



HealthCare
GILL HEART & VASCULAR
INSTITUTE

GILL QUARTERLY

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FEATURED CLINICAL TRIAL

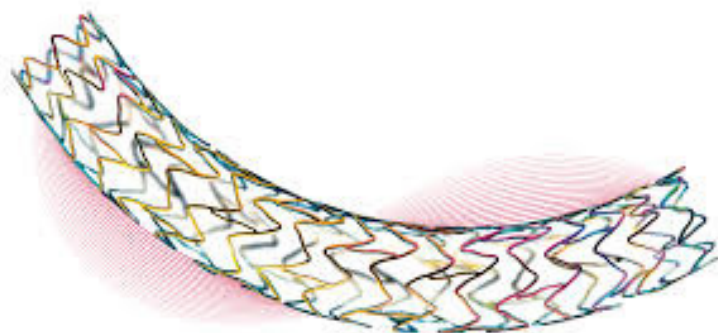
BIOFLOW-VII – A Prospective Multicenter Study to Confirm the SaFety and Effectiveness of the Orsiro SiroLimus Eluting Coronary Stent System in the Treatment Of Subjects With up to Three De Novo or Restenotic Coronary Artery Lesions - VII

This post-approval study is to confirm that the clinical performance of the Orsiro stent in a real-world setting is similar to the clinical performance observed for Orsiro in the BIOFLOW-V Investigational Device Exemption pivotal trial, as a condition of the US Food and Drug Administration (FDA) approval (P170030).

BIOFLOW-VII is a prospective, multicenter, single-arm study. Subjects with coronary artery disease (CAD) who undergo an on-label percutaneous coronary intervention (PCI) with a placed Orsiro stent within the prior 24 hours will be screened post-index procedure per the protocol inclusion and exclusion criteria.

Following the index procedure and study enrollment, subjects will be followed for 5 years. The follow-up schedule will include an intermediate study visit at 1 month, a primary endpoint study visit at 12 months, and long-term study visits at 2, 3, 4, and 5 years.

Study Population Subjects with coronary artery disease (CAD), including those with diabetes mellitus, with symptomatic heart disease, stable angina, unstable angina, non-ST elevation myocardial infarction or documented silent ischemia due to atherosclerotic lesions in the native coronary arteries with a reference vessel diameter of 2.25 mm to 4.0 mm and a lesion length of ≤ 36 mm.



Inclusion Criteria:

Subject is ≥ 18 years of age.

Subject was an acceptable candidate for treatment with a drug eluting stent at the qualifying index procedure, in accordance with the applicable guidelines on percutaneous coronary interventions and manufacturer's Instructions for Use.

Subject received at least one Orsiro stent during an index procedure occurring within 24 hours prior to informed consent, as assessed by the end time of procedure. If more than one stent was implanted during the index procedure, all stents were Orsiro stents. Subject is eligible for dual antiplatelet therapy (DAPT) treatment with aspirin plus either clopidogrel, prasugrel, ticagrelor or ticlopidine.

Subject is willing to comply with study follow-up requirements.

Exclusion Criteria:

Subject had clinical symptoms and/or electrocardiogram (ECG) changes consistent with acute ST elevation MI (STEMI) within 72 hours prior to the index procedure.

Subject is pregnant and/or breastfeeding See

<https://clinicaltrials.gov/ct2/show/NCT04175626> for more information.

CURRENTLY ENROLLING CLINICAL TRIALS

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

PI: Aaron Hesselson, MD

Coordinator: Ben Rushing 323-5259

Brief Summary:

This study is designed to evaluate the combined risk of all-cause mortality and treated ventricular tachycardia (VT) or ventricular fibrillation (VF) events by subject sex and by implanted device type. All-cause mortality, VT or VF alone, risk of cardiac death, and sudden cardiac death will be analyzed for the total cohort, as well as by subject sex and by the implanted device type

OPTIMIZER SMART POST - APPROVAL STUDY

PI: Aaron Hesselson, MD

Coordinator: Ben Rushing 323-5259

Brief Summary:

Post-approval study that evaluates data such as cardiac outcomes, quality of life, mortality, and functionality. Long-term data needed to assess complication rates and potential interactions with other implantable devices in the intended patient population. The post-approval study (PAS) protocol designed to address these concerns in a real-world setting.

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

PI: Vincent Sorrell, MD

Coordinator: Ben Rushing 323-5259

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.

BIOFLOW-VII – A Prospective Multicenter Study to Confirm the SaFety and Effectiveness of the Orsiro SiroLimus Eluting Coronary Stent System in the Treatment Of Subjects With up to Three De Novo or Restenotic Coronary Artery Lesions - VII

PI: Naoki Misumida, MD

Coordinator: Ben Rushing 323-5259

Brief Summary:

This post-approval study is to confirm that the clinical performance of the Orsiro stent in a real-world setting is similar to the clinical performance observed for Orsiro in the BIOFLOW-V Investigational Device Exemption pivotal trial, as a condition of the US Food and Drug Administration (FDA) approval (P170030).

Women's IschemiA TRial to Reduce Events In Non-ObstRuctive CAD (WARRIOR)

PI: Gretchen Wells, MD

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

CLINICAL TRIALS CONTINUED

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 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.

RELIEVE – HF - REDucing Lung congestIon symptoms using the v-wavE shunt in ad-VancEd Heart Failure

PI: John Gurley, MD

Coordinator: Stephanie Morris 323-5366

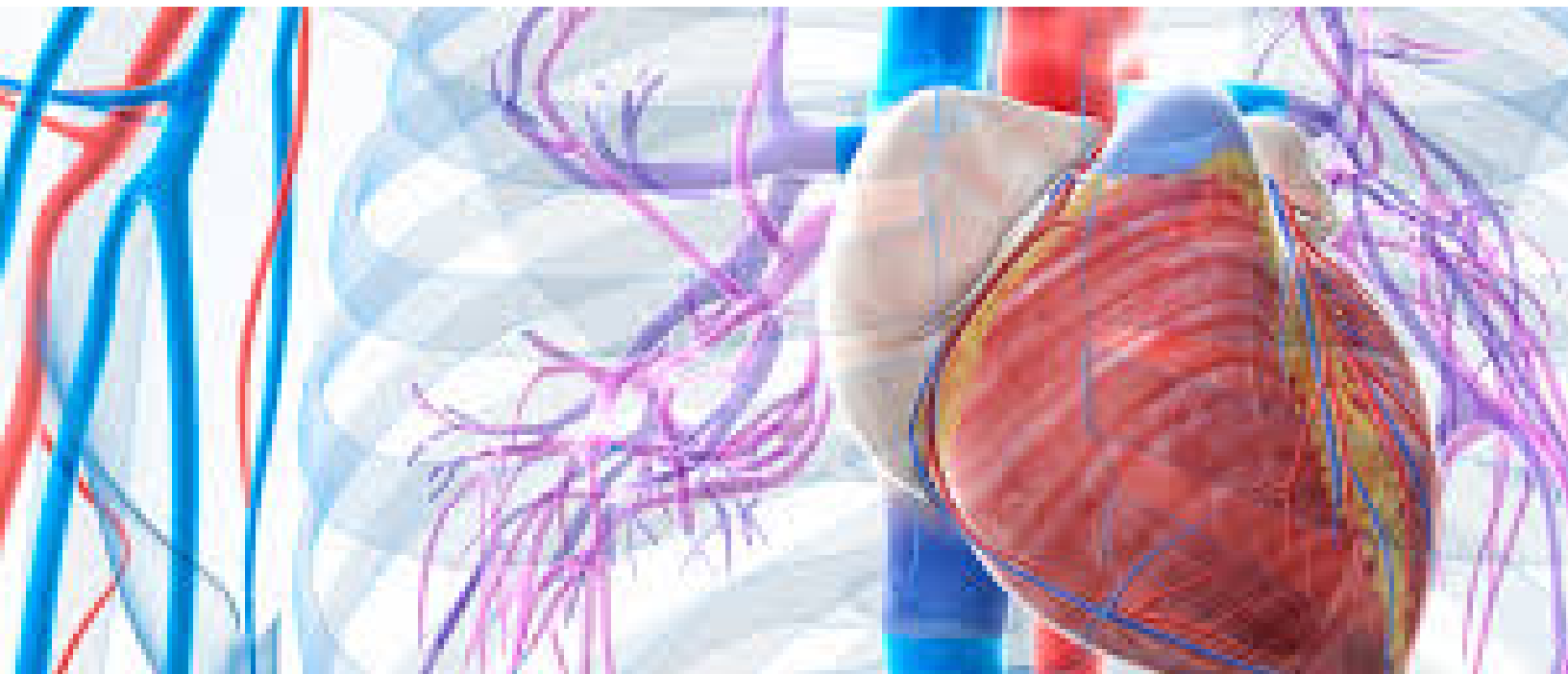
Brief Summary:

The objective of this study is to provide reasonable assurance of safety and effectiveness of the V-Wave Interatrial Shunt System to improve clinical outcomes in a certain high-risk subset of symptomatic patients suffering from HF.

