stability. *J Biol Chem.* 2019 Sep 30. pii: jbc.RA119.009312. doi: 10.1074/jbc.RA119.009312.

Chow KM, **Whiteheart SW**, Smiley JR, Sharma S, Boaz K, Coleman MJ, Maynard A, Hersh LB, Vander Kooi CW. Immunization of Alpacas (Lama pacos) with Protein Antigens and Production of Antigen-specific Single Domain Antibodies. *J Vis Exp.* 2019 Jan 26;(143). doi: 10.3791/58471.

Delisle BP, Yu Y, Puvvula P, Hall AR, Huff C, Moon AM. Tbx3-Mediated Regulation of Cardiac Conduction System Development and Function: Potential Contributions of Alternative RNA Processing. *Pediatr Cardiol.* 2019 Aug 1. doi: 10.1007/s00246-019-02166-4.

Dellafiore F, **Chung ML**, Alvaro R, Durante A, Colaceci S, Vellone E, Pucciarelli G. The Association Between Mutuality, Anxiety, and Depression in Heart Failure Patient-Caregiver Dyads: An Actor-Partner Interdependence Model Analysis. *J Cardiovasc Nurs.* 2019 Jul 23. doi: 10.1097/JCN.0000000000000599.

Deng P, Li X, Petriello MC, Wang C, **Morris AJ**, **Hennig B**. Application of metabolomics to characterize environmental pollutant toxicity and disease risks. *Rev Environ Health*. 2019 Sep 25;34(3):251-259. doi: 10.1515/reveh-2019-0030.

Do AN, Zhao W, Baldridge AS, Raffield LM, Wiggins KL, Shah SJ, Aslibekyan S, Tiwari HK, Limdi N, Zhi D, Sitlani CM, Taylor KD, Psaty BM, Sotoodehnia N, Brody JA, Rasmussen-Torvik LJ, Lloyd-Jones D, Lange LA, Wilson JG, Smith JA, Kardina SLR, Mosley TH, Vasani RS, **Arnett DK**, Irvin MR. Genome-wide meta-analysis of SNP and antihypertensive medication interactions on left ventricular traits in African Americans. *Mol Genet Genomic Med*. 2019 Aug 13:e788. doi: 10.1002/mgg3.788.

Endean ED. Reassessment of forearm basilic arteriovenous fistula. *J Vasc Surg*. 2019 Oct;70(4):1253. doi: 10.1016/j.jvs.2019.02.052.

Falls C, **Kolodziej AR**. Surgical Approaches in Heart Failure. *Crit Care Nurs Clin North Am*. 2019 Sep;31(3):267-283. doi: 10.1016/j.cnc.2019.04.003.

Ghazi L, Pajewski NM, Rifkin DE, Bates JT, Chang TI, Cushman WC, **Glasser SP**, Haley WE, Johnson KC, Kostis WJ, Papademetriou V, Rahman M, Simmons DL, Taylor A, Whelton PK, Wright JT, Bhatt UY, Drawz PE. Effect of Intensive and Standard Clinic-Based Hypertension Management on the Concordance Between Clinic and Ambulatory Blood Pressure and Blood Pressure Variability in SPRINT. *J Am Heart Assoc*. 2019 Jul 16;8(14):e011706. doi: 10.1161/JAHA.118.011706.

Gatineau E, **Gong MC**, **Yiannikouris F**. Soluble Prorenin Receptor Increases Blood Pressure in High Fat-Fed Male Mice. *Hypertension*. 2019 Oct;74(4):1014-1020. doi: 10.1161/HYPERTENSIONAHA.119.12906.

Grewal P, Lahoti S, Aroor S, Snyder K, **Pettigrew LC**, Goldstein LB. Effect of Known Atrial Fibrillation and Anticoagulation Status on the Prehospital Identification of Large Vessel Occlusion. *J Stroke Cerebrovasc Dis*. 2019 Sep 26;104404. doi: 10.1016/j.jstrokecerebrovasdis.2019.104404.

Hennig B. International scientists seek solutions for environmental problems. *Rev Environ Health*. 2019 Sep 25;34(3):225. doi: 10.1515/reveh-2019-0058.

Heo S, McSweeney J, Tsai PF, Ounpraseuth S, **Moser DK**, Kim J. The Associations of Diagnoses of Fatigue and Depression With Use of Medical Services in Patients With Heart Failure. *J Cardiovasc Nurs*. 2019 Jul/Aug;34(4):289-296. doi: 10.1097/JCN.0000000000000574.

