

GILL QUARTERLY

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Winter 2021



GILL QUARTERLY

WINTER 2021

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FEATURED CLINICAL TRIAL

The REVEALPLAQUE Study: A pRospEctiVe, multi-cEnter study to AnaLyze PLAQUE using CCTA
PI: Steve Leung, MD

HeartFlow, a California-based health technology company, has started enrolling patients into a new clinical trial that will evaluate its AI-based plaque solution's ability to improve care for patients with stable coronary artery disease (CAD).

The REVEALPLAQUE trial will enroll 250 CAD patients from the United States and Japan. Researchers will use HeartFlow's plaque solution to interpret imaging results and identify patients who may face a heightened heart attack risk.

The solution in question uses deep learning to provide automated assessments of coronary CT scans, allowing users to quantify each patient's plaque burden and anticipate how they may respond to different CAD treatments over time.

"For most patients, heart attacks happen without any warning symptoms," principal investigator Clyde R. Meckel, MD, an interventional cardiologist at Bryan Heart in Lincoln, Nebraska, said in a prepared statement. "It is clear, however, that coronary plaque is the driving force behind understanding a patient's risk of having a heart attack. The tools available today for understanding plaque burden tend to be cumbersome or provide inconsistent results. To be able to accurately and non-invasively understand a patient's plaque

burden would be game changing in physicians' abilities to save a patient's life from a heart attack." The technology is currently available for investigational use only. Adapted from [Cardiovascular Business](#).

Primary Objective:

Current clinically available software packages to quantify coronary artery plaque noninvasively from CCTA data are largely manual and as a result, have limited reproducibility, accuracy, and precision. An automated deep-learning based artificial intelligence method for segmenting the vessel wall and atherosclerotic plaque from CCTA data has been developed. This study will evaluate the level of agreement between noninvasive CCTA-based quantification and characterization of coronary atherosclerosis and invasive IVUS.

Secondary Objectives:

1. Compare total plaque volumes per-patient and per lesion as well as comparing different plaque type volumes to the IVUS reference standard and assess reproducibility of quantitative plaque measurements compared to the reference standard.
2. Perform exploratory analyses on plaque in previously stented vessels (protocol to allow up to 20% (50 patients) with one or two stented vessels in this category). This can also include plaque proximal or distal to the stented vessel.

For more information Contact: Heather Hesselson, PharmD, at 859-218-1644.

CURRENTLY ENROLLING CLINICAL TRIALS

OPTIMIZER SMART POST - APPROVAL STUDY

PI: Aaron Hesselson, MD

Coordinator: Ben Rushing 859-323-5259

Objective: 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.

BIO-AffectDX- Atrial Fibrillation associated with Heart Failure treated by BIOTRONIK's CRT-DX System

PI: Aaron Hesselson, MD

Coordinator: Ben Rushing 859-323-5259

Objective: To evaluate the percent of all subjects with improvement from baseline in heart failure patients with paroxysmal, persistent, and long-standing persistent AF subtypes implanted with a two-lead BIOTRONIK CRT-DX system.

LEADLESS-II - A safety and effectiveness trial for a leadless pacemaker system

PI: Aaron Hesselson, MD

Coordinator: Jennifer Isaacs 859-323-4738

Objective: To confirm the safety and effectiveness of the Aveir device from implant through 6-weeks in a subject population indicated for a VVI(R) pacemaker.

General Cardiology:

EMPACT-MI – A study to test whether empagliflozin can lower the risk of heart failure and death in people who had a heart attack (myocardial infarction)

PI: John Kotter, MD

Coordinator: Ben Rushing 859-323-5259

Objective: To demonstrate the superiority of empagliflozin 10 mg once daily versus placebo, in addition to standard of care, for the reduction of the composite endpoint of time to first heart failure hospitalization or all-cause mortality in high-risk patients hospitalized for acute MI.

**REVERSE-IT: A Phase 3, Multicenter,
Open-Label, Single-Arm Study of PB2452 in
Ticagrelor-Treated Patients with Uncontrolled
Major or Life-Threatening Bleeding or Requiring
Urgent Surgery or Invasive Procedure**

PI: John Kotter, MD

Coordinator: Jennifer Isaacs 859-323-4738

Objective: To demonstrate reversal of the antiplatelet effects of ticagrelor with IV infusion of PB2452 and to demonstrate the clinical efficacy of PB2452 by assessment of hemostasis in ticagrelor-treated patients with uncontrolled major or life-threatening bleeding in an open-label, single-cohort study.

CLINICAL TRIALS CONTINUED

MK-5475-007: A Phase 2/3, Multicenter, Randomized, Double-blind, Placebo-Controlled, Adaptive Design Study to Evaluate the Efficacy and Safety of MK-5475 in Adults with Pulmonary Arterial Hypertension

PI: David Booth, MD

Coordinator: Stephanie Morris 859-323-5366

Objective: Two cohorts to evaluate the effect of MK-5475: 1) versus placebo on the pulmonary vascular resistance (PVR) at Week 12, 2) versus placebo on 6-minute walk distance (6MWD) at Week 12.

The REVEALPLAQUE Study: A pRospEctiVe, multicEntEr study to AnaLyze PLAQUE using CCTA

PI: Steve Leung, MD

Coordinator: Heather Hesselson, PharmD, at 859-218-1644.

Objective: To evaluate the level of agreement between noninvasive CCTA-based quantification and characterization of coronary atherosclerosis and invasive IVUS.

Clinical Research Team

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FELLOWS NEWS

ABSTRACTS & PUBLICATIONS

Publications

Ranjan Banerjee, MD, Dustin Hillerson, MD, Steve W. Leung, MD, Vincent L. Sorrell, MD. ST-Segment Elevation in a Patient With Nausea, Vomiting, and Intracerebral Hemorrhage. *JACC Case Rep.* 2021 Nov 17;3(16):1727-1729. doi: 10.1016/j.jaccas.2021.09.010.

