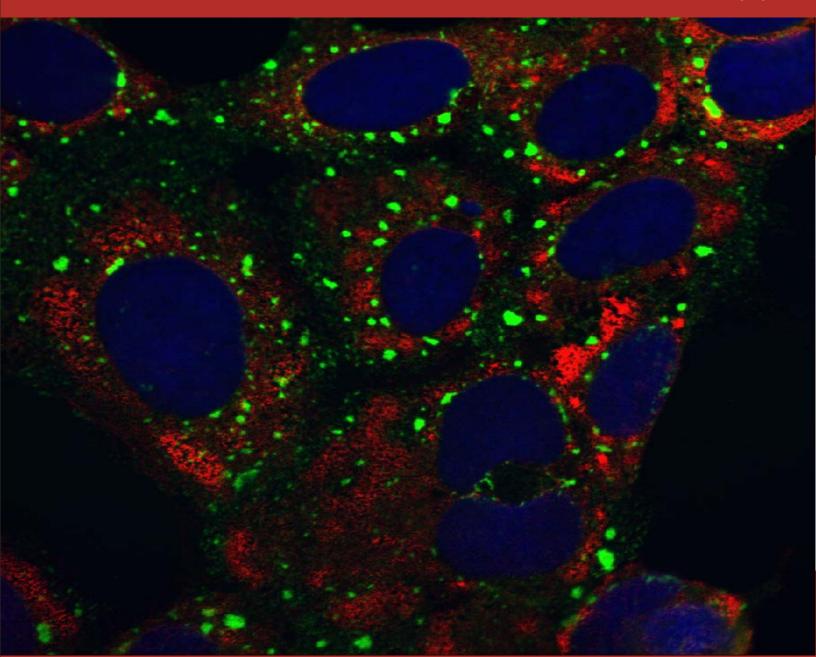
THE GITCHE

January-March 2019



University of Kentucky Gill Heart & Vascular Institute Quarterly News



DIRECTOR'S CORNER



Vincent L. Sorrell, MD, FACC, FACP Position(s):

The Anthony N. DeMaria Professor of Medicine Assistant Chief, Division of Cardiovascular Medicine Director, Advanced Cardiovascular Imaging Co-Director, Cardiothoracic CT/MRI Imaging

Affiliations:

Internal Medicine-Cardiology Cardiovascular Research Center

Interests / Specialties: Advanced Cardiovascular Imaging Cardiovascular Medicine

Follow Vince on Twitter @VLSorrellImages



Brian P. Delisle, PhD Position(s): Associate Professor

Affiliation(s):

Physiology Cardiovascular Reserach Center

Interests / Specialties:

Advanced Cardiovascular Imaging Cardiovascular Medicine

Cover Image: HEK293 cells expressing LQT2 mutations courtesy of Brian Delisle.

The featured departments in this Gill Gazette are CV Imaging and research in Dr Brian Delisle's lab which start on page 14.

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Clinical Trials

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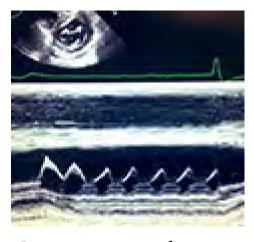


Image courtesy of @VLSorrellImages

Fellows 6

Affiliates 8

Current Funding 36

Research & Publications 44

The Gill Heart & Vascular Institute

1000 South Limestone University of Kentucky Lexington KY 40536

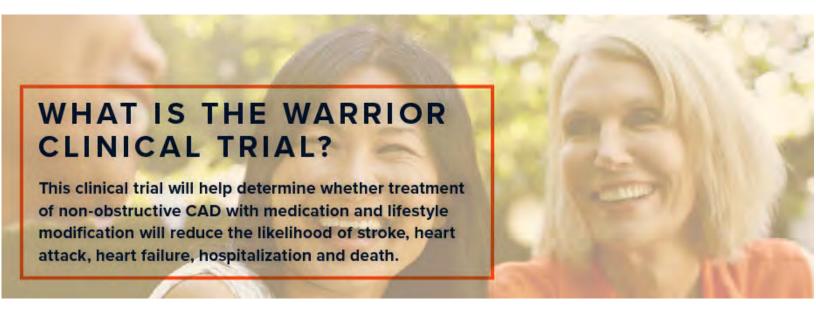
859-257-1999

1-800-333-8874

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

CLINICAL TRIAL UPDATES

Featured Clinical Trials



From UF website: https://warrior.medicine.ufl.edu about-the-study

About the Study

The Department of Defense has awarded grant to the University of Florida to study a type of heart disease that disproportionately affects women: Non-obstructive coronary artery disease. This study aims to evaluate women the throughout the United States. The University of Kentucky Gill Heart & Vascular is one of the participating sites.

Why Study CAD?

Around 400,000 women die every year from cardiovascular disease, making this the leading cause of death in American women. Among women with severe chest pain, 40-65% have no obstructive coronary artery disease, and receive no specific therapy. However, women have higher than expected risk for major adverse cardiac events.

What's Involved?

This is a three-year clinical study being conducted to determine whether aggressive medication treatment will reduce women's likelihood of dying, having a heart attack, stroke or being hospitalized. The results of this study will improve women's cardiac health and quality of life.

Who Can Participate?

Researchers will recruit 4,422 women who have signs and symptoms of suspected ischemia prompting referral for further evaluation by cardiac catheterization, or coronary angiogram within 3 years from consent. These women will be recruited around the nation and includes the Department of Veterans Affairs and active duty military hospitals and clinics.



Clinical Research Organization Gill Heart & Vascular Institute

Currently Enrolling Clinical Trials

Research Pager: 330-2001

FIX-HF-5C - Laura

PI: Aaron Hesselson, MD

CAP for the Evaluation of the OPTIMIZER Smart System in Subjects with EF 25-45%

PI: Maya Guglin, MD, PhD NYHA Class III or IV, LVEF >25% and <45%, on > 30 days stable GDMT, no Milrinone INTELLECT 2-HF – Rebekah

Optimize Hemodynamic Management of HeartMate LVAD in Patients using CardioMEMS

Has CardioMEMS + HeartMate LVAD or meets indication for CardioMEMs

PI: Aaron Hesselson, MD Extended CRT Evaluation with Quadripolar Left Ventricular Leads

OP EXCELS – Alex

PI: Maya Guglin, MD, PhD Standard CRT-D indication, implantation OR upgrade from existing ICD/pacemaker **GUIDE-HF—Andrea**

Hemodynamic Guided Management of Heart Failure using CardioMEMs

Diagnosis & treatment of HF >90 days

HFH within 12 months and/or elevated NT-proBNP (or BNP) within 30 days

PI: John Gurley, MD Amulet – Rebekah

AMPLATZER Amulet Left Atrial Appendage Occluder Randomized Controlled Trial

Nonvalvular AFIB, suitable for LAA closure (Amulet or Watchman)

aMAZE - Viktoria

LAA Ligation with the LARIAT as Adjunctive Therapy to PVI for AFIB

Nonvalvular AFIB, suitable for PVI

PI: Zhenyu Li, MD, PhD & Yousef Darrat, MD BNP in A-Fib - Mindy

Brain Natriuretic Peptide Promotes Thrombosis in Atrial Fibrillation

Patients with paroxysmal AFib not currently on antiplatelet therapy

OPUS - Chris

 Must be within 30 days of starting Opsumit for Pulmonary Hypertension Post-Marketing Registry Protocol for Opsumit