Hillerson D, **Ogunbayo GO**, **Salih M**, **Misumida N**, **Abdel-Latif A**, **Smyth SS**, **Messerli AW**. Outcomes and Characteristics of Myocardial Infarction in Patients With Cirrhosis. *J Invasive Cardiol*. 2019 Jul;31(7):E162-E169. **Holmstrom AL**, **Meyerson SL**. Obtaining Meaningful Assessment in Thoracic Surgery Education. *Thorac Surg Clin*. 2019 Aug;29(3):239-247. doi: 10.1016/j.thorsurg.2019.03.002.

Holmstrom AL, **Meyerson SL**. Obtaining Meaningful Assessment in Thoracic Surgery Education. *Thorac Surg Clin*. 2019 Aug;29(3):239-247. doi: 10.1016/j.thorsurg.2019.03.002.

Hoogland AI, Hoogland CE, Bardach SH, Tarasenko YN, **Schoenberg NE**. Health Behaviors in Rural Appalachia. *South Med J*. 2019 Aug;112(8):444-449. doi: 10.14423/SMJ.0000000000001008.

Iniesta R, Campbell D, Venturini C, Faconti L, Singh S, Irvin MR, Cooper-DeHoff RM, Johnson JA, Turner ST, **Arnett DK**, Weale ME, Warren H, Munroe PB, Cruickshank K, Padmanabhan S, Lewis C, Chowienzyk P. Gene Variants at Loci Related to Blood Pressure Account for Variation in Response to Antihypertensive Drugs Between Black and White Individuals. *Hypertension*. 2019 Sep;74(3):614-622. doi: 10.1161/HYPERTENSIONAHA.118.12177.

Jackson EN, **Thatcher SE**, Larian N, English V, Soman S, **Morris AJ**, Weng J, **Stromberg A**, Swanson HI, Pearson K, **Cassis LA**. Effects of Aryl Hydrocarbon Receptor Deficiency on PCB-77-Induced Impairment of Glucose Homeostasis during Weight Loss in Male and Female Obese Mice. *Environ Health Perspect*. 2019 Jul;127(7):77004. doi: 10.1289/EHP4133.

Javidan A, Jiang W, Okuyama M, Thiagarajan D, Yang L, Moorleghe J, Muniappan L, **Subramanian V**. miR-146a Deficiency Accelerates Hepatic Inflammation Without Influencing Diet-induced Obesity in Mice. *Sci Rep*. 2019 Sep 2;9(1):12626. doi: 10.1038/s41598-019-49090-4.

PUBLICATIONS CONT.

Kamatham S, **Waters CM**, Schwingshackl A, Mancarella S. TREK-1 protects the heart against ischemia-reperfusion-induced injury and from adverse remodeling after myocardial infarction. *Pflugers Arch*. 2019 Sep 12. doi: 10.1007/s00424-019-02306-y.

Kathuria-Prakash N, **Moser DK**, Alshurafa N, Watson K, Eastwood JA. Young African American women's participation in an m-Health study in cardiovascular risk reduction: Feasibility, benefits, and barriers. *Eur J Cardiovasc Nurs*. 2019 Oct;18(7):569-576. doi: 10.1177/1474515119850009.

Kraemer M, Mao G, Hammill C, Yan B, **Li Y**, **Onono F**, **Smyth SS**, Morris AJ. Effects of diet and hyperlipidemia on levels and distribution of circulating lysophosphatidic acid. *J Lipid Res*. 2019 Sep 4. pii: jlr.M093096. doi: 10.1194/jlr.M093096.

Kuan W, Dulnuan K, Guglin ME, **El Haddad H**, **Kolodziej AR**, **Leventhal A**, Rajagopalan N. A "Cat"-astrophic Case of Bartonella henselae Infective Endocarditis Followed by Cardiac Transplantation Salvage Therapy. *Transpl Infect Dis*. 2019 Sep 21. doi: 10.1111/tid.13179.

Lakie M, **Campbell KS**. Muscle thixotropy-where are we now? *J Appl Physiol* (1985). 2019 Jun 1;126(6):1790-1799. doi: 10.1152/japplphysiol.00788.2018.

Larian N, Ensor M, Thatcher SE, English V, **Morris AJ**, **Stromberg A**, **Cassis LA**. Pseudomonas aeruginosa-derived pyocyanin reduces adipocyte differentiation, body weight, and fat mass as mechanisms contributing to septic cachexia. *Food Chem Toxicol*. 2019 Aug;130:219-230. doi: 10.1016/j.fct.2019.05.012.