For more information, contact:

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Jennifer.isaacs@uky.edu



FELLOWS NEWS/ACCOMPLISHMENTS

NEW FELLOWS



Kevin Cao, MD



Ranjan Banerjee, MD



Ethan Fry, DO



Adham Karim, MD



Benjamin Stone, MD



Thomas "Rocky" Wool, DO



Evan Sheets, MD

NEW FELLOWS

Incoming Sub-Specialty Fellows



Luai Alhazmi, MD
Interventional Cardiology



Hussan Hawamdeh, MD
Interventional Cardiology



Jad Ballout MD
Advanced Heart Failure



Muhammad Nadeem, MBBS
Advanced Heart Failure



Karam Ayoub, MD
Electrophysiology



Gregg Sinner, MD
ACI



Ahmed Noor, MD
ACI

FELLOWS NEWS AND PUBLICATIONS

KY-ACC Abstracts

Hillerson D, Whiteside HL, Coots RD, Tribble TA, Abdel-Latif A, Gupta, VA. Predictors of Mortality in Non-surgical Patients Prior to Cannulation for Venoarterial Extracorporeal Life Support. (Accepted as oral presentation).

Karim AM, Fry E, Gupta V. The Impact of Frailty and Malnutrition on In-hospital Outcomes in Patients with Acute Myocardial Infarction.

Nanivadekar S, **Duchesne J, Eason J**, Kauh B, Des-
ta M, Leung S, Gupta V. Implementation of an Optimal
Care Pathway for Chest Pain at a Multidisciplinary
Academic Medical Center.

Publications

Huerta CT, Orr NT, Tyagi SC, Badia DJ, Richie CD, Endean ED. Direct Retrograde Bypass is Preferable to Antegrade Bypass for Open Mesenteric Revascularization. *Ann Vasc Surg.* 2020 Jul;66:263-271. doi: 10.1016/j.avsg.2020.01.019.

Hillerson D, Wool T, Ogunbayo GO, Sorrell VL, Leung SW. Incidental Coronary Artery Calcification and Stroke Risk in Patients With Atrial Fibrillation. *AJR Am J Roentgenol.* 2020 Aug;215(2):344-350. doi: 10.2214/AJR.19.22298.

Nadeem M, Tariq EF, Aslam HM, Illahi Y, Shah R. All-Cause Mortality Outcomes of Usage of Cardiac Contractility Modulation in Patients With Dilated Cardiomyopathy Ineligible for Cardiac Re-Synchronization Therapy: An Updated Meta-Analysis of Randomized Controlled Trials. *Cureus.* 2020 Sep 24;12(9):e10627. doi: 10.7759/cureus.10627.

Rutland J, Ayoub K, Etaee F, Ogunbayo G, Dar-
rat Y, Marji M, Masri A, Elayi CS. CHA2DS2-VASc and readmission with new-onset atrial fibrillation, atrial flutter, or acute cerebrovascular accident. *Int J Cardiol.* 2020 Aug 13;S0167-5273(20)33554-3. doi: 10.1016/j.ijcard.2020.08.027.

Fellowship Websites:

Vascular:

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

CT Surgery:

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

UPDATED FELLOWS WEBSITE

At Gill Heart and Vascular Institute, we have several sub-specialty cardiovascular fellowships.

- Advanced Cardiovascular Imaging Fellowship
- Advanced Heart Failure and Cardiac Transplant Fellowship
- Electrophysiology Fellowship
- Interventional Cardiology Fellowship

Visit <https://cvfellowship.med.uky.edu> for more Fellows News.



AFFILIATE & OUTREACH NEWS

CLARK REGIONAL MEDICAL CENTER

Clark Regional Medical Center recently announced a \$4.6 million expansion of the hospital for a cardiac catheterization (cath) lab. The cardiac cath lab and launching of an interventional cardiology program means greater access to potential-ly life-saving heart care in Clark County. It is estimat-ed to be completed in the fall of 2020.

“This is truly an exciting time for Clark Regional Medical Center, the community and the entire region we serve. This project ensures patients in Clark, Powell, Wolfe, Bath, Estill and Montgomery counties have greater access to timely cardiac interventions close to home. The cardiac cath lab demonstrates our commit-

ment to expanding access to services and investing in new technology and capabilities to meet the needs of our growing community in efforts to enhance our mission of Making Communities Healthier,” said Matt Smith, Clark Regional Medical Center chief executive officer. “We will keep the community informed of the project’s progress, and thank you for your patience during the construction process.”

CRMC has been working diligently to improve the cardiac services offered within the community. The providers and technology within the cardiac cath lab will be able to diagnose and provide treatment for heart blockages and other cardiac conditions without a commute.



A virtual ground breaking ceremony was held in June 2020 at Clark Regional Medical Center to celebrate the beginning of the project. To view the virtual ground breaking ceremony, visit [ClarkRegional.org](https://www.clarkregional.org).
From: The Lane Report Sept 2020.

Continuing Education

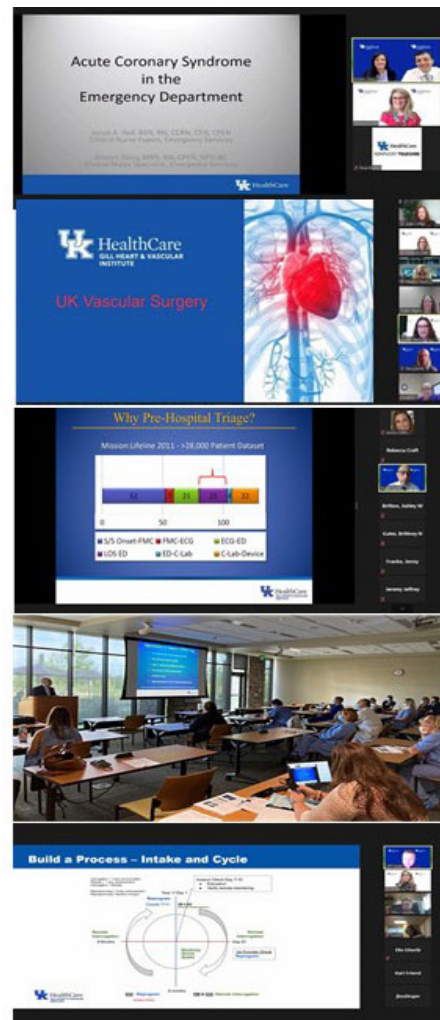
7-24-20 With a little help from Zoom and expertise from UKHC nurses, Jacob Heil and Kristen Stacy, we provided education on Acute Coronary Syndrome to assist our Affiliates with Chest Pain reaccreditation!

7-27-20 Talking about subspecialty cardiovascular care with Gill Affiliate Frankfort Regional Medical Center. We are excited about our new collaboration and the opportunity to work together and advance cardiac care across the region!

8-6-20 Improving STEMI Care in Kentucky, a collaborative CME event with Lourdes Hospital.

8-14 -20 At Gill Affiliate Owensboro Health, it was all about collaboration there were educational presentations on cardiogenic shock and on regionalizing STEMI care. Thank you for the opportunity to collaborate and improve care in our community!

8-18-20 GHVI's Jeff Sotski and Melissa Czarapata showcased their EP expertise as they discussed best practices for developing and managing a device clinic with our friends and colleagues at Charleston Area Medical Center. Photos shown in order of dates from Top to Bottom.



ADVANCED CARE FOR ADVANCED HEART FAILURE

High-Performing Heart Failure Team offers lifesaving care

With a comprehensive, multidisciplinary approach and leading-edge clinical technology, the Advanced Heart Failure, Ventricular Assist Device and Heart Transplant Program at Gill Heart & Vascular Institute is one of the leading programs in the country. The work and dedication of this team led U.S. News & World Report to score UK HealthCare as “High Performing” in heart failure—a score based on multiple data categories, including patient survival, volume and more. That rating is a reflection of the program’s experienced team and skilled approach to patient care.