<https://pubmed.ncbi.nlm.nih.gov/34825197/>

Abstract

A 60-year-old man who presented with nausea, vomiting, and intracerebral hemorrhage developed inferior ST-segment elevation and angina. Coronary angiography showed no coronary obstruction. The patient was found to have a small bowel obstruction causing superior translocation of the heart. Relief of obstruction caused immediate resolution of electrocardiographic changes and symptoms. (Level of Difficulty: Beginner.).

Keywords: CT, computed tomography; ECG, electrocardiogram; SBO, small bowel obstruction; angina; coronary angiography; extrinsic compression; small bowel obstruction; translocation.

ACC 71st Annual Scientific Session Accepted Abstracts

Diagnostic Dilemma and Revascularization Considerations in a Patient with Tyrosine Kinase Inhibitor Cardiotoxicity **Dr.**

Ranjan Banerjee, Dr. Vedant A Gupta, Dr. Mary Beth Fisher, and Dr. Naoki Misumida.

Abstract

Background: Ponatinib is a Tyrosine Kinase inhibitor (TKi) that is the most cardiotoxic of its class.

Case: A 67-year-old male with no cardiac history, Chronic Myeloid Leukemia and upcoming stem cell transplant (SCT) presented with several weeks of left-sided pressure-like, intermittently positional chest pain and dyspnea coinciding with initiation of the TKi Ponatinib. EKG showed new anterolateral and inferior T-wave inversion. He had a chronic myocardial injury and normal NT-proBNP. Cardiac MRI showed mid-myocardial basal inferolateral late gadolinium enhancement (LGE), Ejection Fraction 47%, globally reduced. As Ponatinib can cause coronary disease, Coronary CT Angiography was done showing 95% LAD stenosis and subtotal mid-RCA occlusion.

Decision-Making: Revascularizing presented a dilemma that hinged on classifying the pathology as either TKi myocarditis with stable coronary artery disease, or

acute coronary syndrome (ACS). Myocarditis was favored given symptom chronicity and character, chronic myocardial injury, and LGE pattern on MRI. Ultimately, given the degree of coronary obstruction and to facilitate upcoming SCT, the patient was revascularized. Intravascular Ultrasound did not conclusively show plaque rupture. Patient had symptom resolution after revascularization and TKi discontinuation.

Conclusion: Ponatinib is a strongly cardiotoxic TKi, and likely caused both myocarditis and coronary disease in our patient. Revascularization depended on differentiating between pericarditis with stable coronary disease and ACS.

Impact of Covid-19 Vaccination after Orthotopic Heart Transplantation **Dr Ahmed Noor**

CARDIOVASCULAR SEMINAR SERIES FOR TODAY'S CLINICIAN-SCIENTIST

Hosted by Gill Heart & Vascular Institute, this series of seminars with experts across the nation includes late-breaking research, critical review of guidelines and other relevant cardiovascular topics. Combined with expert commentary by select faculty, these presentations will deliver knowledge and strategies that can improve patient outcomes through changes in practice. CMEs available.

LOCATION: TODD 170 & ZOOM*

TIME: NOON – 12:50 P.M.

DAY: THE FOURTH THURSDAY OF EACH MONTH

*Please RSVP to cmcmu2@uky.edu if attending in person.

Thursday 1/27/2022

**Please note different location
will take place in CTW312*

Annual Research Meeting: A View to the Future.

Speakers: Section Chiefs
University of Kentucky

Thursday 2/24/2022

**Precision Medicine in Pulmonary Arterial
Hypertension**

Speaker: Anna Hemnes, MD
Vanderbilt University Medical Center

Thursday 3/24/2022

Point of Care Ultrasound in Clinical Practice Today

Speaker: James Kirkpatrick, MD
University of Washington

Thursday 4/28/2022

ABCs of AF

Speaker: Hakan Oral, MD
University of Michigan, Frankel Cardiovascular Center

Thursday 5/26/2022

Percutaneous Mitral Valve Repair in 2022

Speaker: Mohamad Adnan (Mohamad) Alkhouli, M.D.
Mayo Clinic, Rochester, MN

AFFILIATE NEWS

NEW AFFILIATES

October 27, 2021 / UKNow / By Mallory Olson

UK HealthCare, Bluegrass Community Hospital and Bourbon Community Hospital are announcing a collaboration to expand cardiovascular services to more Kentuckians.

As the home-base community hospitals in Versailles and Paris, respectively, Bluegrass Community Hospital and Bourbon Community Hospital have strong cardiovascular services that will be further enhanced by the collaboration with UK Gill Heart & Vascular Institute.

“We are excited about the opportunities that our new affiliation with the UK Gill Heart & Vascular Institute will bring to our existing cardiology services in Versailles,” said Dave Steitz, CEO of Bluegrass Community Hospital. “Collaborating with UK HealthCare helps to ensure that we have access to their expansive expertise to offer high quality cardiovascular care right here in our community.”

Bluegrass Community Hospital is a licensed critical access hospital that offers a broad range of in-patient, surgical, emergency and diagnostic services.

“As an accredited chest pain center with the American College of Cardiology, we know the importance of expanding our knowledge and resources,” said Joseph Thomas, M.D., cardiologist at Bluegrass Community Hospital. “The UK Gill Heart & Vascular Institute Affiliate Network will help us access experts around the country and help us stay current on the latest research and treatments.” Thomas also serves as an associate professor at the UK Gill Heart & Vascular Institute.

Heart disease is the leading cause of death in Kentucky, and the state has one of the highest rates of heart disease in the country. UK Gill Heart & Vascular Institute is at the forefront of the battle against heart disease and stroke. Its goal is to provide every patient with exceptionally compassionate care in the safest and most appropriate manner possible based on the best evidence and the latest technological advances.

As part of these measures, UK Gill Heart & Vascular Institute works with a large number of affiliate network hospitals across the state to enhance access to high-quality cardiovascular care and to provide the right care in the right place at the right time.