Oral Treprostinil in Subjects with PH in HFpEF

TDE 301/302 (Southpaw) - Chris

RHC within 90 days, LVEF > 50%, total lung capacity at least 60% predicted

PI: Andrew Kolodziej, MD

Inhaled Treprostinil in Patients with PH Due to Parenchymal Lung Disease

RIN-PH-201/202 (INCREASE/OLE)—Chris

WHO Group 3 confirmed with CT imaging, RHC within 1 year prior to randomization

Safety of 3-month DAPT in subjects w/high risk of bleeding after PCI w/XIENCE Stents

XIENCE 90 - Chris

PI: Khaled Ziada, MD

High risk of bleeding, undergoing PCI with XIENCE Stent

PI: Andrew Leventhal, MD, PhD **COMPASSION S3 – Jennifer**

Safety and Effectiveness of SAPIEN 3 THV System

Dysfunctional RVOT conduit or previously implanted valve in the pulmonic position

PFO PAS - Alex

AMPLATZER PFO Occluder Post Approval Study

PI: John Gurley, MD

Non-ischemic stroke and PFO suitable for closure, age < 60

PI: Khaled Ziada, MD Efficacy of SurVeil Drug-Coated Balloon for Stenotic Lesions of Femoropopliteal Artery TRANSCEND—Alex

Target limb Rutherford classification 2, 3, or 4

KNOCOUT PE—Kevin

PI: Adrian Messerli, MD

EKoSoNic Registry of the Treatment and Clinical Outcomes of Patients with PE

PE symptoms <14 days intended for treatment with EKOS

RV/LV >1.0 from CTA or Echo and troponin elevation

TAFI (DS1040B) - Viktoria

Randomized, Double-Blind, Placebo-Controlled Study of DS-1040b added to SOC

Anticoagulation Therapy in Subjects with Acute Submassive Pulmonary Embolism

Hospitalized for acute PE characterized as low-risk, or immediate-risk (submassive)

that are planned to be treated with SOC anticoagulation therapy alone

PI: Gretchen Wells, MD, PhD Women's Ischemia Trial to Reduce Events in Non-Obstructive CAD WARRIOR—Kevin

Signs and symptoms of suspected ischemia prompting referral for cardiac catheterization or coronary angiogram or coronary CT angiogram.

Non-obstructive CAD defined as <50% diameter reduction of a major epicardial

Contact Us:

Jennifer Isaacs: 323-4738

PI: John Gurley, MD

Viktoria Bulkley: 323-8516 Rebekah Evans: 323-8663

Alex Hunter: 323-5259

Andrea Shaffer: 323-7195

Kevin Tillman: 859-218-2880 Mindy Thompson: 323-5366

Laura True: 218-1644

Chris Webb: 323-1082

PI: David Booth, MD

PI: David Booth, MD

PULMONARY HYPERTENSION **HEART FAILURE** HYPERTENSION AFIB/LAA

OTHER/ PCI/ TRANSPLANT

FELLOWS NEWS

Congratulations New Dads!



Avannah Bea Benn 01/16/2019 Francis Benn, MD



Rachel Hope George 2/17/2019 Bennet George, MD



Lillian James Sousa 2/5/2019 Matthew Sousa, MD



Liam Gregory Sinner 2/2/19 Gregory Sinner, MD

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

SAVE THE DATE

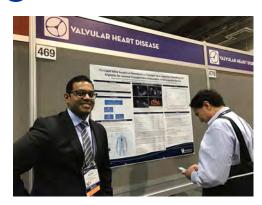


September 20, 2019 - Bill Gatton Student Center

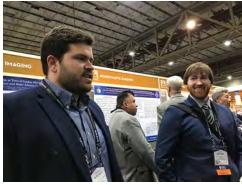
FELLOWS NEWS

ACC Scientific Sessions March 16-18, 2019

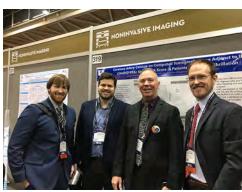
Bennett George (Fellow 2014-2017, Interventional Fellow 2017-2019)



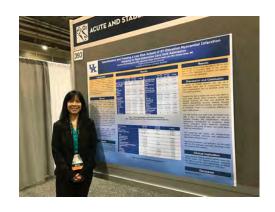
Andrew Burchett (Fellow 2014-2017) and Hoyle Whiteside (Trey) (Fellow 2019-2022)



Hoyle Whiteside (Trey) (Fellow 2019-2022), Andrew Burchett (Fellow 2014-2017), Vincent Sorrell, Dustin Hillerson (Fellow 2017-2020)



Suartcha Prueksaritanond (Fellow 2016-2019)



AFFILIATE & OUTREACH NEWS

Given the expansion of sub-specialty areas within cardiovascular medicine it is imperative that community providers and clinicians who provide cardiac care have opportunities for exposure to emerging treatments and therapies in cardiology. Through the he Gill Heart & Vascular Institute Mini fellowship program, cardiac providers will have the opportunity for highly individualized learning opportunities comprised of didactic lecture, patient observation and/or hands on training.

We offer mini fellowships in the following areas:

- Heart Failure, Mechanical Circulatory Support, and Heart Transplantation
- Advance Cardiac Imaging
- Cath Lab
- Cardiovascular Pharmacy
 Following are the highlights of some of the programs.



It was ECMO all day at UKHC as we hosted St Elizabeth NKY for an ECMO training course. Thank you for spending the day with us and helping to elevate care in Kentucky!





Women's heart Big thanks to our Gill Affiliates, Lake Cumberland Regional Hospital, Harrison Memorial Hospital, Appalachian Regional Hospital, and Highlands Regional Medical Center, for attending the 2019 Healthy Hearts Symposium and helping us celebrate Go Red for Women!





Another successful collaboration with Gill Affiliate, Georgetown Community Hospital, as Dr Andrew Kolodziej presented on pulmonary hypertension. We had a great crowd, including one of our own, Dr. Joe Thomas! Thanks to GHC's Bridget Foster for coordinating the event!



Dr John Gurley celebrated Heart
Month and Valve Awareness Day by
partnering with Gill Affiliate,
Owensboro Health, to present grand
rounds. Thank you to Owensboro
Health's Dr Francis DuFrayne and Dr
Lior Shamai for joining us!

AFFILIATE AND OUTREACH CONT.





Thank you Lynda Orozco MD, FACC with Gill Affiliate, Appalachian Regional Healthcare (ARH), for spending time with Gill Heart & Vascular Institute's Cardiac Imaging team and Women's Heart Health program. We love collaborating to elevate cardiovascular care in Kentucky!



We are so excited to team up with Appalachian Regional Healthcare to host two UK greats: Benny Snell and Tim Couch in Whitesburg today. It takes teamwork, on and off the field, to serve the people of Kentucky!





It was another great Gill Affiliate collaboration as Dr Vince Sorrell presented "CT Scan or CT Scam" at Owensboro Health CV Grand Rounds. Thank you for hosting us. It is always pleasure working with your cardiac team!



MCS medical director, Dr. Maya Guglin, and manager, Julia Jones, explain VAD technology during Grand Rounds at Methodist Hospital in Kentucky. Thank you for the opportunity to participate in this educational activity with your physicians and staff!