Li F, Shi J, **Lu HS**, Zhang H. Functional Genomics and CRISPR Applied to Cardiovascular Research and Medicine. *Arterioscler Thromb Vasc Biol*. 2019 Sep;39(9):e188-e194. doi: 10.1161/ATVBAHA.119.312579.

Lee KS, Kim JH, Kang KW, Miller J, McEvedy SM, Hwang SY, **Moser DK**. Implantable Cardioverter Defibrillator Shocks and Psychological Distress: Examining the Mediating Roles of Implantable Cardioverter Defibrillator-Related Concerns and Perceived Control. *J Cardiovasc Nurs*. 2019 Aug 21. doi: 10.1097/JCN.0000000000000610.

Li F, Shi J, **Lu HS**, Zhang H. Functional Genomics and CRISPR Applied to Cardiovascular Research and Medicine. *Arterioscler Thromb Vasc Biol*. 2019 Sep;39(9):e188-e194. doi: 10.1161/ATVBAHA.119.312579.

Li J, Pijut SS, Wang Y, Ji A, Kaur R, **Temel RE**, van der Westhuyzen DR, **Graf GA**. Simultaneous Determination of Biliary and Intestinal Cholesterol Secretion Reveals That CETP (Cholesteryl Ester Transfer Protein) Alters Elimination Route in Mice. *Arterioscler Thromb Vasc Biol*. 2019 Oct;39(10):1986-1995. doi: 10.1161/ATVBAHA.119.312952.

Littrell OM, Stoeger C, Maier H, Fuchs H, Hrabě de Angelis M, **Cassis LA**, Gerhardt GA, Grondin R, Gailus-Durner V. Costs of Implementing Quality in Research Practice. *Handb Exp Pharmacol*. 2019 Sep 21. doi: 10.1007/164_2019_294.

Lu HS, Kukida M, **Daugherty A**. Links lipoproteins to chronic kidney disease and atherosclerosis. *Curr Opin Lipidol*. 2019 Oct;30(5):410-411. doi: 10.1097/MOL.0000000000000625.

Mao G, **Smyth SS**, Morris AJ. Regulation of PLPP3 gene expression by NF- κ B family transcription factors. *J Biol Chem*. 2019 Sep 20;294(38):14009-14019. doi: 10.1074/jbc.RA119.009002.

Meyerson SL, Odell DD, **Zwischenberger JB**, Schuller M, Williams RG, Bohnen JD, Dunnington GL, Torbeck L, Mullen JT, Mandell SP, Choti MA, Foley E, Are C, Auyang E, Chipman J, Choi J, Meier AH, Smink DS, Terhune KP, Wise PE, Soper N, Lillemoe K, Fryer JP, George BC; Procedural Learning and Safety Collaborative. The effect of gender on operative autonomy in general surgery residents. *Surgery*. 2019 Jul 17. pii: S0039-6060(19)30345-9. doi: 10.1016/j.surg.2019.06.006.

Miller JL, **Chung ML**, Etaee F, Hammash M, Thylén I, **Biddle MJ**, Elayi SC, **Czarapata MM**, McEvedy S, Cameron J, Haedtke CA, Ski CF, Thompson DR, Moser DK. Missed opportunities! End of life decision making and discussions in implantable cardioverter defibrillator recipients. *Heart Lung*. 2019 Jul - Aug;48(4):313-319. doi: 10.1016/j.hrtlng.2019.04.006.

Misumida N, Ogunbayo GO, Catanzaro J, Etaee F, **Kim SM, Abdel-Latif A, Ziada KM**, Elayi CS. Contemporary practice pattern of permanent pacing for conduction disorders in inferior ST-elevation myocardial infarction. *Clin Cardiol*. 2019 Aug;42(8):728-734. doi: 10.1002/clc.23210.

Modi AR, Miranda CC, Procop GW, Foster CB, Harrington S, Evans D, Johnson LT, **Gordon SM**. Addressing the threat from within: Investigation of respiratory symptoms in a health care worker with untreated latent tuberculosis infection. *Am J Infect Control*. 2019 Aug 20. pii: S0196-6553(19)30692-3. doi: 10.1016/j.ajic.2019.07.012.

Mueller PA, Yang L, Ubele M, Mao G, Brandon J, Vandra J, Nichols TC, Escalante-Alcalde D, **Morris AJ, Smyth SS**. Coronary Artery Disease Risk-Associated Plpp3 Gene and Its Product Lipid Phosphate Phosphatase 3 Regulate Experimental Atherosclerosis. *Arterioscler Thromb Vasc Biol*. 2019 Sep 19;ATVBAHA119313056. doi: 10.1161/ATVBAHA.119.313056.