Officially established in 2014, the UK Gill Affiliate Network now boasts 20 affiliate hospitals across the Commonwealth, from Pike County to McCracken County. The network allows the UK Gill Heart & Vascular Institute to work closely with regional hospitals to provide the highest quality of cardiovascular care. Through the network, specialists at the UK Gill Heart & Vascular Institute provide cardiovascular-specific education and training programs for network doctors, advanced practice practitioners, nurses and staff to ensure the most up-to-date cardiovascular knowledge is available to them. Network members have remote access to cardiovascular educational opportunities and complimentary participation in cardiovascular conferences as well as personalized and customized attention from the UK Gill Heart & Vascular Institute to support the network hospitals’ needs across the cardiovascular spectrum.

“The UK Gill Heart & Vascular Institute Affiliate Network will help us access experts around the country and help us stay current on the latest research and treatments.” said Joseph Thomas, M.D., cardiologist at Bluegrass Community Hospital.



Bluegrass Community Hospital (left) is a licensed critical access hospital that offers a broad range of inpatient, surgical, emergency and diagnostic services. Photo courtesy of Bluegrass Community



Bourbon Community Hospital (right) has strong cardiovascular services that will be further enhanced by the collaboration with UK Gill Heart & Vascular Institute. Photo courtesy of Bourbon

The UK Gill Affiliate Network also assists cardiovascular programs in achieving and maintaining subspecialty accreditations and supports cardiac program growth and development. In addition, the network facilitates collaboration between local providers and Gill cardiologists, vascular surgeons and cardiothoracic surgeons. Developing these relationships allows for open communication and collaboration of care for patients.

“Kentuckians rely on their local community hospitals to provide lifesaving treatment and therapies,” said Navin Rajagopalan, M.D., heart failure cardiologist and director of the UK Gill Affiliate Network. “The more collaborative relationships we can cultivate with hospitals across the Commonwealth, the better.

Combining all of our expertise will help reduce the burden of cardiovascular disease and

provide more Kentuckians the opportunity to receive the advanced care they need.”

“We are thrilled about joining the UK HealthCare Gill Heart & Vascular Institute Network,” said Tommy Haggard, CEO of Bourbon Community Hospital. “This new collaboration will allow us to access their expansive resources and expertise to enhance our high-quality cardiovascular care in Paris.”

Bourbon Community Hospital is a 58-bed acute care facility that boasts a medical staff of 140 physicians covering 22 specialties.

“Our new affiliation with UK Gill Heart & Vascular Institute will give us access to experts around the country to stay

current on the latest research and life-saving treatments,” said Kelly Waespe, M.D., a cardiologist at Bourbon Community Hospital. “As an accredited chest pain center with the American College of Cardiology, we know the importance of expanding our knowledge and resources to better serve our patients.”

“We are thrilled about joining the UK HealthCare Gill Heart & Vascular Institute Network,” said Tommy Haggard, CEO of Bourbon Community Hospital. “This new collaboration will allow us to access their expansive resources and expertise to enhance our high-quality cardiovascular care in Paris.”

RESEARCH NEWS VITAL ALLIANCE

Martha Sim, MD, a graduate student at the College of Medicine, knew it was possible she would witness a pandemic in her lifetime, but she did not expect it to happen so early in her research career. Yet in 2020, COVID-19 spread rapidly across the globe.

Dr. Sim currently works in the laboratory of Jeremy Wood, PhD, assistant professor in the department of internal medicine. Her initial work involved the study of thrombosis in HIV patients as part of the Virus-Induced Thrombosis Alliance (VITAL), a team within the College of Medicine's Alliance Research Initiative studying the correlation between infectious and cardiovascular diseases. Amid the COVID-19 pandemic, Dr. Sim transitioned her work to focus on blood clotting in patients with the virus.

"The VITAL team gives me first-hand experience in collaborating with multiple labs in different departments, including the clinical research side, as well as learning on how basic research results can be translated into clinical relevance," Dr. Sim said.

"I have always been interested in basic research, and I think it became increasingly clear that through collaboration by researchers of different expertise, we are able to achieve more understanding and can also increase research efficiency."

Dr. Sim always had a keen interest in studying infectious diseases. After earning her medical degree in 2013 in Indonesia, her initial work was in an emergency department at a local hospital, but she came to UK to earn an education that would expand her role as a physician-scientist.

At UK, she pursued her master's degree and worked with Erin Garcia, PhD, to study bacterial pathogenesis. In her graduate work she narrowed her focus into more viral infection and immunology-oriented research projects. She worked in the labs of Rebecca Dutch, PhD, vice dean for research, and Sidney Whiteheart, PhD, who introduced her to studying the role of platelets in HIV infection.

Now, in Dr. Wood's lab, she has made important contributions to lab work studying the virus that caused a global pandemic, and minus the full shutdown at the beginning, she has been able to continue that work.

"Dr. Sim jumped very quickly to studying COVID-19," Dr. Wood said. "She has a previous medical degree and is interested in a career as a physician-scientist, so we viewed the pandemic as an opportunity for her to do patient-oriented research."

Dr. Sim's tenure at UK has provided her valuable skills to pursue her dissertation research in coagulation and viral inflammation. The experience also solidified her interest in becoming a physician-scientist. In her upcoming career, she aims to use her clinical and research background to work in a hospital or academic institution.



Dr. Martha Sim (left) and Dr. Jeremy Wood (right).

Dr. Wood's lab along with Sidney Whiteheart, Ph.D., professor in the Department of Molecular and Cellular Biochemistry, are part of a study of long COVID with other researchers at UK.

The University of Kentucky is participating in a nationwide study that seeks to understand why some people have prolonged symptoms (long COVID) or develop new or returning symptoms after an acute bout of SARS-CoV-2 infection.

UK College of Medicine researchers will enroll more than 80 adult participants from Kentucky: some who have had COVID-19 and others who have not. Participants will be followed for up to four years to identify risk factors and occurrences of long COVID, medically known as post-acute sequelae of SARS-CoV-2 infection (PASC).