The Heart Failure team includes a diverse group: certified cardiologists, cardiac surgeons, advanced practice nurses, critical care certified registered nurses, skilled specialized mechanical support, heart failure and transplant coordinators, as well as specialist pharmacists, physical, occupational and speech therapists, nutritionists and social workers. This team ensures that patients receive not only the best treatment for their individual situation, but the best possible experience at a difficult time in their lives.

The Advanced Heart Failure, Ventricular Assist Device and Heart Transplant Program at Gill Heart & Vascular Institute is one of the leading programs in the country.

Dr. Emma Birks recently joined the team as the Section Chief of Heart Failure, Ventricular Assist Devices and Heart Transplantation. She is well-known internationally for her work in advanced heart failure—in particular for her expertise in ventricular assist devices and their ability to recover the human heart, even from advanced heart failure.

Dr. Birks is well-known internationally for her work in advanced heart failure—in particular for her expertise in ventricular assist devices and their ability to recover the human heart.

Since joining the program in October of 2019, Dr. Birks has also been asked to lead the program committee for mechanical circulatory support for the 2021 meeting of the International Society of Heart and Lung Transplantation. She is also playing a leading role in writing the updated international guidelines for the management of VAD for the International Society of Heart and Lung Transplantation (ISHLT), has written a chapter for this year’s ISHLT Monograph on mechanical support, and has written the VAD chapter this year for UpToDate—the online resource that is most commonly used as a reference by all junior doctors.

Dr. Birks collaborates with Dr. Ken Campbell, Professor of Physiology

and Cardiovascular Medicine in the Center for Clinical and Translational Sciences, as they have closely-aligned interests in the mechanisms involved in the reversal of heart failure.

The team is expanding further, recruiting Dr. Guarang Vaidya, who recently completed his advanced Heart Failure fellowship training at Cedars-Sinai, and Dr. Neeti Reddy, who recently completed her advanced heart failure training at University of Texas Southwestern in Dallas. As the Heart Failure team grows, having talented additions like Drs. Vaidya and Reddy will allow the program to offer even more options, care and experience for patients with advanced heart conditions.

Heart transplant volume has remained high at UK HealthCare, even during the COVID-19 pandemic. The team adapted their protocols to maintain patient safety without delaying vital care, and performed 22 heart transplants just in the first half of the 2020 calendar year. The wait for a donor heart is shorter at UK HealthCare than in the surrounding area, as well as the national average wait. The program is also expanding its outreach clinics and collaboration with surrounding hospitals to facilitate more care, closer to home, for patients outside the Lexington area.



The wait for a donor heart is shorter at UK HealthCare than in the surrounding area, as well as the national average wait.

Additionally, the team's extra-corporal membrane oxygenation (ECMO) service continues to grow, renewing gold-level Center of Excellence status from the Extracorporeal Life Support Organization (ELSO) in 2020. The ECMO team has the ability to travel up to four

hours away to transfer critically ill patients on ECMO to UK HealthCare.

The team consists of a lead nurse with intensive ECMO training in the Cardiovascular Intensive Care Unit, a paramedic, a perfusionist and an EMT. If needed, the surgeon also travels with the team, giving patients on this advanced form of life support the very best care, as rapidly and safely as possible.

Joy Coles, DNP, APRN and Dr. Andrew Kolodziej, MD (pictured above) are two of the many specialists caring for patients in advanced heart failure.

TRANSFORMING TOMORROW BY FOCUSING ON KENTUCKY'S CHALLENGES

University prioritizes cardiovascular research to benefit Kentuckians across the Commonwealth

In an effort to mobilize its most powerful research assets, combat some of the state's biggest health disparities, and benefit the citizens of the Commonwealth and beyond, a new initiative by UK Research has prioritized cardiovascular research, along with five other health sectors across the University. And the research teams at the Gill Heart & Vascular Institute and the Saha Cardiovascular Research Center are answering the call.

The University of Kentucky Research Priorities Initiative is a long-term strategic plan to invest in the university's strongest existing and emerging research areas. This effort has multiple goals: increasing funding, garnering more complex/multidisciplinary grants, reducing the burden of disease in Kentucky, making a statewide economic impact, and recruiting more researchers to the University. Along with cardiovascular disease (CVD), the University's research priority areas (RPAs) include cancer, diabetes and obesity, energy, neuroscience, and substance abuse disorder.

"These priority areas were identified based on existing areas of strength, as determined by external funding and research scholarship, sustainability, and cross-campus

reach," explained Susan S. Smyth, MD, PhD, FACC, Director of the Gill Heart & Vascular Institute and Co-Director of this RPA initiative. "UK has a prominent and nationally recognized cardiovascular research group that enjoys substantial funding from the National Institutes of Health, the American Heart Association, pharmaceutical and device companies, and more."

CVD was also selected because of its major impact across the state. This group of diseases, which includes heart attack, heart failure, aortic aneurysms, and peripheral vascular disease, is the leading cause of death in the United States[1], as well as in Kentucky.

[2] Four of the RPAs—CVD, cancer, diabetes and obesity, and substance abuse disorder—are well-known statewide health disparities. Research efforts for all four will be housed in the new Healthy Kentucky Research Building, bringing together multidisciplinary research teams and allowing them to collaborate closely toward the RPA initiative.

Dr. Smyth co-directs the RPA with Alan Daugherty, PhD, DSc, Director of the Saha Cardiovascular Research Center. Dr. Smyth and Dr. Daugherty will serve as liaisons between the Office of the

Vice President for Research and the broader campus-wide CVD research community. Together, they will work to ensure that the RPA investment in CVD research further enhances UK's national and international reputation, increases the portfolio of extramurally funded cardiovascular research, provides an inclusive campus-wide environment for productive faculty, facilitates trainee experience, and promotes CVD research and innovation.

"To have a thriving research enterprise is a huge benefit to the clinical enterprise," said Dr. Daugherty. "It means people are being kept informed by the most contemporary findings in that field, and if patients are willing and want to, they can also be involved in cutting-edge research at our institution."

"To have a thriving research enterprise is a huge benefit to the clinical enterprise."

ALAN DAUGHERTY, PHD, DSC

[1]. Centers for Disease Control and Prevention. Leading Causes of Death (U.S.). <https://www.cdc.gov/nchs/fastats/leading-causes-of-death.htm>. Accessed April 17, 2020.

[2]. Centers for Disease Control and Prevention. Stats of the State of Kentucky. <https://www.cdc.gov/nchs/pressroom/states/kentucky/kentucky.htm>. Accessed April 17, 2020.



Visit : <https://www.research.uky.edu/research-priorities-initiative-cardiovascular-diseases/cardiovascular-diseases> for more information.

Please visit: <https://redcap.uky.edu/redcap/surveys/?s=W4WY8DEHEH> to join the CV-RPA.

JULY

'ZWISCH SCALE' PROVIDES FEEDBACK FOR SURGICAL RESIDENTS

BY UK COLLEGE OF MEDICINE JULY 16, 2020

On average, surgical trainees perform 979 operations during their residency. But of those operations, they only must be evaluated for six to sit for their board exams.

Joseph Zwischenberger (Zwisch), MD, UK College of Medicine professor and interim chair of the Procedural Learning and Safety Collaborative (PLSC) Steering Committee, understands as an educator that feedback is an important component of ensuring that learners perform better, develop improved judgment, and retain information more quickly.

In 2014, Debra DaRosa, MD, currently professor emerita of surgery at Northwestern University and Brian George, MD, MAEd, currently an assistant professor of surgery at the University of Michigan Department of Surgery, developed and refined a system that not only establishes a feasible process for both faculty and trainees to complete evaluations, but also an opportunity for more consistent feedback to foster the success of surgical trainees. This process uses the "Zwisch Scale," named for Dr. Zwischenberger's innovative approach to operating room teaching. It allows faculty and trainees to easily categorize faculty guidance behaviors rather than behavior of the learner.

"First and foremost, the goal of this initiative is to improve the quality of feedback," Dr. Zwischenberger said.

Most residents across the country are only assessed on a monthly basis, but using the Zwisch Scale and the expanded PLSC-developed System for Improving and Measuring Procedural Learning (SIMPL) app allows trainees to feasibly be evaluated and given feedback after every single procedure. This frequent feedback has to take multiple factors into account, especially in a field requiring as much precision as surgery.