THANK YOU TO THE ECHO TEAM FOR HOSTING THE AFFILIATE EXCLUSIVE EVENT: ECHOCARDIOGRAPHY: CARDIAC EVALUATION,

For more information please see page 12 or contact Annette Smith or Rebecca Craft.

SCANNING AND CASE REVIEW APRIL 27-28, 2019



SAVE THE DATE

ECHOCARDIOGRAPHY: CARDIAC EVALUATION, SCANNING AND CASE REVIEW

Presented by the Gill Heart & Vascular Institute Adult Echocardiography Lab exclusively for the members of the Gill Heart & Vascular Institute Affiliate Network

Join us for an up-to-date comprehensive review of echocardiography, including measurements, valve evaluation, systolic/diastolic function and strain imaging. This review also includes eight hours of hands-on instruction by experienced sonographers.

REGISTRATION

To register for this educational activity, please contact Rebecca Craft, 859-285-8083.

INFORMATION

To learn more about the review and speakers, visit <u>CE Central</u>.

APRIL 27-28 8 A.M. - 4 P.M.

Charles T. Wethington Jr. Building Room 312 900 South Limestone Lexington, KY 40536

This activity has been approved for *AMA PRA Category 1 Credit* $^{\text{TM}}$. The University of Kentucky is an equal opportunity employer.



Kentucky Cardiovascular & Limb Preservation

Symposium

Presentations

Aortic Stenosis for the Primary Physician Shawn Flynn, M.D.

The Future of Ischemic Heart Disease Ahmed Abdel-Latif, M.D.

Navigating the Rising Tide of Adult Congenital Heart Disease (ACHD): When to Swim on Your Own and When to Call for a Life Raft! Walter L. Sobczyk, M.D. Acute Limb Ischemia: Presentation, Recognition, Management Patricio Rosa Sierra, M.D.

Venous Disease 101 Sam Tyagi, M.D.

"I got a swollen leg Doc!" Sharat Koul, D.O.

CME's and CEU's available

Saturday, May 11, 2019 8:30 a.m. to 4:00 p.m. Norton Center for the Arts 600 West Walnut Street, Danville, KY

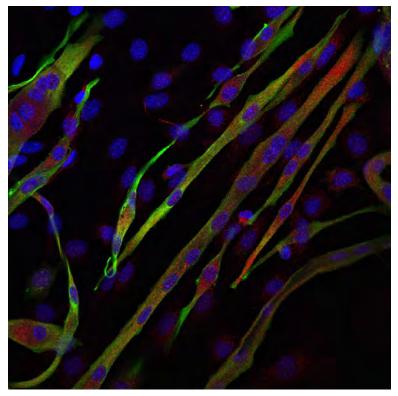


Excellence is our only standard

This activity has been planned and implemented in eccorpance with the accreditation requirements and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of the Kentucky Medical Association and Ephraim McDowell Health. The Kentucky Medical Association is accredited by the ACCME to provide continuing medical education for physicians. The Kentucky Medical Association designates this live activity for a restrictivity of a 18 to 19 to

Register online at www.emhealth.org/symposium. EMH Associates can register for free through HealthStream.

DELISLE LAB RESEARCH



Above: Myotubes (green) labeled for Sodium Chanel, Voltage-Gated, Type IV, Alpha Subunit: SCN4A/NAV1.4

Brian Delisle received his Ph.D. in Physiology and Biophysics from the University of Kentucky. He then went to work at the Blood Center of Wisconsin. Brian returned to the University of Kentucky where he is now an Associate Professor in the Department of Physiology.

The focus of the Delisle lab is arrhythmias. Arrhythmias are electrical disturbances that disrupt the normal initiation or propagation of the cardiac impulse. They cause abnormal impulse rates (bradycardia or tachycardia), block impulse propagation, or initiate the impulse to circle in a "reentry" loop. Atrial arrhythmais can

result in the formation of blood clots and increase the risk of stroke, and ventricular arrhythmias can cause inefficient pumping of blood, loss of consciousness, and sometimes death.

The arrhythmia that the lab focuses on is called Long QT syndrome (LQT) which is due to mutations in ion channels. This occurs when the potassium channels become deficient in trafficking and do not relay message from the channel to the cells. The lab works on understanding why the channel did not traffic, identify ways to increase trafficking and they are looking at newly discovered variants to see how these work. About 80% of genotype positive LQT patients have LQT1 or LQT2, which are caused by mutations in genes that encode the a-subunits of voltage-activated K+ (Kv) channels.

Unfortunately, the few symptoms of LQT consist of syncope or sudden death. The main way to determine if you have the syndrome is through genetic testing. Once diagnosed, the treatment is beta-blockers. However, since most people do not have genetic testing done on a regular basis, the lab is looking into identify strategies that improve the treatment of LQT-related arrhythmias.



Pictured L to R: Tanya Seward, Tyona Golden, Joshua Ransick, and Shivam Champaneria, Brian Delisle and Scotty Farmer

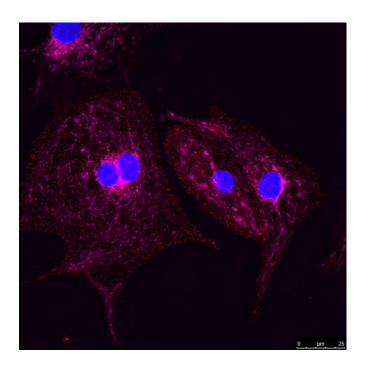
Long QT genetics projects in the Delisle Lab are with collaborators: Mark Farman (College of Ag), Peter Kekenes-Huskey (Arts & Sciences), and Tooraj Mirshahi (Geisinger Health). Peter is developing structural 3D models of the channels.

The second project in the lab, studies the development of the cardiac nodal and conduction system with Anne Moon (PI) of Geisinger Health. This project emphasis is on transcription factors that are important in development.

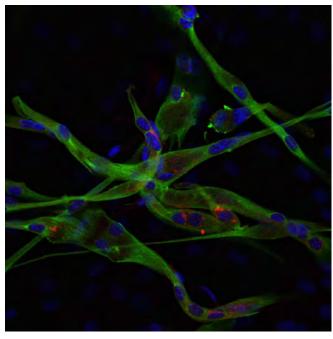
The third project studies circadian rhythms and cardiac excitability. The collaborators include Drs. Elizabeth (Stumpf) Schroder, John McCarthy, Jonathan Satin, Karyn Esser (UF) and Drs. Craig January and Lee Eckhardt (UW-Madison). Circadian rhythms are generated by highly conserved evolutionary processes that integrate the timing of the body's physiology to daily changes in the environment. The molecular mechanism driving circadian rhythms is a transcription/translation feedback mechanism (the molecular clock) that runs on a 24-hour cycle. We are testing the hypothesis that disruptions in the molecular clock decrease repolarization reserve and increase arrhythmia susceptibility.

For more information on the labs research visit: https://physiology.med.uky.edu/users/bpdeli00#profileTab4

DELISLE LAB CONT.



Induced pluripotent stem cells cardiomyocytes (iPSC-CMs) labeled with Potassium Channel, Voltage-Gated, Shaker-Related Subfamily, Member 1 (Kv1.1) (Red) and calnexin (Pink)



C2C12-derived myotubes labeled for Sodium Chanel, Voltage-Gated, Type V, Alpha Subunit: SCN5A/ Nav1.5 (Red)

Congratulations!