Ogunbayo GO, Goodwin RP, Elbadawi A, Omar M, **Hillerson D, Goodwin EM, Pecha R, Abdel-Latif A**, Elayi CS, **Messerli AW**. Temporal Trends in the Use of Intravascular Imaging Among Patients Undergoing Percutaneous Coronary Intervention for ST Elevation Myocardial Infarction in the United States. *Am J Cardiol*. 2019 Aug 27. pii: S0002-9149(19)30967-1. doi: 10.1016/j.amjcard.2019.08.022.

Ogunbayo GO, Misumida N, Goodwin E, Pecha R, Elbadawi A, Elayi CS, **Abdel-Latif A, Gurley J, Messerli AW, Ziada K**. Characteristics, Outcomes, and Predictors of Significant Pericardial Complications in Patients who Underwent Transcatheter Aortic Valve Implantation. *Am J Cardiol*. 2019 Jul 15;124(2):321-322. doi: 10.1016/j.amjcard.2019.04.036.

Park SY, Yang JS, Li Z, **Deng P**, Zhu X, Young D, Ericsson M, Andringa RLH, Minnaard AJ, Zhu C, Sun F, Moody DB, **Morris AJ**, Fan J, Hsu VW. The late stage of COPI vesicle fission requires shorter forms of phosphatidic acid and diacylglycerol. *Nat Commun*. 2019 Jul 30;10(1):3409. doi: 10.1038/s41467-019-11324-4.

Phung TN, Sinclair SE, Makena P, Molthen RC, **Waters CM**. Dynamic airway constriction in rats: heterogeneity and response to deep inspiration. *Am J Physiol Lung Cell Mol Physiol*. 2019 Jul 1;317(1):L39-L48. doi: 10.1152/ajplung.00050.2019.

Ramachandran P, Serai SD, Veldtman GR, Lang SM, Mazur W, Trout AT, Dillman JR, Fleck RJ, Taylor MD, Alsaied T, Moore RA. Assessment of liver T1 mapping in fontan patients and its correlation with magnetic resonance elastography-derived liver stiffness. *Abdom Radiol (NY)*. 2019 Jul;44(7):2403-2408. doi: 10.1007/s00261-019-01990-9.

Shelton CC, **Tyagi SC**, Sanampudi S, Issa MM, Raissi D, Lowry CM, **Winkler MA**. Congenital intravascular abdominal aortic band initially thought to be a metallic foreign body: Characterization using microanatomical CT reconstruction technique. *Radiol Case Rep*. 2019 Jul 15;14(9):1127-1131. doi: 10.1016/j.radcr.2019.06.031.

Shen YH, **Lu HS**, LeMaire SA, **Daugherty A**. Unfolding the Story of Proteoglycan Accumulation in Thoracic Aortic Aneurysm and Dissection. *Arterioscler Thromb Vasc Biol*. 2019 Oct;39(10):1899-1901. doi: 10.1161/ATVBAHA.119.313279.

Shridas P, Tannock LR. Role of serum amyloid A in atherosclerosis. *Curr Opin Lipidol*. 2019 Aug;30(4):320-325. doi: 10.1097/MOL.0000000000000616.

Shoemaker R, **Tannock LR**, Su W, **Gong M, Gurley SB, Thatcher SE, Yiannikouris F**, Ensor CM, **Cassis LA**. Adipocyte deficiency of ACE2 increases systolic blood pressures of obese female C57BL/6 mice. *Biol Sex Differ*. 2019 Sep 4;10(1):45. doi: 10.1186/s13293-019-0260-8.

PUBLICATIONS CONT.

Sibbing D, Aradi D, Alexopoulos D, Ten Berg J, Bhatt DL, Bonello L, Collet JP, Cuisset T, Franchi F, Gross L, Gurbel P, Jeong YH, Mehran R, **Moliterno DJ**, et al. Updated Expert Consensus Statement on Platelet Function and Genetic Testing for Guiding P2Y₁₂ Receptor Inhibitor Treatment in Percutaneous Coronary Intervention. *JACC Cardiovasc Interv*. 2019 Aug 26;12(16):1521-1537. doi: 10.1016/j.jcin.2019.03.034.

Slack MA, **Gordon SM**. Protease Activity in Vascular Disease. *Arterioscler Thromb Vasc Biol*. 2019 Oct;39(10):e210-e218. doi: 10.1161/ATVBAHA.119.312413.