"First and foremost, the goal of this initiative is to improve the quality of feedback," Dr. Zwischenberger said.

Through the Zwisch Scale, faculty guidance is divided into four levels:

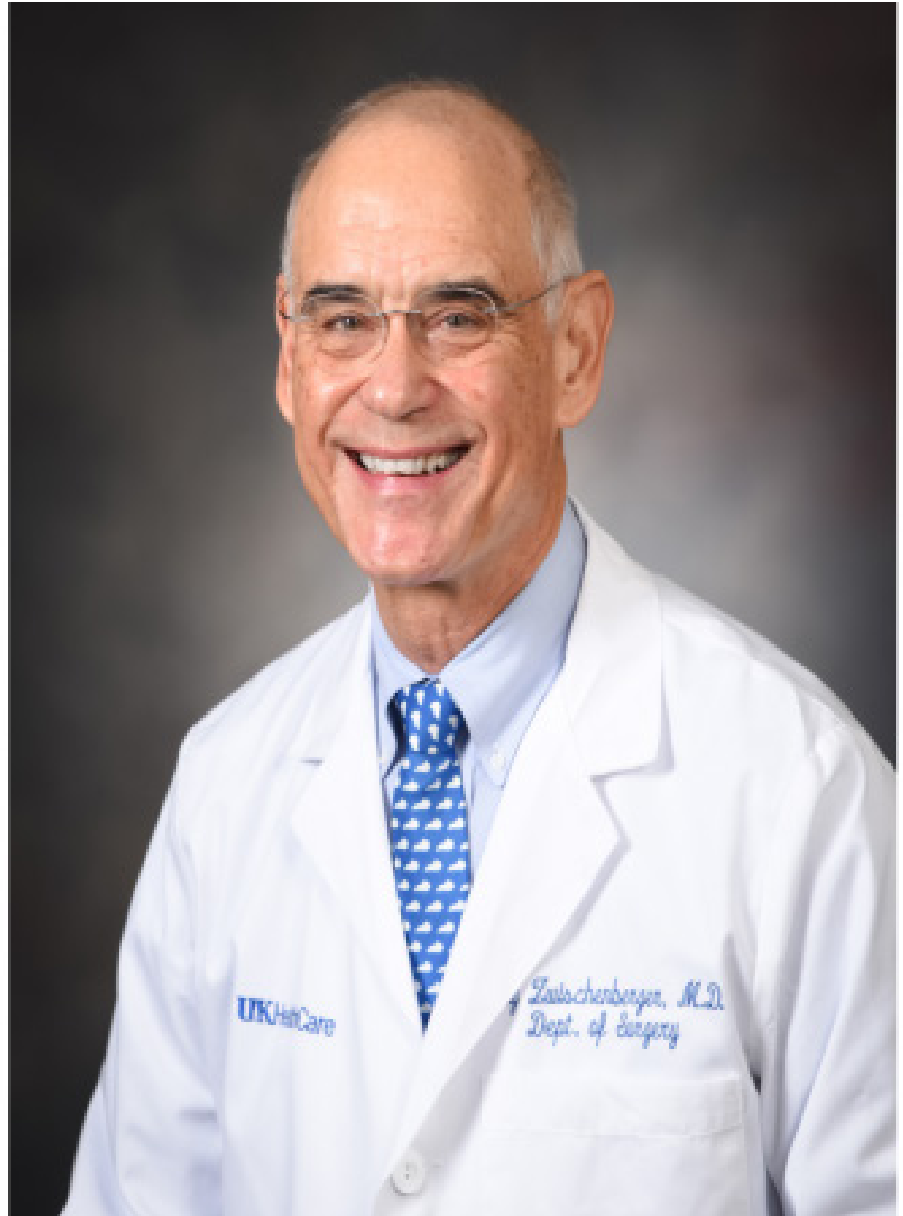
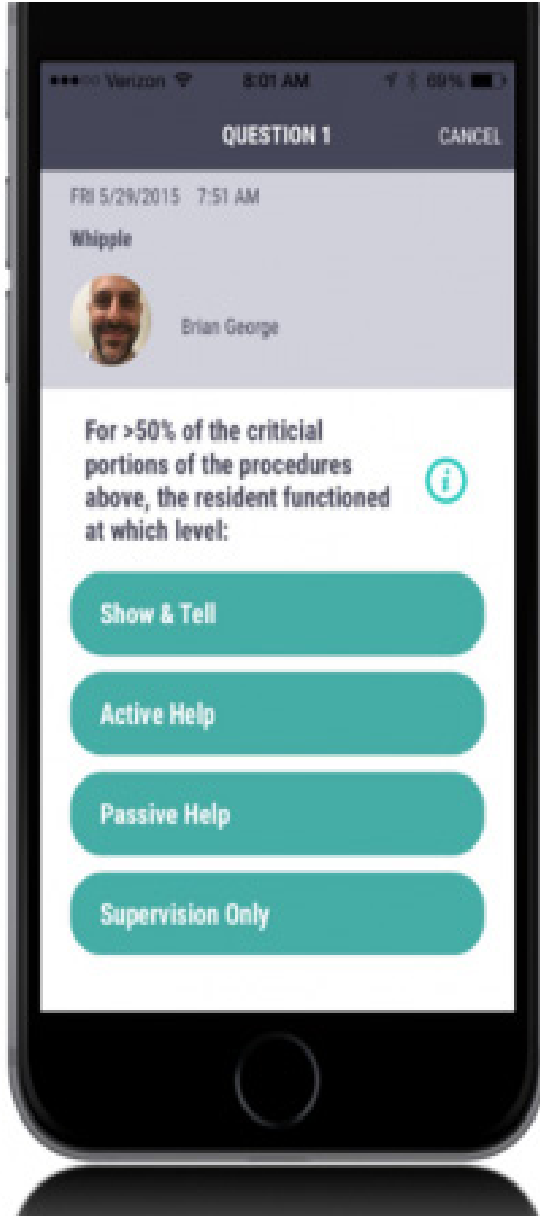
- **Show and Tell** is the level through which attending surgeons are completing the work, and learners are not expected to perform any complicated procedures.
- **Active Help** requires the attending surgeon to be very hands-on, to "lead the dance." Residents and interns have the opportunity to complete some of the work, but the surgeon coaches frequently and will step in to guide.
- **Passive Help** has the resident or intern lead a majority of the procedure, with the attending assisting when necessary.
- **Supervision Only** requires that the faculty provide no guidance but they're still overseeing the operation in case of problems.

The scale is the first step of SIMPL, an easy-to-use evaluation tool that faculty use to assess residents by focusing on three aspects of training during an operative case: level of guidance through the Zwisch Scale, performance, and case complexity.

After determining level of guidance, supervisors then assess the learners' performance, from unprepared to exceptional, based on what level of faculty guidance they fall under within the critical portion of the procedure. Finally, supervisors rate the difficulty of the procedure.

"We want to be more objective in the way we determine that a resident is ready to independently operate, so we're looking at using this data to build learning curves for at least 10 core procedures that a resident would have to submit to American Board of Surgery to be deemed a competent surgeon," Sandra Beck, MD, professor and section head of colorectal surgery, said. "The app makes faculty think of how they're taking a resident through the case, and it has given us a framework on which to evaluate the residents, which we really didn't have before this."

"The beauty of the app is that the resident also evaluates their level of participation," said Melissa Newcomb, MD, associate professor of surgery .



Attending surgeons can evaluate residents and interns in seconds, and almost immediately after a procedure when feedback is fresh in their minds. The data collected from feedback allow faculty to more comprehensively understand a resident's experience with various procedures and helps trainees learn how to safely develop into independent surgeons.

"The beauty of the app is that the resident also evaluates their level of participation," said Melissa Newcomb, MD, associate professor of surgery.

"The educator may feel one way and the resident feels another. It has the potential to get the educator to think differently when involving residents in cases."

The PLSC is a 501(c)(3) nonprofit research collaborative that currently has 96 residency programs from 11 different specialties who are members of the collaborative. The PLSC's mission is to improve the quality of surgical care by improving the education of surgeons. To share this mission, along with information on SIMPL and the Zwisch Scale, Dr. Zwihschenberger has traveled across the country to PLSC member institutions, training supervisors on this method.

Straight from Zwisch, "These learning tools will both simplify the surgical evaluation process and enhance practice readiness."

Highlights

Using the Zwisch Scale and the expanded PLSC-developed System for Improving and Measuring Procedural Learning (SIMPL) app allows trainees to feasibly be evaluated and given feedback after every single procedure.