Brian Delisle (PI), Elizabeth Stumpf, John McCarthy, and Jonathan Satin have just been awarded a new grant from National Heart Lung and Blood Institute entitled "Transcriptional Regulation of KCNH2".

Key Publications:

Visualizing Mutation-Specific Differences in the Trafficking-Deficient Phenotype of Kv11.1 Proteins Linked to Long QT Syndrome Type 2.

Hall AR, Anderson CL, Smith JL, Mirshahi T, Elayi CS, January CT, Delisle BP. *Front Physiol.* 2018 May 23;9:584. doi: 10.3389/fphys.2018.00584. eCollection 2018.

Trafficking-deficient hERG K⁺ channels linked to long QT syndrome are regulated by a microtubule-dependent quality control compartment in the ER.
Smith JL, McBride CM, Nataraj PS, Bartos DC, January CT, Delisle BP.

Am J Physiol Cell Physiol. 2011 Jul;301(1):C75-85. doi: 10.1152/ajpcell.00494.2010.

Pharmacological correction of long QT-linked mutations in KCNH2 (hERG) increases the trafficking of Kv11.1 channels stored in the transitional endoplasmic reticulum.

Smith JL, Řeloj AR, Nataraj PS, Bartos DC, Schroder EA, Moss ÂJ, Ohno S, Horie M, Anderson CL, January CT, Delisle BP.

Am J Physiol Cell Physiol. 2013 Nov 1;305(9):C919-30. doi: 10.1152/ajpcell.00406.2012. Epub 2013 Jul 17.



Pictured L to R: Tanya Seward, Tyona Golden, Joshua Ransick, and Shivam Champaneria, Brian Delisle and Scotty Farmer

CARDIOVASCULAR IMAGING



Cardiovascular Imaging Services offered at Gill Heart & Vascular Institute:

Cardiac Imaging

Advanced cardiac imaging includes Cardiac CT and Cardiac MRI.

Cardiac CT is like a non-invasive heart catheterization. It is typically used for:

- Visualization of "hardening" of the arteries (calcium score)
- Visualization of coronary arteries
- Visualization of bypass grafts
- Evaluation of causes for a weakened heart muscle
- Evaluation of causes of chest pain or other chest discomforts
- Evaluation of congenital heart disease
- Evaluation of the pericardium (balloon-like coating of the heart muscle)
- Evaluation of pulmonary vein anatomy prior to an EP procedure
- Evaluation of diseases of thoracic aorta
- Non-diagnostic or indeterminate stress test, echo study or nuclear scan

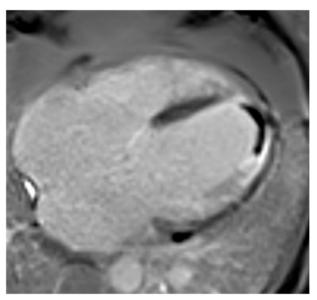
Providers

Michael A. Brooks, MD Vedant A. Gupta, MD, FACC Stephen B. Hobbs, MD John R. Kotter, MD Steve W. Leung, MD

M. Elizabeth Oates, MD, FAAWR, FACR Mikel D. Smith, MD, FACC Vincent L. Sorrell, MD, FACC, FACP Michael A. Winkler, MD Marianna Zagurovskaya, MD



Cardiac CT in this patient demonstrates that there is no obstructive CAD. The etiology of the heart attack was due to MINOCA (Myocardial Infarction in Non-Obstructive Coronary Arteries).



Cardiac MRI scan in a patient after a heart attack showing a large left ventricle, large scar (white) and large thrombus (black).

Cardiac MRI is the only non-surgical way to see the scar in your heart after a heart attack. Cardiac MRI is typically used for:

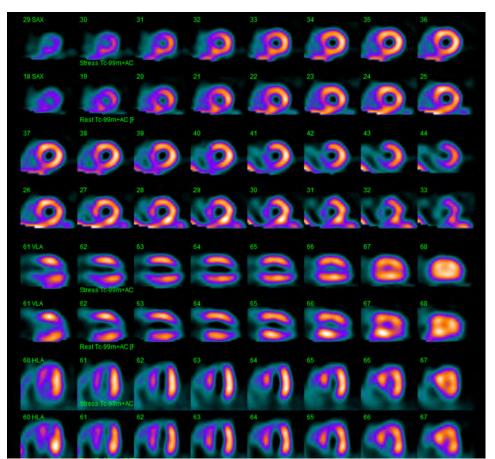
- Most accurate evaluation of heart muscle function
- Visualization of heart muscle scars
- Evaluation of causes for a weakened heart muscle
- Risk stratification for patients with weakened heart muscles (cardiomyopathies)
- Evaluation of the pericardium (balloon-like coating of the heart muscle)
- Non-diagnostic or indeterminate stress test, echo study or nuclear scan
- Evaluation of diseases of thoracic aorta
- Evaluation of myocardial blood flow for diagnosis of significant coronary artery disease
- Pre-operative and post-operative evaluation of congenital heart disease

Locations: UK Albert B. Chandler Hospital - Pav G Gill Heart & Vascular Institute 800 Rose St Call 859-323-0295 Echo Service UK Good Samaritan Suite 290 125 E Maxwell St Call 859-323-6925 UK Gill Imaging Center UK Albert B. Chandler Hospital - Pav G Gill Heart & Vascular Institute Ground Floor, Room G100 Call 859-323-9729

Adult Echo lab

The Gill Heart & Vascular Institute Adult Echo Lab has been accredited by the Intersocietal Accreditation Commission-Echocardiography (ICAEL) continuously since 1999 and all interpreting cardiologists are certified by the National Board of Echocardiography. Our team has 130 combined years of cardiac sonographer experience in Adult Echocardiography.

Our faculty has played a major role in the research and development, of Doppler, color flow imaging and 3D echo. In fact, the Adult Echo Lab faculty and cardiac sonographers have been leaders in the state for ultrasound imaging- teaching national and regional courses, and providing hands on training to physicians and sonographers in the area.



Above: Cardiac NUCLEAR SPECT (Single Photon Emission Computed Tomography) scan in the same patient demonstrates a large heart attack, but the thrombus is not detected with this technique.

Gill Imaging Center

The Gill Imaging Center has two stateof-the-art 64-slice computed tomography (CT) scanners. A first for Kentucky, one of these units represents the next generation of CT technology, the dual-source CT scanner. This innovative technology is about twice as fast as other CT machines, capturing precise images of a beating heart in seconds, reducing the need for heart-slowing medication while providing exceptional images to aid in diagnosis and treatment decisions.

Also within the Gill Imaging Center, two new magnetic resonance imaging (MRI) units expand UK HealthCare's already impressive imaging capabilities. The 1.5T MRI unit is the clinical standard for breast, chest, heart, abdomen, bones and joints including the spine. The 3.0 Tesla (3T) MRI unit benefits from an even higher magnetic field and is perfect for advanced studies of the brain and the entire vascular system.

CARDIOVASCULAR IMAGING CONT.