This study is part of the National

Institutes of Health "Researching COVID to Enhance Recovery" (RECOVER) Initiative. The NIH awarded the \$470 million RECOVER parent award to more than 100 researchers at more than 30 institutions, creating a large-scale, national study population of diverse research volunteers, that is being coordinated by the RECOVER Clinical Science Core located at New York University Langone Health.

Together, these studies are expected to provide insights over the coming months into many important questions including the incidence and prevalence of long-term effects from SARS-CoV-2 infection, the range of symptoms, underlying causes, risk factors, outcomes, and potential strategies for treatment and prevention.

UK has partnered with West Virginia University and nine other institutions to form the IDEa

States Consortium for Clinical Research network, which ensures that the unique needs of the rural and medically underserved communities of Kentucky will be represented in the RECOVER study.

Of the 45 million COVID-19 cases in the U.S., it is estimated that 10-30% are "long haulers." According to the CDC, people commonly report prolonged symptoms including difficulty breathing, tiredness or fatigue, cough, difficulty thinking or concentrating ("brain-fog"), chest or stomach pain, headache and cardiovascular complications including thrombosis.

This project draws expertise from across the UK COM including the Departments of Microbiology, Immunology and Genetics; Molecular and Cellular Biochemistry; and Internal Medicine. The project is made possible by the support from UK's Center for Clinical and Translational Science (CCTS) and the VITAL Alliance.

OCTOBER

SPOTLIGHT: DR. DAVID AGUILAR

As published in Vital Signs Fall 2021.

David Aguilar, MD, professor of medicine and a cardiologist at the Gill Heart & Vascular Institute, recently moved to Lexington, Kentucky, from Houston, Texas, where he was a faculty member at the Baylor College of Medicine as well as the University of Texas Medical School and School of Public Health. He talks about his education and career, with all of the challenges and opportunities he has experienced as a Hispanic physician, the personal meaning of Hispanic Heritage Month, as well as the importance and benefits of incorporating diverse experiences and viewpoints to grow exponentially as a team, a community and a society.

Vital Signs (VS): *Tell us about you and your career.*

DA: I'm a noninvasive cardiologist with specialized training in echocardiology. I was born in Pasadena, Texas, which is an industrial suburb just outside of Houston. I'm of Mexican descent. My mom was from Mexico, and my father was from a town on the Texas-Mexico border. I went to Texas A&M for my undergraduate work and from there went to the Baylor College of Medicine. Once I finished my medical school training, I left Houston and went to Boston to complete my training in internal medicine and a cardiology fellowship at the Brigham Women's Hospital, a Harvard medical teaching hospital. I did that for seven years and then met my wonderful wife. We had two children and decided to move back to Texas, where I'd been on faculty at the Baylor College of Medicine and the UT Medical School and School of Public Health.

I also work on clinical research, studying a variety of topics, but predominantly focusing on cardiometabolic diseases such as diabetes and obesity. I study mechanisms that contribute to disease, as well as strategies that may lower the burden of heart and vascular disease.

VS: *What brought you to UK HealthCare?*

DA: This stage in my career provided a nice opportunity to reflect on where my wife, also a physician, and

I were –in our careers and explore new challenges and directions. My wife had a great job opportunity at UK, and I looked at it as a chance to expand on my research in Texas, which had focused on cardiovascular disease and some of the comorbid illnesses that are also quite common in Kentucky, such as diabetes and obesity. Our children had also graduated from high school, so it was a nice opportunity to try something different.

My wife, Emily [Sedgwick], is the executive chief medical officer at UK. As a dual-career couple, advancement opportunities have sometimes come at different times in our careers. This was a time where I could help support her in her pursuits while still having tremendous opportunities myself. It's a give-and-take that happens over time, so if I could help her, I was more than happy.

VS: *If you could go back five or 10 years in your career, what would you say to your younger self?*

DA: Even going back further, 10 or 20 years, I would probably say to take risks and try to address big problems. Swing for the fences, as they say; go big. I have a tendency to feel anxious when taking risks: Am I good enough? Can I do it? What happens if I fail?

My mom was a migrant worker who immigrated to the U.S. and had a middle school education, but she was probably the smartest person I have known. She was a role model in always trying to help others and being kind. My father joined the military service from high school. I think that many of us from different backgrounds may sometimes wonder if we are good enough or if we deserve to be here – what they call imposter syndrome. I would remind my younger self that these are natural feelings and that I do deserve to be here. I would also remind myself that baseball players who get on base one out of three times become all-stars, so you can miss a couple of times and it's OK. Those periods of anxiety may be a little uncomfortable, but if you can reframe those feelings, this is where improvement occurs.



VS: *What is one work or life experience that you appreciate for the lessons you learned?*

DA: I think one of the best life experiences I had was my internal medicine and cardiology training in Boston. It was very different geographically and culturally from where I grew up. I met remarkable people who became lifetime friends, and I think my training was really influential in my career and in my ability to believe in myself. It's also where I met Emily, so that was great.

VS: *How do you foster self-growth outside of work?*

DA: I enjoy spending time with my family. I think it helps me grow personally. It reminds me of what's important and grounds me. I also enjoy reading; it provides an outlet and different viewpoints on different topics.

VS: *What are you most curious about in life?*

DA: I love medicine. I recently had a discussion about the difference between purpose and passion and whether they should always be aligned or whether they can be different. I feel very passionate about learning and about medicine. I'm curious about new treatments for diseases. I love to learn about cardiology, about new ways that we might be able to prevent diseases and the factors driving disease processes, including socioeconomic and physiological factors. Sometimes I joke that if you can't find me, then I'm off somewhere reading a medical journal!

VS: *What is the most courageous thing you have done?*

DA: When I moved to Boston; that was a big step for me. Before I went to interview for my residency, I'd flown one time to Washington, D.C., in high school, but other than that I hadn't traveled outside of Texas. I was fortunate to be accepted into the internal medicine training program, so I thought I should try a new adventure.

I don't think I'd seen snow before moving to Boston, and I learned that I could drive my old car in the snow and it was perfectly fine. More seriously, I learned that we all have common, shared experiences. Whether we're from Houston or Boston, we may have different accents – we may have different ways of saying “going to the park” – but in general, we have shared experiences and learn from each other, and I learned that I could succeed.