AUGUST NEW MEDICAL DIRECTORS

New Medical Directors

Pictured from Left to Right:

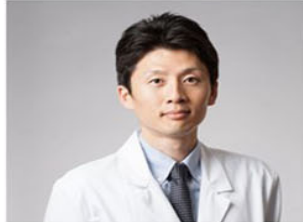
Ambulatory cardiology – Dr Vedant Gupta
Cardiac Rehabilitation – Dr. Mikel Smith
Clinical Research – Dr. John Kotter
Telemetry – Dr. Preetham Talari (Hospital Medicine)

Congratulations!



NEW FACULTY

Naoki Misumida, MD



- Coronary interventions
- TAVR (transcatheter aortic valve replacement)
- TMVR (transcatheter mitral valve repair and replacement)
- Alcohol septal ablation
- ASD closure
- PFO closure
- LAA occlusion (Watchman procedure)
- Pulmonary balloon angioplasty for CTEPH

Resident, Mount Sinai Beth Israel, NY
Fellow, Cardiology and Interventional Cardiology, University of Kentucky, KY
Fellow, Structural Heart Disease Interventional Fellowship, Mayo Clinic, MN

Neeti G Reddy, MD



- Cardiovascular Medicine
- Clinical Cardiology
- Extracorporeal Membrane Oxygenation (ECMO)
- Heart Failure, MCS and Transplant Team
- Transplant - Heart
- Transplant - Mechanical Circulatory Support

Resident, Baylor College of Medicine
Fellow, Cardiology University of Texas Health Science Center at Houston
Fellow, Advanced Heart Failure and Transplant Cardiology University of Texas Southwestern Medical Center

Gaurang N. Vaidya, MBBS



- Cardiovascular Medicine
- Heart Failure
- MCS
- Transplant Team

Resident, SUNY Upstate Medical University, Syracuse, NY
Fellow, Cardiology and Interventional Cardiology, University of Kentucky, KY
Fellow, Structural Heart Disease Interventional Fellowship, Mayo Clinic, MN

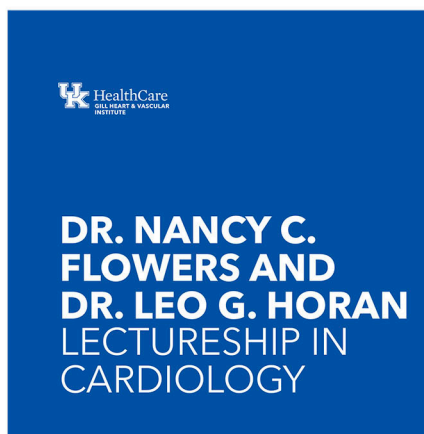
Meredith Duncan, PhD



- Data analysis from cohort studies
- Data Analysis of medical record cohorts
- 9 years in CV research

PhD in Epidemiology at Vanderbilt University
MA in Biostatistics at Boston University.

SEPTEMBER FLOWERS AND HORAN LECTURE



**SEPTEMBER 11, 2020
NOON**

"100 Years From C-Reactive Protein to Anti-Cytokine Therapy for Atherosclerosis: A History of Discovery"

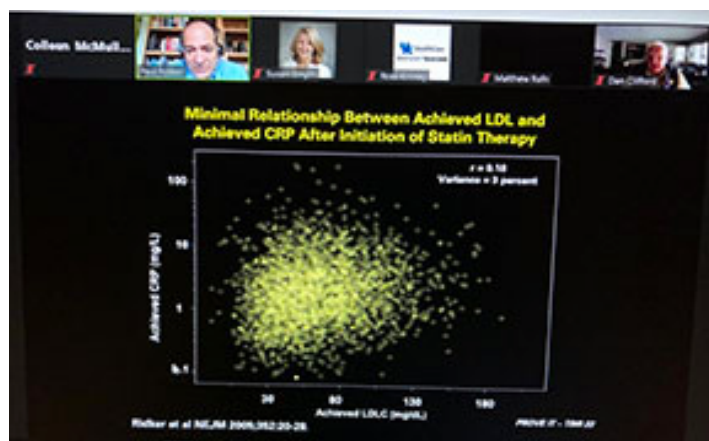
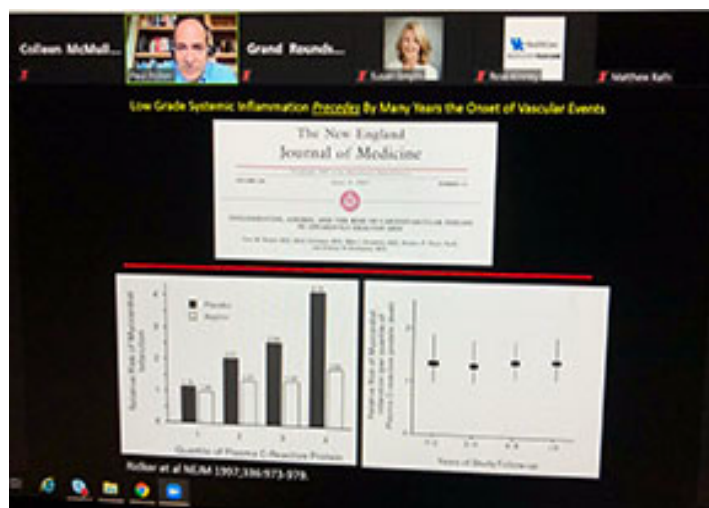
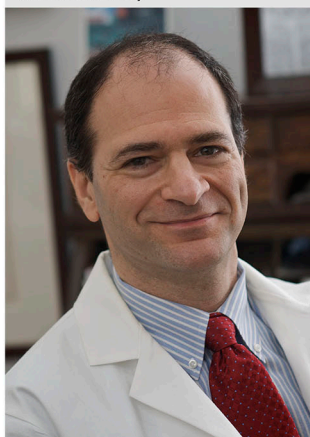
**Zoom Meeting
University of Kentucky
Lexington, KY**

Dr. Nancy Flowers and Dr. Leo Horan were an integral part of Gill Heart & Vascular Institute. When Dr. Flowers passed from this life in 2016, her family established this lectureship in hopes that her legacy will continue to inspire cardiologists and drive breakthroughs in research.

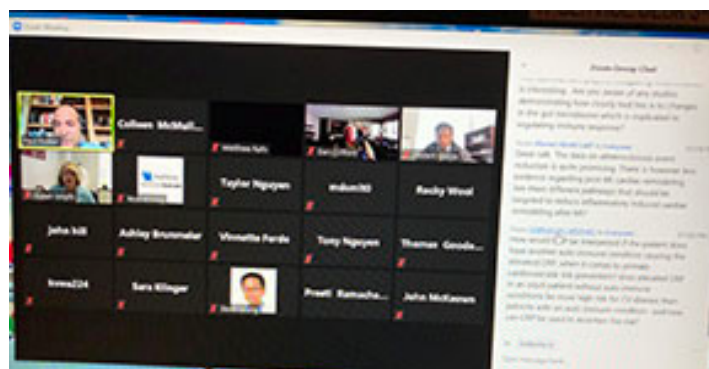
CME Credit Available

M9-0044

**HONORARY SPEAKER
Paul Ridker, M.D.**
Harvard University



Dr. Paul Ridker, senior physician at Brigham and Women's Hospital and the Eugene Braunwald Professor of Medicine at Harvard Medical School, was the honorary speaker for this lectureship. The lecture series was established in 2017 in memory of Flowers and the strong legacy she left behind at Gill Heart & Vascular Institute. Her family created the series in hopes that Flowers' memory will continue to inspire cardiologists and drive breakthroughs in research.



GRAND MAESTRO AWARD

The Honorable Maestro Award is the Kentucky Chapter - American College of Cardiology's highest honor. The award recognizes achievements in the field of cardiology and medicine, leadership in the regional and national cardiology community, charity work, mentorship as well as vigilant care of the sick.

At this year's KY-ACC 2020 meeting, Susan Smyth, MD, PhD was presented The Honorable Maestro

Award. She has contributed tremendously to cards/antithrombotics research, KY health, and is a great mentor!

Watch the award presentation [here](#).