In addition to the services previously listed, we are now the **FIRST SITE** in Kentucky to offer noninvasive coronary fractional flow reserve testing using sophisticated Cardiac CT scanning (CCT). We have been performing noninvasive coronary angiography for our patients for many years. Over this period, we have worked toward reducing the time of the study, the amount of radiation the patient is exposed to, and creating a high quality option instead of the need for invasive coronary angiography (ICA).

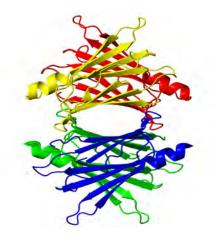
This technique has allowed our patients with normal or mildly abnormal CT scans to forego the ICA (& need for arterial puncture) and provides information on the 'outside' of the vessel lumen (coronary artery calcium - CAC) which can be missed with ICA, despite representing an important finding (non-obstructive CAD) with real prognostic information. CT-FFR technology was featured in the December Gazette so we will not go into more detail here. What we want you to know is that that CTFFR results can be read at the University of Kentucky in 90 minutes! Most locations take 4 hours. These changes in therapy point to an efforts to shift the paradigm of cardiac imaging.



GHVI has another new treatment options to offer our patients. UK are co-investigators on a NIH trial to diagnosis and treat Amyloid Transthyretin (ATTR) Amyloidosis. Amyloidosis is a protein disorder. In this disease, proteins change shape, then clump together (misfold) and form amyloid fibrils, which deposit in organs. Due to amyloid fibrils build up, the tissues and organs may not work as well as they should.

Transthyretin (**TTR**), is a protein in your body that carries thyroid hormones and vitamin A in the blood. In ATTR amyloidosis, TTR becomes unstable, breaks apart, and deposits in the heart and/or the nerves.

This disorder has typically been identified with a heart biopsy. Now a bone scan called a technetium pyrophosphate (TcPYP) scan can detect ATTR in the heart. A positive TcPYP scan, along with blood and urine tests to rule out other forms of amyloidosis, can confirm the diagnosis without the need for an invasive test.



Transthyretin protein structure

When ATTR is confirmed, a blood test can be done to find out if the ATTR is hereditary or wild-type. At UK the patients are offered free genetic testing as well to determine prognosis. Patient can also have an ECHO, Cardiac MRI or Nuclear Scar to diagnosis. This is huge because the disorder can be identified non-invasively: imaging only with no biopsies!

"The Advanced Cardiovascular Imaging program at UK Gill Heart and Vascular Institute is unique in that we have multimodality imaging specialists within cardiology working side-by-side with specially trained cardiovascular experts from radiology. This provides a unique comprehensive approach to the patient that incorporates all past imaging studies while allowing us to streamline imaging requests to select the best test for the unique patient situation rather than having to obtain unnecessary tests. We also have a robust structured educational program that trains tomorrow's imaging specialists from both cardiology and radiology which helps us maintain the latest state-of-the-art knowledge base. And finally, we insist upon direct personal communication with our referring clinicians to help them fully understand the testing results to insure their patients are receiving the optimal imaging-drive care" Vincent Sorrell.



Vince Sorrell, MD, FACC, FACP, is the Anthony N. DeMaria Professor of Medicine, the Assistant Chief, Division of Cardiovascular Medicine, the Director, Advanced Cardiovascular Imaging and Co-Director, Cardiothoracic CT/MRI Imaging.

Publications: https://www.ncbi.nlm.nih.gov/pubmed/? term=sorrell+vl

ADVANCED CV IMAGING FELLOWSHIP PROGRAM & CV MRI

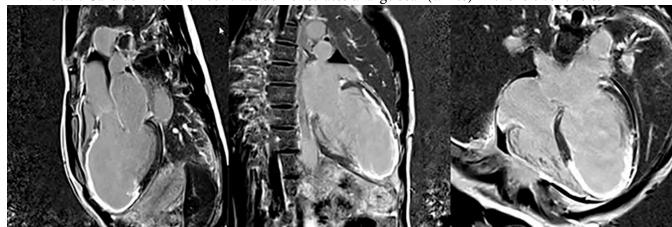


Steve Leung, MD, FACC, FASE, FSCCT, FSCMR, is the Director of Cardiovascular Magnetic Resonance Imaging (MRI) and Associate Program Director of the Advanced Cardiovascular Imaging Fellowship for the Gill Heart & Vascular Institute. Dr Leung graduated from Vanderbilt University School of Medicine, Nashville, Tenn. He completed a medicine residency at Duke University Medical Center, Durham, N.C. and cardiovascular medicine fellowship at University of Kentucky, Lexington from 2007-2010. He also completed a two-year advanced cardiovascular imaging fellowship at the National Institutes of Health before returning to the Gill Heart & Vascular Institute.

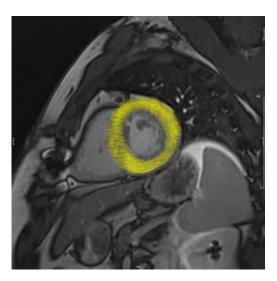
The Advanced Cardiac Imaging (ACI) Fellowship Program began July 2012. The program is a collaborative effort between the Division of Cardiovascular Medicine and the Department of Radiology. The fellowship provides at least one year of training in all advanced cardiac imaging modalities with a focus on cardiac MRI and CT. This is the only ACI Fellowship Program in the state of Kentucky. See the website for more information: Fellow website: https://cvfellowship.med.uky.edu/

The Gill Imaging Center was part of a multi-center trial **Clinical Impact of Stress CMR Perfusion Imaging (SPINS),** which was presented as a late breaking trial at the European Society of Cardiology. The study population includes patients who underwent stress CMR perfusion imaging for evaluation of myocardial ischemia between 2008-2013. For more information about the trial see: https://clinicaltrials.gov/ct2/show/NCT03192891. The imaging center also facilitated participation in other multi-center clinical trials that utilizes cardiac MRI and cardiac CT (e.g. aMAZE, ALL-STAR, COMPASSION, PRESERVE-AMI, ISCHEMIA)

MRI Scar: Cardiac MRI with contrast demonstrates a large scar (white) in the left ventricle.



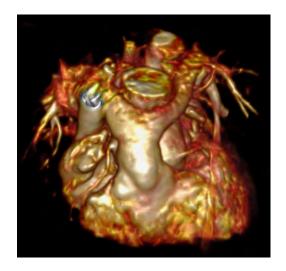
The MRI facility is also unique because they are able to perform MRIs on certain patients with pacemakers and defibrillators. "Patients with implanted cardiac pacemakers and defibrillators who need an MRI procedure must have their device fully tested to ensure that the procedure is safe, and the device needs to be reprogrammed before entering the MRI room. During the procedure, a doctor or nurse continuously monitors the patient's ECG. Following the MRI, the pacemaker or defibrillator is retested to ensure that no damage to the device occurred during the MRI procedure, and the patient's original device settings are restored."



Left: SAX_Strain: Radial strain (yellow lines) of the left ventricle in short axis using a post-processing technique called featured tracking to detect how the heart muscle is contracting during each heart beat.

Publications: https://www.ncbi.nlm.nih.gov/pubmed/?term=leung+SW

In addition to seeing patients, the facility also participates in nationally sponsored educational programs. The University of Kentucky will be the host to "Procedural planning with cardiovascular CT: Focus on TAVR and LAA" which is sponsored by the Society of Cardiovascular Computed Tomography (SCCT). The Chairs of the program are: Michael Winkler, MD, FSCCT (UK); J.Jeffrey Carr, MD, FSCCT; Homeyar Dinshaw, MD, FSCCT; Stephen Hobbs, MD, FSCCT (UK); Todd Villines, MD, FSCCT. See: https://scct.org/page/Workshops for more details.