Smith JL, **Lennie TA, Chung ML, Mudd-Martin G**. Dietary Sodium Intake is Predicted by Antihypertensive Medication Regimen in Patients With Heart Failure. *J Cardiovasc Nurs*. 2019 Jul/Aug;34(4):313-318. doi: 10.1097/JCN.0000000000000570.

Tannock LR, Barton-Baxter M, Stoops WW. Creation of an institutional semi-independent data monitoring committee. *Clin Trials*. 2019 Oct;16(5):523-530. doi: 10.1177/1740774519859876.

Varghese TK Jr, Entwistle JW 3rd, Mayer JE, Moffatt-Bruce SD, Sade RM; (**Zwischenberger JB**) Cardiothoracic Ethics Forum. Ethical standards for cardiothoracic surgeons' participation in social media. *J Thorac Cardiovasc Surg*. 2019 Oct;158(4):1139-1143. doi: 10.1016/j.jtcvs.2019.03.029.

Viquez Beita AK, Whayne TF Jr. The Superior Mesenteric Artery: from Syndrome in the Young to Vascular Atherosclerosis in the Old. *Cardiovasc Hematol Agents Med Chem*. 2019 Sep 19. doi: 10.2174/1871525717666190920100518.

Vogel B, Chandrasekhar J, Baber U, Mastoris I, Sartori S, Aquino M, Krucoff MW, **Moliterno DJ** et al. Geographical Variations in Patterns of DAPT Cessation and Two-Year PCI Outcomes: Insights from the PARIS Registry. *Thromb Haemost*. 2019 Oct;19(10):1704-1711. doi: 10.1055/s-0039-1693463.

Wang J, Wang S, Wang W, Chen J, Zhang Z, Zheng Q, Liu Q, Cai L. Protection against diabetic cardiomyopathy is achieved using a combination of sulforaphane and zinc in type 1 diabetic OVE26 mice. *J Cell Mol Med*. 2019 Sep;23(9):6319-6330. doi: 10.1111/jcmm.14520.

Whayne TF Jr, Shelton JE, Deutsch CR, Messerli A. Imaging Characteristics and Significance of Coronary Artery Mismatch Lesions. *Angiology*. 2019 Sep;70(8):685-687. doi: 10.1177/0003319719852843.

Winstead RJ, Waldman G, Autry EB, Evans RA, Schadler A, Kays L, **Baz M**, Anstead MI, Shafii A, Goetz ME. Outcomes of Lung Transplantation for Cystic Fibrosis in the Setting of Extensively Drug-Resistant Organisms. *Prog Transplant*. 2019 Sep;29(3):220-224. doi: 10.1177/1526924819853830.

Xenos ES, Davis GA, He Q, Green A, **Smyth SS**. The implementation of a pulmonary embolism response team in the management of intermediate- or high-risk pulmonary embolism. *J Vasc Surg Venous Lymphat Disord*. 2019 Jul;7(4):493-500. doi: 10.1016/j.jvsv.2018.11.014.



FOUNDATIONS OF ECLS

SKILLS, TRAINING AND HANDS-ON MANAGEMENT

FRIDAY - SATURDAY

NOVEMBER 1-2

UK ALBERT B. CHANDLER HOSPITAL

Pavilion A | Karpf Auditorium | 1000 S. Limestone | Lexington, KY 40536

WWW.CECENTRAL.COM/LIVE/17106



WOMEN IN MEDICINE MONTH: DR. SUSAN S. SMYTH

A leader in medicine and research, Susan S. Smyth, MD, PhD, is the Jeff Gill Professor of Cardiology, chief of the division of Cardiovascular Medicine, and the director of the Linda and Jack Gill Heart and Vascular Institute. Dr. Smyth is a physician scientist who combines clinical practice in cardiology with National Institutes of Health, Veteran Affairs, and industry-funded research.



DISCOVER WHAT'S
Wildly Possible



THE VERY LATEST IN
**CARDIOVASCULAR
MEDICINE AND
SURGERY-FOCUSED
UPDATE ON
INTERVENTIONAL
CARDIOLOGY**

APRIL 25

7:45 A.M. – 6 P.M.

**Pavilion A, UNIVERSITY OF KENTUCKY,
LEXINGTON, KY**

SAVE THE





UPCOMING EVENTS

Affiliate meeting- Oct 30

ECMO conference–Nov1-2 A

AHA- Nov 16-18, Philadelphia

Gill Holiday Party-Dec 14

Latest in Cardiovascular Medicine-
April 25, 2020