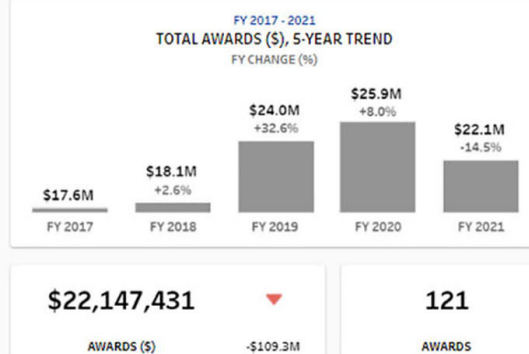
Honorable Maestro Award Presentation: David Moliterno, MD

Academic Fiscal Year
FY 2021

College or Unit
College of Medicine

College or Unit Department
(Multiple values)

Source of Funding
(All)

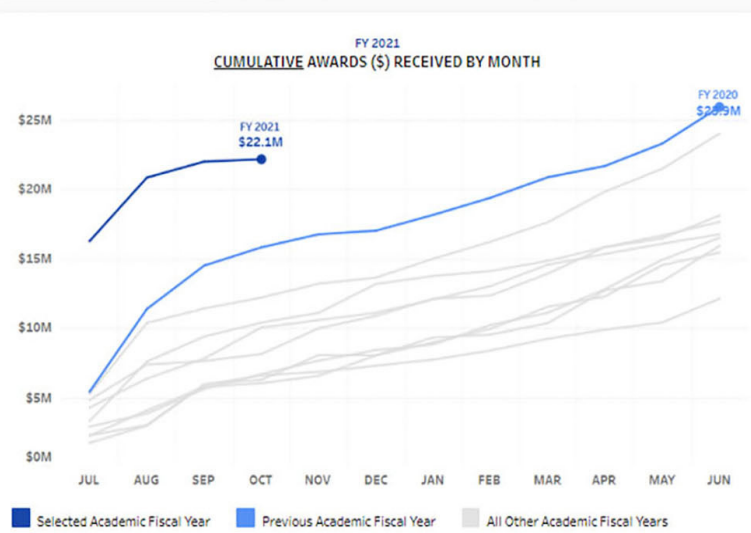


FY 2019 - 2021
COMPOUND ANNUAL GROWTH RATE OF FUNDING SOURCES

	FY 2019	FY 2020	FY 2021	
Federal Government	\$13,450,457	\$13,916,885	\$7,380,242	-25.9%
State Government	\$4,470,779	\$4,124,200	\$13,253,903	72.2%
Industry	\$2,596,136	\$3,298,135	\$449,044	-58.4%
Nonprofit	\$2,243,787	\$2,415,149	\$560,088	-50.0%
Other	\$1,227,460	\$2,148,870	\$504,154	-35.9%
Total	\$23,988,619	\$25,903,239	\$22,147,431	-3.9%

50 ▼
PRINCIPAL INVESTIGATORS -93

76 ▼
SPONSORS -81



FY 2021
HIGHEST FUNDED DEPARTMENTS

Internal Medicine	\$16,548,174
Markey Cancer Network	\$13,444,860
Center on Drug and Alcohol Research (CDAR)	\$11,901,226
Sanders-Brown Center on Aging (SBCoA)	\$6,994,463
Molecular and Cellular Biochemistry	\$6,177,632
Physiology	\$5,352,385
Surgery	\$3,526,688
Pharmacology and Nutritional Sciences	\$3,306,552
Family and Community Medicine	\$2,712,881
Psychiatry	\$2,491,061
Center of Excellence in Rural Health	\$2,473,064
Behavioral Science	\$2,402,608

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
01/15/17-01/14/21

RIT1 as Novel Driver Oncogene in Lung Adenocarcinoma
KY Lung Cancer Research Fund
07/01/16-06/30/21

An Innovative Therapeutic Approach to Treat Cardiomyopathy
Army Medical Research and Materiel Command
07/01/20-06/30/23

Donna Arnett

Genomewide Association Study of Lipid Response to Fenofibrate and Dietary Fat
National Heart Lung and Blood Institute
12/01/07-02/28/21

Ken Campbell

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

Length-Dependent Activation in Human Myocardium
National Heart Lung and Blood Institute
09/15/20- 07/31/24

Dual Filament Control of Myocardial Power and Hemodynamics
University of Missouri
08/25/20- 07/31/24

Computer Modeling of Myosin Binding Protein C and its Effect on Cardiac Contraction
Case Western Reserve
04/01/19-03/31/23

Thick-Filament Regulation In Human Heart Failure
Washington State University
07/01/19-06/30/22

CRCNS: Multi-Scale Models of Proprioceptive Encoding for Sensorimotor Control
Emory University
09/16/16-05/31/2021

Internal Medicine is currently the highest funded division in the College of Medicine.

RESEARCH FUNDING CONTINUED

Lisa Cassis

Center of Research in Obesity and Cardiovascular Disease COBRE Core A: Admin
Core National Institute of General Medical Sciences
09/08/08-07/31/23

Supplemental Environmental Project Compliance Assistance Tools and Services
KY Department of Environmental Protection
07/01/07-12/31/21

EPSCoR Administrative
KY Economic Development Cab
02/01/19-06/30/22

Healthy Kentucky Research Building Fit-up for Vascular Research
Office of the Director
09/23/19-10/31/21

Sex Differences in Angiotensin-Induced Vascular Diseases
National Heart Lung and Blood Institute
03/21/12-05/31/21

Richard Charnigo
Almost-Smooth Nonparametric Regression and Pattern Recognition
12/14/16-11/13/20

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

Adventitial-Medial Interactions in Thoracic Aortic Diseases
American Heart Association
06/01/16- 05/31/21

Macrophage Migration Inhibitory Factor and Urinary Pain
Lexington Biomedical Research Institute
07/01/19-06/30/23

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

Circadian Clock Regulation of Myocardial Ion Channel Expression and Function
University of Florida
09/01/20- 05/31/21

Tbx3-regulated Alternative RNA Processing in Cardiac Conduction System Development
Geisinger Health System
04/15/16- 03/31/21

Florin Despa
The Amylin Dyshomeostasis Hypothesis of Vascular Contributions to Cognitive Impairment and Dementia (VCID)
National Institute of Neurological Disorders & Stroke
04/01/20-03/31/25

Programing Amylin Secretion to Slow Brain Aging - An Animal Model
National Institute of Aging
09/15/17-04/30/22

Role of Systemic Amylin Dyshomeostasis in Alzheimer's Disease
National Institute on Aging
09/15/16- 05/31/21

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

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

Kentucky Lung Cancer Survivorship Program
Bristol Myers Squibb Foundation Incorporated
09/01/14- 02/28/21

RESEARCH FUNDING CONTINUED

High Density Lipoprotein Targeting
Protease Inhibitors for Preservation
of Lung Function
Alpha One Foundation Incorporated
07/01/19-12/31/20

Gregory Graf

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

Bernhard Henning

Nutrition and Superfund Chemical
Toxicity
National Institute of Environmental
Health Sciences
04/01/97-01/31/25

Brian Jackson

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

Jing Li

Project MISSION: Developing a
multicomponent, Multilevel Implementation Strategy for Syncope
OptImalCare thrOugh eNgagement
National Heart Lung and Blood
Institute
08/15/18-07/31/20

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
11/01/15-11/30/21

Zhenyu Li

Inflammasome Activation Triggers
Systemic Coagulation in Sepsis
National Heart Lung and Blood
Institute
05/15/19-04/30/23

A Novel Mechanism of Immunosuppression in Sepsis: Depletion of
Monocytes and Macrophages
National Institute of General Medical
Sciences
09/20/19-06/30/23

Heart-Platelet Crosstalk: JNK, AFib,
and Thrombogenesis
Rush University Medical Center
05/15/19-02/28/23

Analia Loria

Effect of Early Life Stress on Obesity-Induced Hypertension in Mice
National Heart Lung and Blood
Institute
12/01/17-11/30/22

Fat Nerve Recording in Mice
American Physiological Society
10/01/19-07/31/21

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
04/15/16-04/14/21

Anniston Community Health Survey: Follow-up Study and Dioxin
Analyses
National Cancer Institute
05/01/19-04/30/21

Debra Moser

Rural Intervention for Caregivers' Heart Health (RICHH)
National Institute of Nursing Research
09/26/16-06/30/21

Gia Mudd-Martin

Corazón de la Familia (Heart of the Family)
National Institute of Nursing Research
03/02/17-01/31/22

Heart of the Family: A Cardiovascular Disease and Type 2 Diabetes
Risk Reduction Intervention in
High-Risk Rural Families
National Institute of Nursing Research
09/07/20- 06/30/25