TGA_LaCompte: MRI 3D reconstruction of a patient who had transposition of the great arteries, after corrective surgery (TGA s/p arterial switch)

The CV MRI consists of 12 faculty- this includes 5 cardiologists, 6 radiologists and 1 pediatric cardiologist.

Providers

Michael A. Brooks, MD
Vedant A. Gupta, MD, FACC
Stephen B. Hobbs, MD, FSCCT
John R. Kotter, MD, FACC, FASE
Steve W. Leung, MD, FACC, FASE, FSCCT, FSCMR
Conor M. Lowry, MD
M. Elizabeth Oates, MD, FAAWR, FACR
Preeti Ramachandran, MD
Mikel D. Smith, MD, FACC, FASE
Vincent L. Sorrell, MD, FACC, FACP, FASE, FSCCT, FSCMR
Michael A. Winkler, MD, FSCCT
Marianna Zagurovskaya, MD

PEDIATRIC CARDIOVASCULAR

IMAGING



Kentucky Children's Hospital and Cincinnati Children's Heart Institute have joined forces to provide advanced pediatric heart care close to home for patients in Kentucky. The collaboration combines the strength of UK HealthCare's advanced pediatric and adult congenital heart care with Cincinnati Children's nationally ranked experts in pediatric cardiac care and surgery.

Imaging services offered:

Advanced cardiac imaging Congenital echocardiography

Pediatric cardiologists with expertise in interpreting complex congenital heart abnormalities, and experienced, pediatric and fetal-certified sonographers staff the lab. This lab is IAC accredited.

Fetal cardiology

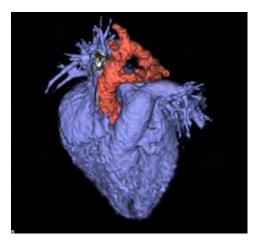
The fetal cardiac care team consists of fetal cardiologists, fetal sonographers, a patient navigator, and a licensed clinical social worker (LCSW). Our fetal cardiologists are specialized, board-certified pediatric cardiologists with expertise in fetal congenital heart disease, the cardiovascular system and heart rhythm disorders. Our sonographers performing ultrasounds are certified, fetal heart ultrasound technicians, and are part of our IAC accredited congenital echocardiography lab.

Transesophageal echocardiography (TEE)

TEE uses high-frequency sound waves (ultrasound) to make detailed pictures of your heart and the arteries that lead to and from it. Unlike a standard echocardiogram, the echo transducer that produces the sound waves for TEE is attached to a thin tube that passes through your mouth, down your throat and into your esophagus. Because the esophagus is so close to the upper chambers of the heart, very clear images of those heart structures and valves can be obtained (adapted from AHA).



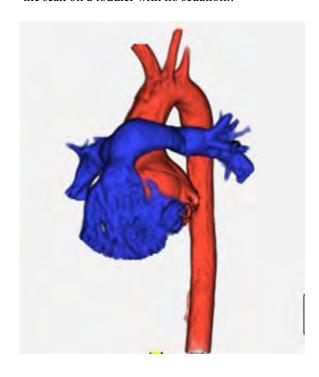
3D reconstruction from a CTA of a 15month old infant with "Tetralogy of Fallot with absent pulmonary valve with severely dilated branch pulmonary arteries"



3D reconstruction from a CTA for pre-operative planning of a 2-week-old infant with "Double aortic arch". This infant successfully underwent surgery shortly after performing this scan.



Toddler CT scan done with child Life. The child is giving a high five to our anesthesia team. They did the scan on a toddler with no sedation!!



3D reconstruction from a cardiac MRI of a 10 year old patient with repaired "D-Transposition of great arteries" showing the pulmonary artery and its branches (in blue) straddling over the ascending aorta (in red).

The imaging team is working on ways to develop safer imaging for children. They are finding ways to conduct imaging on children without anesthetics. They want to reduce the side effects of sedation in cardiology patients because they tend to have multiple test procedures. Anesthesia can be damaging in brain development, cause breathing problems, or cause allergic reactions in children. Children from newborns to about age 7 or 8 are unable to stay still for these imaging tests.

Dr Preeti Ramachandran is a pediatric cardiologist at the Kentucky Children's Hospital Congenital Heart Clinic. Her and her team are researching ways to image children without sedation. They are swaddling infants, which keeps them from moving during imaging. They are also using music as distraction to keep the children from moving around.

Pediatric Cardiac CT registry

UK is now one of the centers who can contribute data to the Pediatric Cardiac CT registry as part of a multi-center study run from Minneapolis by Dr. Kelly Han!

Publication:

Preoperative Aortic Arch Size and Late Outcome After Coarctation Repair by Lateral Thoracotomy. Ramachandran P, Khoury PR, Beekman RH, Michelfelder EC, Manning PB, Tweddell JS, Cnota JF. Ann Thorac Surg. 2018 Aug;106(2):575-580.

Providers in Pediatric Heart Program:

Louis I. Bezold III, MD Rachel D. Brashear, LCSW, MSW Kristopher M. Cumbermack, MD Micah L. Groves, PA-C Abeer H. Hamdy, MD Joshua M. Hayman, MD Melissa L. Lefebvre, DO Majd Makhoul, MD

Shaun Mohan, MD, FHRS Laura C. Murphy, APRN James A. Quintessenza, MD Preeti Ramachandran, MD Callie L. Rzasa, MD Douglas J. Schneider, MD Kelly M. Van Metre, APRN Mark Vranicar, MD Susan E. Wall, APRN William J. Wallen, MD

CARDIOVASCULAR QUALITY OFFICE



The Cardiovascular Quality Office is led by Liliana B.T Kuvlieva, MD (middle). Please welcome Omy (right) and Bethany (left) as the new CV Outcomes Associates!

Omyma F Sorour, MD will lead the CathPCI Registry data submissions to ACC/NCDR and will collaborate closely with CathLab Interventional Team.

Bethany B Taylor, RT (R) will lead the ICD Registry data submissions to ACC/NCDR and will collaborate closely with CathLab EP Team.

The Quality Office is located in Gill Heart & Vascular Institute Pavilion H, 6N603B. For more information or question, please contact **Liliana B.T Kuvlieva**, MD. Email: lbkuvl2@uky.edu. Phone: 859-323-8657.

GO RED

FOR WOMEN FEB 1

In a generation that promotes equal opportunity for all genders, it's crucial to not overlook the gender differences that affect health.

Women are less likely to survive a cardiac event than men. In fact, cardiovascular disease and stroke cause one in three deaths among women each year, killing one American woman every 80 seconds.

Two faculty members at the University of Kentucky have advocated for expanded research of cardiovascular health in women. For the fifth year, Analia Loria, Ph.D., and Frederique Yiannikouris, Ph.D., both assistant professors in the Department of Pharmacology and Nutrition Sciences at the UK College of Medicine, will host the Healthy Hearts for Women Symposium, featuring exemplary scientists who presented research and new findings in women's heart health and cardiovascular medicine.