VS: *What inspires you most in life?*

DA: I really think it's the idea that I'm in a position where I can help others. I don't think there's anything more important than when I sit down with a patient and talk about their health. That's a very special relationship; it's a privilege to take care of someone and learn about their life. We all have periods of vulnerability, such as an illness, and to realize that someone has entrusted you with their care is a huge privilege and responsibility. That person sitting across from you

OCTOBER SPOTLIGHT CONT.

is someone's parent, child, brother, sister, friend. A lot of people have entrusted you to do your best to help them, so that inspires me to be better in taking care of patients.

I also have the privilege of performing clinical research, where we start thinking about how we can help populations and improve care, health and quality of life. It's also very important to me to help my colleagues when they might need help, either in day-to-day patient care or in their career. We're all a team, so how can we help each other be better? That really is my inspiration.

VS: *If you could make any one change in the health care industry, what would it be?*

DA: It would be improving access to care, and improving health education and literacy. The COVID pandemic has highlighted health inequities that persist in the health care system.

In our own work with diabetes and its relationship to heart disease, we have seen tremendous health inequities. We used to refer to Type 2 diabetes as "adult-onset," because people would get it as adults, but now there's a significant number of teenagers who develop Type 2 diabetes. The rates are not extremely high, but they're twice as high as they were 10 years ago. When we look at the racial and ethnic distribution among these teenagers, we realize that certain ethnic groups have much higher rates of Type 2 diabetes. We have to address these inequities by improving socioeconomic factors, health education and appropriate access to preventive care for all. When I was at the UT School of Public Health, I was surrounded by genetic experts, and I learned a lot from them; but I always reminded them that someone's zip code seems to be much more powerful than their genetic code for cardiovascular disease. We really have to address these issues.

VS: *As we enter Hispanic Heritage Month, would you like to share what that means to you?*

DA: I'm excited we're entering Hispanic Heritage Month. It provides a wonderful opportunity to celebrate community and diversity. It's an opportunity for me to be reminded of my own community, traditions and family. It's also an opportunity to teach others and learn from others – to celebrate and learn from our differences and our diversity. Wisdom comes in its best form from a team of people with different backgrounds, different ideas and different approaches.

My favorite family tradition is our traditional Mexican Christmas Eve, where we get together and have a traditional Mexican meal including tamales. I have two sisters who are both physicians and both married physicians, which makes discussions at Christmas Eve a little boring – that's why we need tamales and margaritas to get it going!

VS: *What would you like to express to others about the significance of this month?*

DA: I would tell others that the month provides a great opportunity to learn from each other and about the Hispanic community.

I don't often tell my personal story, and very few people know my background. This is such an important part of who I am and what I do. Recently, I've been trying to tell my story a little more because I realize that other people need to hear it. There could be someone who looks like me and has a similar background and shared experiences and may feel uncertainty about being in an environment that is different. I'm here to remind them that they can do it, and they're not doing it alone. We'll get through this together – not just Hispanics, but all of us. We can learn to appreciate our community, our strengths, our diversity and how special each one of us is. I think Hispanic Heritage Month celebrates that feeling.

VS: *What has your journey been like as a Hispanic physician?*

DA: It has had its challenges and opportunities. When I was training at the Brigham Women's Hospital, there were very few Hispanic physicians in the program. Sometimes I would be mistaken for someone who worked on the housekeeping staff, but I always looked at it with positive intent – people at that time and place may just not have previously met a Hispanic physician. I might help them get a towel and then go back and reintroduce myself as their physician for the next few days. I feel that if we can remind people with kindness and respect, it can be an important learning opportunity.

As a Hispanic physician, I have very much enjoyed taking care of Hispanic patients. It has been a great experience to take care of patients of similar backgrounds who sometimes only speak Spanish. It is a wonderful feeling to connect with them, occasionally laugh with them, and understand some of the nuances that may be missed with a translator. It often provides for a much more meaningful experience.

LATEST IN CARDIOVASCULAR MEDICINE & SURGERY CALL FOR ABSTRACTS

The Very Latest in Cardiovascular Medicine and Surgery Conference: Focus on Interventional Cardiology (<https://cecentral.com/live/21400>) on April 30, 2022 is now accepting abstracts.

Residents and fellows are encouraged to submit an abstract for consideration for a Rapid-Fire presentation - 10-minute presentation with 5-minute discussion - during the Case Scenarios session from 4:25-5:10 PM. The deadline to submit an abstract February 18, 2022. Abstract acceptance notifications will be emailed by February 28.

Abstracts should be no longer than 250 words, include one learning objective, a completed Speaker Information Sheet and Financial Disclosure Form. Please email completed submissions and forms to Colleen McMullen: cmcmu2@uky.edu.



SAVE THE DATE

Join us for the **T.F. Wayne 2nd Very Latest in Cardiovascular Medicine and Surgery Symposium:**
Focus on Interventional Cardiology.

April 30, 2022

Jacobs Science Center
680 Rose St
University of Kentucky HealthCare
Lexington, KY

Virtual options available.

MORE INFORMATION

For information or to register for this event, visit cecentral.com/live/21400.



NOVEMBER CARDIAC AMYLOIDOSIS

Adapted from UKNow.

When it comes to medical diagnoses, retired nurse Sue Routin, 65, says she's just about seen it all.

"Thanks to my experience in health care, I am generally well-versed in the wide world of ailments," said Routin, a Stanford, Kentucky, resident who worked in nursing for 23 years. Day in and day out, it was her job to recognize a problem, evaluate symptoms and help determine treatment.

This experience has helped her to navigate her own health challenges. In 2013 she was diagnosed with supraventricular tachycardia (SVT), specifically atrial fibrillation (AFib). During atrial fibrillation, patients experience an abnormal rate or rhythm of the heartbeat in which the heart beats too quickly, too slowly or irregularly.