Timothy Mullett

Using Biomarkers and Imaging in
Fungal Regions to Improve Lung
Cancer
Diagnosis Vanderbilt University
04/01/19-03/31/21

RESEARCH FUNDING CONTINUED

Kentucky Lung Cancer Survivorship Program
Bristol Myers Squibb Foundation Incorporated
09/01/14- 02/28/21

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

Jonathan Satin
Monomeric G-Proteins and Cardio-protection from Heart Failure
National Heart Lung and Blood Institute
09/01/17- 08/31/21

An Innovative Therapeutic Approach to Treat Cardiomyopathy
Army Medical Research and Materiel Command
07/01/20- 6/30/23

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

Implementing an Evidence-Based mHealth Diet and Activity Intervention: Make Better Choices 2 for Rural Appalachians
National Heart Lung and Blood Institute
08/01/20- 04/30/25

Susan Smyth
Lipid Phosphate Phosphatase 3 as a Novel Atherosclerosis Suppressor
National Heart Lung and Blood Institute
04/01/15-03/31/21

NRSA Training Core (Kentucky Center for Clinical and Translational Science)
National Center for Advancing Translational Sciences
08/15/16-05/31/21

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
08/15/18-06/30/21

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
01/01/19-12/31/24

Dongfang Wang
Development of a Paracorporeal Pump-Integrated Artificial Lung for Transport of Warfighters with Acute Respiratory Distress Syndrome (ARDS)
Army Medical Research and Materiel Command
08/15/19 -08/14/22

SBIR: Development of a TransApical to Aorta Double Lumen Cannula for a Neonate LVAD
W-Z Biotech LLC
04/01/19-07/31/20

Shuxia Wang
Thrombospondin 1 in obesity associated inflammation and insulin resistance
National Institute Diabetes & Digestive & Kidney
08/20/17-05/31/21

Christopher Mark Waters
Biophysical Mechanisms of Hypoxia-Induced Lung injury
National Heart Lung and Blood Institute
04/15/20- 03/31/24

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

Regulation and Function of IL33 During Neonatal RSV Infection
Louisiana State University
05/05/18-07/31/20

Nancy Webb

Serum Amyloid A, Inflammasome Activation, and Abdominal Aortic Aneurysms
National Heart Lung and Blood Institute
01/01/17-12/31/20

NRSA T32: Pharmacology and Nutritional Sciences: Multidisciplinary Approaches for Metabolic Disease National Institute Diabetes & Digestive & Kidney
08/15/00-07/31/21

Jonathan Wenk

Force Validated Heart Valve Surgical Planning Tool
University of Arkansas
09/01/19-08/31/22

Sidney Whiteheart

Platelet Exocytosis and Endocytosis in Thrombosis and Immunity
National Heart Lung and Blood Institute
04/01/20-03/31/28

Jeremy Wood

Protein S Anticoagulant Activity: Biochemical Mechanisms and Structural
Studies National Heart Lung and Blood Institute
09/15/15-03/31/21

SEMINARS AND JOURNAL CLUBS

* Please note if these seminars are still occurring, they will be online only. Check website for details.

Cardiovascular Seminar Series

Fridays at 8:00 am

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

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

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.

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

PUBLICATIONS

JULY-SEPTEMBER

Abed MA, Khalifeh AH, Khalil AA, Darawad MW, Moser DK. Functional health literacy and caregiving burden among family caregivers for patients with end-stage renal disease. *Res Nurs Health*. 2020 Aug 5. doi: 10.1002/nur.22060.

Alaei S, Wang S, **Anaya P**, Patwardhan A. Co-occurrence and phase relationship between alternans of the R wave amplitude (RWAA) and of the T wave (TWA) in ECGs. *Comput Biol Med*. 2020 Jun;121:103785. doi: 10.1016/j.combiomed.2020.103785.

Al-Hammouri MM, Rababah JA, Hall LA, **Moser DK**, Dawood Z, Jawhar W, Alawawdeh A. Self-care behavior: a new insight of the role of impulsivity into decision making process in persons with heart failure. *BMC Cardiovasc Disord*. 2020 Jul 27;20(1):349. doi: 10.1186/s12872-020-01617-8.

Andres DA, Young LEA, Gentry MS, Sun RC. Spatial profiling of gangliosides in mouse brain by mass spectrometry imaging. *J Lipid Res*. 2020 Jun 1; jlr.ILR120000870. doi: 10.1194/jlr.ILR120000870.

Antiochos P, Ge Y, Steel K, Bingham S, Abdullah S, Mikolich JR, Arai AE, Bandettini WP, Patel AR, Farzaneh-Far A, Heitner JF, Shenoy C, **Leung SW**, et al.; SPINS Study Investigators. Imaging of Clinically Unrecognized Myocardial Fibrosis in Patients With Suspected Coronary Artery Disease. *J Am Coll Cardiol*. 2020 Aug 25;76(8):945-957.

Antiochos P, Ge Y, Steel K, Chen YY, Bingham S, Abdullah S, Mikolich JR, Arai AE, Bandettini WP, Patel AR, Farzaneh-Far A, Heitner JF, Shenoy C, **Leung SW**, et al. Evaluation of Stress Cardiac Magnetic Resonance Imaging in Risk Reclassification of Patients With Suspected Coronary Artery Disease. *JAMA Cardiol*. 2020 Jul 29:e202834. doi: 10.1001/jamacardio.2020.2834.

Arnett DK, Graf GA. Metabolomics, Lipid Pathways, and Blood Pressure Change. *Arterioscler Thromb Vasc Biol*. 2020 Aug;40(8):1801-1803. doi: 10.1161/ATVBAHA.120.314816.

Aru RG, Wallace JP, **Bounds MC, Sheppard MB**, Guney AK, O'Connor WN, Tyagi S. Spontaneous Rupture of Mesenteric Vasculature Associated with Fibromuscular Dysplasia in a 28-Year-Old Male. *Ann Vasc Surg*. 2020 Sep 15;S0890-5096(20)30862-1. doi: 10.1016/j.avsg.2020.08.157.

Awinda PO, Bishaw Y, Watanabe M, Guglin MA, **Campbell KS**, Tanner BCW. Effects of mavacamten on Ca²⁺ sensitivity on contraction as sarcomere length varied in human myocardium. *Br J Pharmacol*. 2020 Sep 22. doi: 10.1111/bph.15271.

Bagheri M, Tiwari HK, Murillo AL, Al-Tobasei R, **Arnett DK**, Kind T, Barupal DK, et al. A lipidome-wide association study of the lipoprotein insulin resistance index. *Lipids Health Dis*. 2020 Jun 25;19(1):153. doi: 10.1186/s12944-020-01321-8.

Banerjee M, Huang Y, Joshi S, Popa GJ, Mendenhall MD, Wang QJ, Garvy BA, Myint T, **Whiteheart SW**. Platelets Endocytose Viral Particles and Are Activated via TLR (Toll-Like Receptor) Signaling. *Arterioscler Thromb Vasc Biol*. 2020 Jul;40(7):1635-1650. doi: 10.1161/ATVBAHA.120.314180.

Bazan VM, Rodgers-Fischl P, **Zwischenberger JB**. Supportive Therapy: Extracorporeal Membrane Oxygenation. *Crit Care Clin*. 2020 Jul;36(3):517-529. doi: 10.1016/j.ccc.2020.02.007.

Beavers CJ, Naqvi IA. Clopidogrel. 2020 Jul 10. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2020 Jan—.

Bhalla V, Lamping OF, **Abdel-Latif A, Bhalla M**, Ziada K, **Smyth SS**. Contemporary Meta-Analysis of Extended Direct-Acting Oral Anticoagulant Thromboprophylaxis to Prevent Venous Thromboembolism. *Am J Med*. 2020 Sep;133(9):1074-1081.e8. doi: 10.1016/j.amjmed.2020.01.037.

PUBLICATIONS CONTINUED

Bittner E, Ueland W, Nisiewicz MJ, Siddiqi H, Plymale MA, **Davenport DL**, Roth JS. Ventral hernia patient outcomes postoperatively housed on surgical vs non-surgical units. *Surg Endosc*. 2020 Jul 27;1-5. doi: 10.1007/s00464-020-07829-5.

Blair CA, Brundage EA, Thompson KL, Stromberg A, Guglin M, Biesiadecki BJ, **Campbell KS**. Heart Failure in Humans Reduces Contractile Force in Myocardium From Both Ventricles. *JACC Basic Transl Sci*. 2020 Jul 22;5(8):786-798. doi: 10.1016/j.jacbts.2020.05.014.