"The National Institutes of Health and the American Heart Association are funding research, recognizing the importance of understanding the cardiovascular differences between men and women," Loria said. "We wanted to replicate this at the University of Kentucky by bringing to the table ongoing research and therapies in development."

It's very important to understand how sex affects the underlying mechanisms as part of the process to find better and more adapted treatment, which should make a huge difference in term of human health outcomes, Yiannikouris added.

Speakers and presentations included (See conference flyer on next page):

Introduction by University of Kentucky President **Dr. Eli Capilouto Sandra T. Davidge, Ph.D.**, University of Alberta, "Impact of pregnancy complications on maternal and offspring cardiovascular health"

Heather M. Bush, Ph.D., University of Kentucky, "WHY what happens to you matters for your heart: Quantifying the effect of violence Wigness, Health & You"

Dr. Martha Gulati, University of Arizona, "Women & Cardiovascular Disease: Is there really a sex difference?"

Ming C. Gong, Ph.D., University of Kentucky, "Sex differences in aortic aneurysm"

GO RED CONT.



2019

Friday, February 1st

8:30 AM to NOON
Pavilion A Auditorium
University of Kentucky Medical Center



5th Annual Symposium Healthy Hearts for Women

AGENDA

8:30-9:00 Registration/Breakfast

9:00 - 9:05 Introduction

9:05- 9:55 Dr. Sandra T Davidge

"Impact of pregnancy complications on maternal and offspring cardiovascular health"

9:55 - 10:20 Dr. Heather M Bush

"WHY what happens to you matters for your heart: Quantifying the effect of violence using Women's Health & You"

10:20 - 10:45 Break

10:45-11:35 Dr. Martha Gulati

"Women & Cardiovascular Disease: Is there really a sex difference?"

11:35-12:00 Dr. Ming C Gong

"Sex differences in aortic aneurysm"



Sandra T Davidge, PhD

Distinguished University Professor
Executive Director, Women and Children
Health Research Institute
Canada Research Chair in Maternal and
Perinatal Cardiovascular Health
University of Alberta, Canada



Heather M Bush, PhD

Kate Spade & Co. Foundation Endowed Professor Department of Biostatistics UK College of Public Health University of Knoturky



Martha Gulati, MD, MS, FACC, FAHA

Division Chief of Cardiology University of Arizona College of Medicine and the University Medicine Heart Institute



Ming C Gong, PhD

Professor Department of Physiology Saha Cardiovasoular Research Center University of Kentucky

Sponsored by:

Department of Pharmacology and Nutritional Sciences-COM The Gill Heart & Vascular Institute Saha Cardiovascular Research Center Organized by: Drs. Analia Loria and Frederique Yiannikouris

GO RED FOR WOMEN





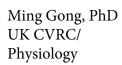
Keynote Speaker: Martha Gulati, MD From the University of Arizona

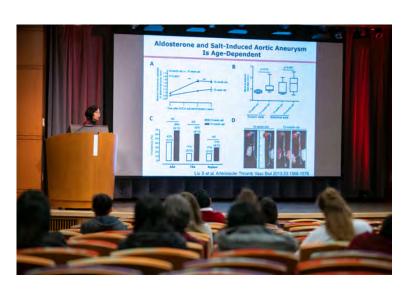


Smyth lab Goes Red!



UK Fellows Go Red!





ACC 2019

MARCH 15-18



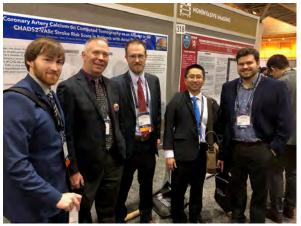
GHVI represents at ACC!



With the busy schedules of these three, it's nearly impossible to catch all of our JACC editors in the same room!



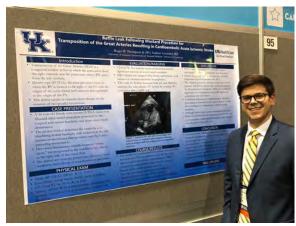
Dr Steve Leung moderating FIT Jeopardy!



Four generations of GHVI Imaging at ACC19 — former fellows, current fellows and a future fellow with APD Dr. Steve Leung and PD Dr. Vince Sorrell.



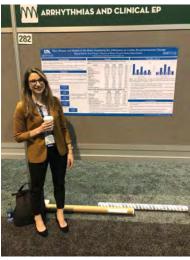
A packed house eager to hear Dr Maya Guglin share information about noncompaction cardiomyopathy (spongy cardiomyopathy).



Current Cardiology/CCU resident Dr Roger Thompson's poster on the complex congenital heart patients we have.



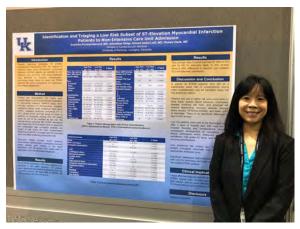
Congrats to our fellow, Bennet George, who won a Best Poster award at ACC19 for his presentation on valvular disease. We wish him well as he starts his career in Houston this summer!



Sara Klinger presenting her research on sex differences in cardiac resynchronization therapy.



A great and comprehensive session on "Clearing the Air on Pulmonary Arterial Hypertension" .



Third year fellow Suartcha Prueksaritanond presents her research: "Identifying and Triaging A Low-Risk Subset of ST-elevation Myocardial Infarction Patients to Non-Intensive Care Unite Admission".



Gill CV pharmacists showed up in force at ACC19 - 8 in all. However, 7 more stayed behind to care for our patients. Do the math: GHVI has 15 CV pharmacists on staff - one of the largest staffs of its kind in the US!

"GILL SCOUTS"

March 23



We had a fun and educational weekend. We traveled down UK to learn about healthy living. GHVI had an amazing program for us. We really loved the hands-on activities, especially yoga, Zumba, and holding the human organs." From- Troop #1760.

GHVI hosted a series of workshops to teach Cadette aged Girl Scouts all about the importance of a healthy lifestyle. The Create Your Best Self workshops was lead by a variety of health professionals and volunteers. The scouts worked with doctors to learn about what a real heart and lungs look like inside your body, about how your eating and other habits affect your life, the role exercise and stress can play in your life, and so much more!



Improving women's heart health starts early! Thanks to Dr. Gretchen Wells and Gill's Women's Heart Health Advisory Board for putting on this "Gill Scouts" event!



A big THANK YOU to the Take Action Ambassadors for helping us out at the "Create Your Best Self"! Teaching young ladies what it means to be tobacco-free & how your health depends on it!



Girl Scouts learned yoga and meditation from UKHC's own, Dr. Connie Jennings!





Learning the importance of blood pressure and healthy hearts!



Zumba!



Thanks to UK College of Pharmacy for collaborating with GHVI to teach our Girl Scouts how to save lives through CPR!

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

Donna Arnett

HyperGEN: Genetics of Left Ventricular Hypertrophy National Heart Lung and Blood Institute 07/15/16-04/30/19

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

CRCNS: Multi-Scale Models of Proprioceptive Encoding for Sensorimotor Control Emory University 09/16/16-05/31/20



Sponsored Project Grants and Contracts, NIH Awards, Q1 2019

Lisa Cassis

Sex Differences in Angiotensin-Induced Vascular Diseases National Heart Lung and Blood Institute 03/21/12-05/31/20

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 06/03/03-04/30/19

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

FUNDING CONT.