Routin saw AFib in her patients time and time again — it is a common condition that affects at least 2.7 million Americans. Knowing the potential severity of any heart condition, she was quick to initiate her own care with UK HealthCare cardiologists after recognizing the symptoms.

Routin has had three ablations to try and correct her arrhythmia, but her condition only continues to decline — she even ended up in her local emergency department, nearly coding, she recalls. But despite Routin's deep breadth of medical knowledge, she was stumped when

new, worsening symptoms appeared a little over one year ago.

Routin knows better than to skip her regular check-ups with the cardiology team at the UK HealthCare Gill Heart & Vascular Institute. And it's a good thing — because her last check-up may very well have given her a few years of life back.

'All of it was working together and against me'

"My feet and legs started swelling really bad," she said. "I was holding fluid in my thighs, and I was short of breath and feeling so, so tired. I also lost my appetite. Combined with my already existing conditions, all of it was working together and against me."

Everyday tasks became debilitating for Routin. Chores like sweeping the floors or doing laundry were painful and exhausting. Running errands and weekly trips to the grocery store became impossible without help.

In addition to Routin's existing heart disease, she was confident she was now experiencing congestive heart failure, which can present with shortness of breath, fatigue, swollen ankles or legs.

Her check-up appointment happened to fall during the start of the COVID-19 pandemic. She remembers **Rick McClure, M.D.**, a cardiologist and interim chair of the UK Department of Internal Medicine, and his team of nurses expressing concern — saying they had never seen her like this.

Gaurang Vaidya, M.D., a UK HealthCare cardiologist specializing in advanced heart failure and heart transplantation, took on Routin's case. Despite her confidence in a congestive heart failure diagnosis, Routin's blood work and advanced testing revealed a different diagnosis — something she had never heard of before — cardiac amyloidosis.

A rare diagnosis

Cardiac amyloidosis is considered rare. It is estimated to affect less than 200,000 people in the United States. With improvement in diagnostic methods, more heart failure patients are now being realized to have an underlying cardiac amyloidosis.

Cardiac amyloidosis occurs when an abnormal protein — called amyloid — builds up in your heart tissue. This buildup makes it hard for your heart to work the way it should. The heart muscles become rigid, which prevents the muscles from relaxing between beats. This prevents blood from getting into your heart.

There are two main types of cardiac amyloidosis: transthyretin (ATTR) amyloidosis or light chain (AL) amyloidosis. ATTR amyloidosis results from mutated deposits of transthyretin, a protein made by the liver. The two subtypes of ATTR are wild-type amyloidosis, which generally affects people in their 60s or older; and hereditary amyloidosis, which runs in families and typically affects people in their 40s or older. AL amyloidosis is associated with blood cancers, like multiple myeloma. It is not a type of



Gaurang Vaidya, M.D. (above), said many patients who were previously diagnosed with heart failure actually have underlying cardiac amyloidosis as the cause of their heart failure. Mark Cornelison | UK Photo.

cancer but is treated with chemotherapy.

Routin has ATTR wild-type amyloidosis, and the disease is not curable, but treatable. Besides medication, a heart transplant is the most effective solution; however, Routin is not a candidate for transplant because of her age and medical history. Newly approved medicines can potentially prolong the survival of patients with ATTR amyloidosis. The medicine Vaidya prescribes for her helps prolong her life and maintain a satisfactory quality of life. Those impossible trips to the grocery store are now more manageable with a little help from her husband, and she is able to keep up with housework by herself, like sweeping and doing laundry.

“I am grateful to Dr. Vaidya and his team for their passion, care and understanding,” Routin said. “Even as a former nurse, I had never heard of amyloidosis before. Had I known, I would have sought help sooner and I probably would have a much better prognosis.”

Without her amyloidosis diagnosis and prompt treatment by her UK HealthCare team, Routin would likely have had less than three years to live.

One-of-a-kind care

UK HealthCare’s cardiac amyloidosis clinic is the only one of its kind in Kentucky.

“Because so much surrounding cardiac amyloidosis is unknown, very few hospitals in the country have the capability to treat it,” Vaidya said. “However, it is essential that this condition be diagnosed and promptly treated.”

Vaidya says research is still ongoing and many patients who were previously diagnosed with heart failure are now being realized to have underlying cardiac amyloidosis as the cause of their heart failure.

“It is important to make the distinction as the treatment of cardiac amyloidosis is completely different

and some of the regular heart failure medications are actually harmful in amyloidosis patients,” he said.

Patients who seek treatment through the UKHC cardiac amyloidosis clinic are cared for by a team of doctors who specialize in treating cardiac amyloidosis as well as kidney, liver and other organ problems that can come with it. Nurse coordinators will support and guide patients through their care. The clinic can also connect patients with clinical trials that test new therapies and study how the disease progresses. The clinic has nuclear pyrophosphate scan technology, which Vaidya says is highly accurate to diagnose cardiac amyloidosis.

“We have all of these resources under one roof that can truly make a difference in disease progression and a patient’s prognosis, and we are one of very few centers across the country that have this set up,” Vaidya said.



DECEMBER YEAR IN REVIEW

US News Best Regional Hospital

High Performing in congestive heart failure, heart attack, and heart bypass surgery

By the numbers

- \$4 million in research funding as principle investigators
- 320 publications
- 35 active clinical trials
- 20 affiliate partners newest are Bluegrass Community Hospital and Bourbon Community Hospital
- 12 outreach sites
- Over 600 hours of clinical and community education

Accreditations

Intersocietal Accreditation Commission (IAC)

- Echocardiography
- Nuclear cardiology
- Vascular testing

American Association of Cardiovascular and Pulmonary Rehabilitation (AACVPR)

Get With The Guidelines®-Resuscitation Gold Award

The Joint Commission's Gold Seal of Approval™ for the VAD program

Gold Level ELSO Award for Excellence in Life Support

Awards

Patient Experience Awards – top 25% nationally

- Cardiopulmonary Rehabilitation
- Good Samaritan Echocardiogram
- KY Clinic EKG
- Echocardiogram Program

The recognition Jacket Program was established to recognize a UK HealthCare employee who has positively impacted a patient experience in an extraordinary way through patient centered care and safety. These individuals embody our UKHC DIRECT values, and these jackets are specifically given to our staff and faculty that have made an everlasting impression on the patients they care for.