Campbell KS, Chrisman BS, Campbell SG. Multiscale Modeling of Cardiovascular Function Predicts That the End-Systolic Pressure Volume Relationship Can Be Targeted via Multiple Therapeutic Strategies. *Front Physiol*. 2020 Aug 19;11:1043. doi: 10.3389/fphys.2020.01043.

Captur G, Bhandari A, Brühl R, Ittermann B, Keenan KE, Yang Y, Eames RJ, et al., (**Leung SW**); T1MES Consortium. T1 mapping performance and measurement repeatability: results from the multi-national T1 mapping standardization phantom program (T1MES). *J Cardiovasc Magn Reson*. 2020, 7;22(1):31. doi: 10.1186/s12968-020-00613-3.

Clements L, Frazier SK, **Moser DK**, **Lennie TA**, **Chung ML**. The Mediator Effects of Depressive Symptoms on the Relationship between Family Functioning and Quality of Life in Caregivers of Patients with Heart Failure. *Heart Lung*. 2020

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Contreras G, Lu L, Tamariz L, Rocco MV, Papademetriou V, Kostis JB, Pisoni R, **Glasser SP**, et al. ; SPRINT Research Group. Outcomes in adults with systolic blood pressure between 130 and 139mmHg in Action to Control Cardiovascular Risk in Diabetes Blood Pressure trial and Systolic Blood Pressure Intervention Trial. *J Hypertens*. 2020 Aug;38(8):1567-1577. doi: 10.1097/HJH.0000000000002437.

Dalmasso C, Chade AR, Mendez M, Giani JF, Bix GJ, Chen KC, **Loria AS**. Intrarenal Renin Angiotensin System Imbalance During Post-natal Life Is Associated With Increased Microvascular Density in the Mature Kidney. *Front Physiol*. 2020 Sep 1;11:1046. doi: 10.3389/fphys.2020.01046.

Darrat YH, Smer A, Elayi CS, **Morales GX**, Alqahtani F, Alkhouli M, Catanzaro J, Shah J, Salih M. Mortality and morbidity in patients with atrial fibrillation and liver cirrhosis. *World J Cardiol*. 2020 Jul 26;12(7):342-350. doi: 10.4330/wjc.v12.i7.342.

Davis KA, Peng H, Chelvarajan L, **Abdel-Latif A**, Berron BJ. Increased yield of gelatin coated therapeutic cells through cholesterol insertion. *J Biomed Mater Res A*. 2020 Jun 3. doi: 10.1002/jbm.a.37025.

Dhaliwal JS, Wadle MJ, **Malyala R**, Dwarakanath S, Hatton KW. Tricuspid Valve Excision Complicated by Postoperative Gerbode Defect Following Recurrent Infective Endocarditis: A Case Report. *Semin Cardiothorac Vasc Anesth*. 2020 Aug 27;1089253220952260. doi: 10.1177/1089253220952260.

Diab M, Wazni OM, Saliba WI, Tarakji KG, **Ballout JA**, Hutt E, Rickard J, et al. Ablation of Atrial Fibrillation Without Left Atrial Appendage Imaging in Patients Treated With Direct Oral Anticoagulants. *Circ Arrhythm Electrophysiol*. 2020 Sep;13(9):e008301. doi: 10.1161/CIRCEP.119.008301.

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Dulam V, Cooper JM, Gangireddy C, Kashem MA, Toyoda Y, **Keshavamurthy S**. From leads to leadless: A convoluted journey. *HeartRhythm Case Rep*. 2020 Jul 22;6(10):757-760. doi: 10.1016/j.hrcr.2020.07.010.

PUBLICATIONS CONTINUED

Dulam V, McCarthy J, Guvakov D, Kashem MA, Toyoda Y, **Keshavamurthy S**. Proximal Anastomotic Device Malfunction: Salvage Using Alternative Option. *Innovations* (Phila). 2020 Sep/Oct;15(5):487-489. doi: 10.1177/1556984520949291.

Dulam V, Lakhter V, Kashem MA, Toyoda Y, **Keshavamurthy S**. Cardiac tamponade masquerading as headache: A diagnostic conundrum. *J Card Surg*. 2020 Aug;35(8):2081-2083. doi: 10.1111/jocs.14809.

Elbadawi A, Elgendy IY, Sardar P, Omer MA, **Ogunbayo G**, Bhatt DL. Palliative Care Utilization Among Patients With Critical Limb Ischemia: Insights From a National Database. *JACC Cardiovasc Interv*. 2020 Jul 27;13(14):1729-1731. doi: 10.1016/j.jcin.2020.04.038.

Elbadawi A, Hamed M, Elgendy IY, Omer MA, **Ogunbayo GO**, Megaly M, Denktas A, Ghanta R, Jimenez E, Brilakis E, Jneid H. Outcomes of Reoperative Coronary Artery Bypass Graft Surgery in the United States. *J Am Heart Assoc*. 2020 Aug 4;9(15):e016282. doi: 10.1161/JAHA.120.016282.

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Gordon SM, Amar MJ, Jeiran K, Stagliano M, Staller E, Playford MP, Mehta NN, *et al*. Effect of niacin monotherapy on high density lipoprotein composition and function. *Lipids Health Dis*. 2020 Aug 21;19(1):190. doi: 10.1186/s12944-020-01350-3.

Gunn TM, **Gurley JC**, **Keshavamurthy S**. Cannula migration through an undiagnosed patent foramen ovale and embolic cerebrovascular accident in a patient with femoral venoarterial extracorporeal membrane oxygenation. *J Card Surg*. 2020 Jul;35(7):1681-1682. doi: 10.1111/jocs.14618.

Guo W, Wu D, Dao MC, Li L, Lewis ED, Ortega EF, Eom H, Thomas M, **Nikolova-Karakashian M**, Meydani M, Meydani SN. A Novel Combination of Fruits and Vegetables Prevents Diet-Induced Hepatic Steatosis and Metabolic Dysfunction in Mice. *J Nutr*. 2020 Sep 16:nxaa259. doi: 10.1093/jn/nxaa259.

Guo Y, Ye Q, Deng P, Cao Y, He D, Zhou Z, Wang C, Zaytseva YY, Schwartz CE, Lee EY, Mark Evers B, **Morris AJ**, Liu S, She QB. Spermine synthase and MYC cooperate to maintain colorectal cancer cell survival by repressing Bim expression. *Nat Commun*. 2020 Jun 26;11(1):3243. doi: 10.1038/s41467-020-17067-x.

Gupta M, Dugan A, Chacon E, **Davenport DL**, **Shah MB**, Marti F, Roth JS, Bernard A, **Zwischenberger JB**, Gedaly R. Detailed

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Gupta S, Konradt C, Corken A, Ware J, Nieswandt B, Di Paola J, Yu M, Wang D, Nieman MT, **Whiteheart SW**, Brass LF. Hemostasis vs. homeostasis: Platelets are essential for preserving vascular barrier function in the absence of injury or inflammation. *Proc Natl Acad Sci U S A*. 2020 Sep 29;117(39):24316-24325. doi: 10.1073/pnas.2007642117.

Ge Y, Pandya A, Steel K, Bingham S, Jerosch-Herold M, Chen YY, Mikolich JR, Arai AE, Bandettini WP, Patel AR, Farzaneh-Far A, Heitner JF, Shenoy C, **Leung SW**, *et al*. Cost-Effectiveness Analysis of Stress Cardiovascular Magnetic Resonance Imaging for Stable Chest Pain Syndromes. *JACC Cardiovasc Imaging*. 2020 Jul;13(7):1505-1517. doi: 10.1016/j.jcmg.2020.02.029.

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PUBLICATIONS CONTINUED

Heo S, **Moser DK**, **Lennie TA**, Fischer M, Kim J, Walsh MN, Thurston MM, Webster JH. Varied Factors were Associated with Different Types of Self-Care in Heart Failure. *West J Nurs Res*. 2020 Aug 25;193945920950334. doi: 10.1177/0193945920950334.

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UPCOMING 2021 EVENTS

Here are some of the upcoming events for next year. Details will follow when available.

Healthy Hearts for Women – Feb 5

Go Red- Feb 19

Aortic Symposium- Date March TBD

Heart Walk- May 8

Nurses Week- May 6-12

Cardiology Fellows Graduation- May 14



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