Misook Lee Chung

Effects of Family Sodium Watchers Program on Outcomes in Heart Failure Patient-Family Caregiver Dyads National Institute of Nursing Research 09/26/14-07/31/19

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

Adventitial-Medial Interactions in Thoracic Aortic Diseases National Heart Lung and Blood Institute 06/01/17-05/31/20

Brian Delisle

Tbx3-regulated Alternative RNA Processing in Cardiac Conduction System Development Geisinger Health System 04/15/16-03/31/19

Eric Endean

Jane Keeble Resident Education Fund 2018-2019 05/01/18-03/15/19

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

Xiangan 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

Crosstalk Between Membrane Traffic Proteins and Integrin Activation National Heart Lung and Blood Institute 09/25/14-06/30/19

Xiang-An 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 01/01/15-11/30/19

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

Hong Lu

Atherosclerosis Mechanisms: Angiotensin II Production and Action National Heart Lung and Blood Institute 05/01/18-03/31/22

Adrian Messerli

Retrospective and Prospective International EkoSonic Registry of the Treatment and Clinical Outcomes of Patients with Pulmonary Embolism - KNOCOUT PE

EKOS Corporation 12/10/18-11/27/19

FUNDING CONT.

Andrew Morris

Define the Twist-ATX-LPAR1 Signaling Axis in Promoting Obesity-Associated Triple Negative Breast Cancer Army Medical Research and Materiel Command 04/15/16-04/14/19

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

Timothy Mullett

Validation of Biomarkers of Risk for the Early Detection of Lung Cancer Vanderbilt University Medical Center 04/01/17-03/31/19

KCTN Data Coordinator KY Lung Cancer Research Fund 09/01/14-06/30/19

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

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 04/01/15-03/31/19

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 06/01/08-05/31/19

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

Mark Vranicar

An Open Label Randomized Parallel Group Multicenter Observational Trial to Evaluate Safety and Efficacy of Edoxaban Tosylate in Children from 38 Weeks Gestational Age to Less than 18 Years of Age Daiichi Sankyo Incorporated 06/14/18-08/06/19

Shuxia Wang

Thrombospondin 1 in obesity associated inflammation and insulin resistance National Institute Diabetes & Digestive & Kidney 08/20/17-05/31/19

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 07/08/14-03/31/19

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 08/15/00-07/31/20

Wally Whiteheart

Platelet Endocytosis in Innate Immunity National Heart Lung and Blood Institute 07/01/17-03/31/21

Molecular Mechanisms of Platelet Exocytosis National Heart Lung and Blood Institute 07/01/96-03/31/20

Regulatory Mechanisms of Glycoprotein Sialylation Case Western Reserve 09/01/16-08/31/20

FUNDING CONT.

Jeremy Wood

Protein S Anticoagulant Activity: Biochemical Mechanisms and Structural Studies National Heart Lung and Blood Institute 09/15/15-03/31/19

Changcheng Zhou

Endocrine Disruptor Mediated Activation of PXR Causes Dyslipidemia National Institute of Environmental Health Sciences 09/26/13-06/30/19

Role of IKKB in Obesity and Atherosclerosis National Heart Lung and Blood Institute 04/01/16-02/29/20

A Novel Mechanism for ART-Associated Dyslipidemia and Atherosclerosis National Heart Lung and Blood Institute 08/01/15-05/31/19



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

January-March 2019

Adamiak, M., K. Bujko, M. Cymer, M. Plonka, T. Glaser, M. Kucia, J. Ratajczak, H. Ulrich, **A. Abdel-Latif** & M. Z. Ratajczak, 'Correction: Novel evidence that extracellular nucleotides and purinergic signaling induce innate immunity-mediated mobilization of hematopoietic stem/progenitor cells', Leukemia (2019).

Ahern, B. M. & **J. Satin**, 'The L-type calcium channel current modulation mechanism: the plot thickens and fogs', J Clin Invest, 129, 2 (2019), 496-498.

Alqahtani, F., **K. M. Ziada**, V. Badhwar, G. Sandhu, C. S. Rihal & M. Alkhouli, 'Incidence, Predictors, and Outcomes of In-Hospital Percutaneous Coronary Intervention Following Coronary Artery Bypass Grafting', J Am Coll Cardiol, 73, 4 (2019), 415-423.

Ather, A. & C. J. Beavers, 'Use of Alternative Antiplatelet Agents for Clopidogrel Hypersensitivity', Curr Vasc Pharmacol, 17, 2 (2019), 127-132.

Ather, A., B. Laliberte, B. N. Reed, A. Schenk, K. Watson, S. Devabhakthuni & V. Y. See, 'Antithromboembolic Strategies for Patients with Atrial Fibrillation Undergoing Percutaneous Coronary Intervention', Am J Cardiovasc Drugs, 18, 6 (2018), 441-455.

Baber, U., D. E. Leisman, D. J. Cohen, C. M. Gibson, T. D. Henry, G. Dangas, **D. Moliterno**, A. Kini, M. Krucoff, A. Colombo, A. Chieffo, S. Sartori, B. Witzenbichler, P. G. Steg, S. J. Pocock & R. Mehran, 'Tailoring Antiplatelet Therapy Intensity to Ischemic and Bleeding Risk', Circ Cardiovasc Qual Outcomes, 12, 1 (2019), e004945.

Banerjee, M., Y. Huang, M. M. Ouseph, S. Joshi, I. Pokrovskaya, B. Storrie, J. Zhang, **S. W. Whiteheart** & Q. J. Wang, 'Autophagy in Platelets', Methods Mol Biol, 1880 (2019), 511-528.

Beavers, C. J. & I. A. Naqvi, 'Clopidogrel', StatPearls. Treasure Island (FL): StatPearls Publishing StatPearls Publishing LLC., 2019.

Brandon, J. A., M. Kraemer, J. Vandra, S. Halder, M. Ubele, **A. J. Morris** & **S. S. Smyth**, 'Adiposederived autotaxin regulates inflammation and steatosis associated with diet-induced obesity', PLoS One, 14, 2 (2019), e0208099.

Bugajski, A., S. K. Frazier, **D. K. Moser,** M. Chung & T. **A. Lennie**, 'Airflow limitation more than doubles the risk for hospitalization/mortality in patients with heart failure', Eur J Cardiovasc Nurs, 18, 3 (2019), 245-252.

Campbell, K. S., C. M. Yengo, L. C. Lee, J. Kotter, V. L. Sorrell, M. Guglin & J. F. Wenk, 'Closing the therapeutic loop', Arch Biochem Biophys, 663 (2019), 129-131.

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UPCOMING EVENTS

Cardiology Faculty Research Retreat- April 27

CV-ASL Research retreat- May 10

Heart Walk- May 11

Nurses Week-May 6-12

Dr Sears - Cardio Psych speaker - June 14

Dr Sears - Cardio Psych Patient event - June 15

Cardiology Fellows Graduation- May 17

CV-ASL-May 22

New Cardiology Fellows Party-July-TBD

FASEB-July 28-Aug 2

Flowers 1& Horan Lecture- Sept 6

CVRC research day- Sept 20

KY ACC- Oct 12-In Lexington

Golf classic –Oct 14

Affiliate meeting- Oct 30 tentative

ECMO conference-November 1-2

AHA- Nov 16-18, Philadelphia