Dr John Gurley and Dee Abrams both received jackets this year!

Nursing Awards

MJ Dickson Quality Nursing Care Award Heather Thompson

Nightingale Preceptor Award Payton Novak

CVICU RN Clinical Excellence Award Linda Dickson & Diandra Bowling

STAR Awards (Starting July 2021)

- 5 GOLD
- 17 SILVER
- 12 BRONZE

Gill Recognition Award: Donna Dennis, She'Ahna Leach, Cardiac Cath Lab, Kenneth Campbell, PhD, Jacob Stone, Monica Peterman, Steve Leung, MD, Vedant Gupta, MD, and Bryana Levitan

2021 Academic Convocation Award Winners!

Dr. Jennifer Torres Yee, Internal Medicine

Dr. Aniruddha Singh, Cardiology

Dr. Kenneth Campbell, Physiology

Dr. Andrew Kolodziej, Internal Medicine

Milestones

Dr David Booth- 40 years with UK

CCTS

New KL2 Scholars

Meredith Duncan, PhD, Assistant Professor, College of Public Health, Department of Biostatistics

Project: The power of social determinants of health: An avenue for eliminating race-based cardiovascular disease risk estimation

Mentors: Carrie Oser, PhD, Donna Arnett, PhD, Jeff Talbert, PhD

New TL1 Trainees: Predoctoral Program

Greg Milburn, MD/PhD candidate, College of Medicine

Project: Effects of left ventricular assist devices on contractile function in patients with right ventricular dysfunction

Mentor: Ken Campbell, PhD

DECEMBER YEAR IN REVIEW CONT.

Chi Peng, PhD candidate, College of Medicine

Project: Investigation of platelet mitochondrial and proteomic changes in obesity and post-bariatric surgery

Mentor: Sidney Whiteheart, PhD

National Level

Alan Daugherty, PhD, Editor in Chief, ARTERIOSCLEROSIS, THROMBOSIS AND VASCULAR BIOLOGY

David Moliterno, MD, Editor in Chief, JACC: CARDIOVASCULAR INTERVENTIONS

Vincent L. Sorrell, Editor in Chief, CASE: CARDIOVASCULAR IMAGING CASE REPORTS

KENTUCKY CHAPTER OF THE AMERICAN COLLEGE OF CARDIOLOGY

Steve Leung, MD, Annual Scientific Meeting Committee Chair

Tracy Macaulay, PharmD, Councilor

Majd Makhoul, MD, Councilor

Matthew Sousa, MD, FIT Liaison

New programs

Cardio-oncology program

Cardiac amyloidosis clinic

AWARDS

STAR PROGRAM



At UK HealthCare, exceptional service begins and ends with all team members. That's what the STAR (Special Thanks and Recognition) program is all about. Whether it's day-to-day accomplishments or above-and-beyond results, we recognize, honor and celebrate the individuals and teams who are at the core of our success. The following received STARS in October-December 2021:

Bronze

Tiffany Binetsch (Cath Lab Recovery) – Nominated by Louanna Calhoun
 Tom Mansfield (Cardiac Cath/EP Lab)- Nominated by April Skaggs
 Amber Perraut (Hospital Special Diagnostics)- Nominated by Jennifer Vissing

Silver

Stacy Ford (VAD Program) – Nominated by Peggy Hardesty
 Tonya Hatfield (Funds Flow IM) – Nominated by Louann Calhoun
 Claire Kinmon (Cardiac Cath/EP Lab) – Nominated by Paige Tefiku
 Krista Lewis – (VAD Program) – Silver – Nomination Peggy Hardesty
 Carrie McKibben (ECHO)- Nominated by Dr. John Kotter

Gold

Casey Caton (Heart Station) - Nominated by Brian Wallace
 Krista Lewis (VAD Program) – Nominated by Heather Perraut

You can login from: starprogram.mc.uky.edu from any internet browser. Chrome and Firefox recommended. Any questions, concerns or issues using STAR please connect with Megan Kidd, Employee Recognition Coordinator, at megan.kidd1@uky.edu.



AWARDS CONT. GILL RECOGNITION AWARDS

The Gill Recognition Program seeks nominations of staff, faculty, trainee, or an entire area to recognize outstanding work based on one or more of the criteria below.

- Going the extra mile to help colleagues or patients
- Inspiring others
- Preventing a serious adverse event
- Embracing a spirit of constant improvement
- Creating a valuable learning opportunity or environment
- Developing an innovative approach or solution
- Outstanding commitment to a scholarly pursuit

Nominations should include the individual name or area and a brief description of the outstanding work.

The Gill Recognition Award will be awarded monthly. You may open the nomination form on your web browser by clicking the link below: Gill Recognition Program.

If the link above does not work, try copying the link below r:
<https://redcap.uky.edu/redcap/surveys/?s=JFK4EPMJ83>

See past winners here: <https://internalmedicine.med.uky.edu/cvrc-gill-award>

Congratulations to **Steve W. Leung, MD**, (photo upper left, right side) Associate professor of medicine, for receiving the October 2021 Gill Recognition Award. Dr. Leung was nominated by Vincent L. Sorrell, MD (photo upper left, left side).

Dr. Sorrell had this to say about Dr. Leung: Thank you Going above and beyond (the extra mile) during EPIC installment and the continued transition.



GILL RECOGNITION AWARDS

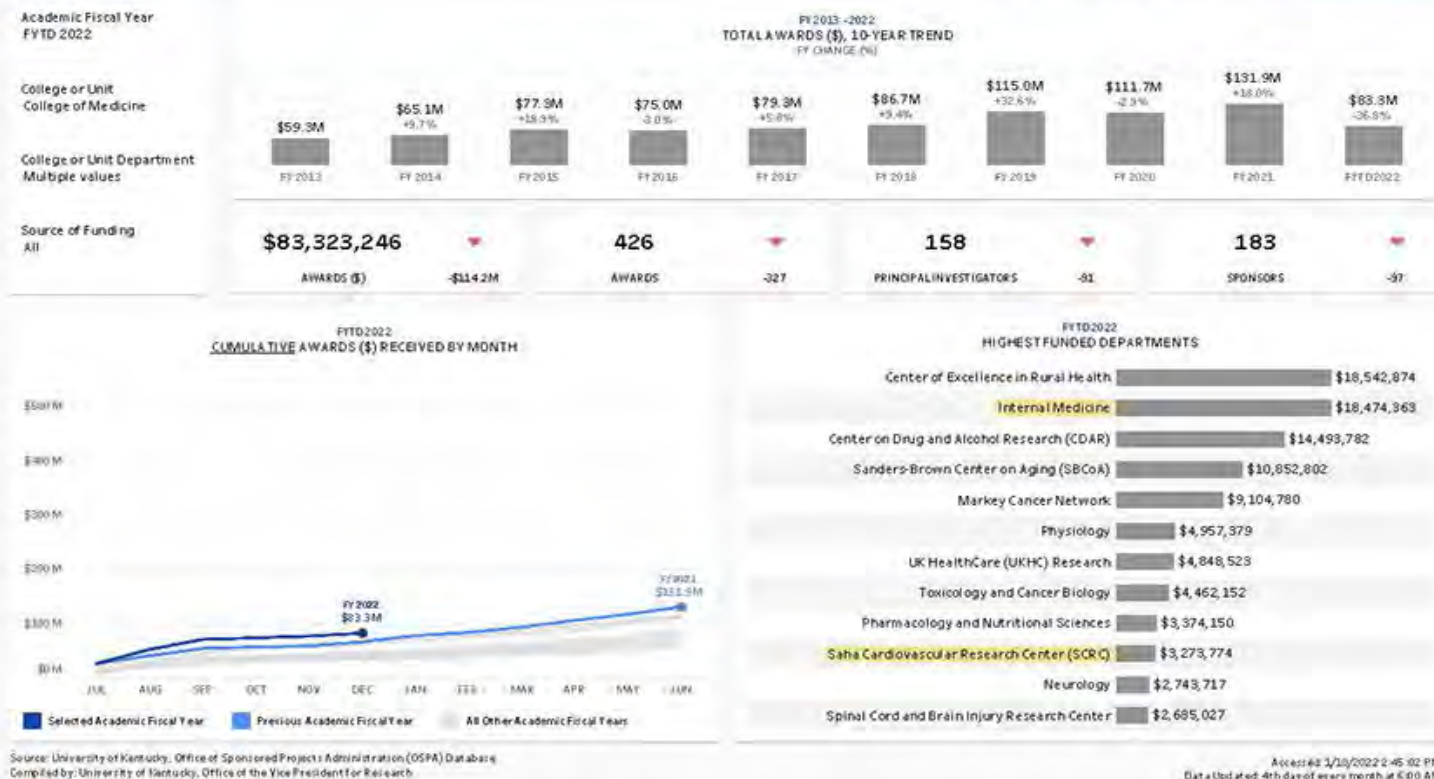
Congratulation to **Dr Vedant Gupta, M.D.** (middle photo, left side) Assistant Professor of Medicine, for receiving the November 2021 Gill Recognition Award. Dr. Gupta was nominated by Steve Leung, M.D (middle photo, right side).

Dr. Gupta has been instrumental over the past few years in the Division from clinical care to education. He has frequently stepped up to cover colleagues despite his already busy schedule, and see extra patients in clinic even though they are not scheduled to be in clinic. He has developed the new post-CCU clinic and transitions of care clinic for patients who were recently hospitalized, to ensure that they have quick follow up, minimize their likelihood of needing readmission, and ease the transition back to their outpatient care providers.

He developed and worked with many other Departments to implement the optimal care pathway regarding the use of high sensitivity troponin, which reduced patients length of stay in the Emergency Department. Despite these works, he has been a mentor to many fellows and their research projects, which has resulted in many national abstracts and publications.

Congratulations to cardiac sonographer **Bryana Levitan** (photo upper right, left side) for receiving the December 2021 Gill Recognition Award. Bryana was nominated by Jonathan Satin, PhD (photo upper right, right side). Dr. Satin's nomination of Bryana reads:

Bryana Levitan is a key contributor to research and in the clinic. Bryana exemplifies much sought after clinician-investigators that bridge clinical practice and fundamental research. In the laboratory, Bryana is the leading expert cardiac ultrasound. She also works with trainees and participates in multiple aspects of research projects. Many laboratories in/affiliated with the Saha Cardiovascular Research Center turn to Bryana for expertise for cardiovascular imaging of animal research subjects. In addition to her work in the clinic, and with multiple basic science labs, Bryana volunteers on the Physiology Department equipment use committee.



Doug Andres

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

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

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
09/16/16-05/31/2022

Awards for members of Gill Heart & Vascular Institute total over \$33 Mil per year!

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

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

Supplemental Environmental Project Compliance Assistance Tools and Services
KY Department of Environmental Protection
07/01/07-12/31/23

Sex Differences in Angiotensin-Induced Vascular Diseases
National Heart Lung and Blood Institute
03/21/12-05/31/22

Alan Daugherty

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

A Mechanistic Study to Elucidate the Role of Protein S in Elevating the Risk of Thrombosis in Obese, Pre-menopausal Women
Louisiana State University Health Sciences Center- New Orleans
01/15/21- 12/31/24

JMJD3 Regulates Abdominal Aortic Aneurysm Expansion
University of Michigan
04/01/21- 03/31/25

RESEARCH FUNDING CONTINUED

Determinants of Aorta Heterogeneity
National Heart Lung and Blood Institute
06/01/21-05/31/28

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- 05/31/22

Toward Early Diagnosis of Long QT Syndrome Using Machine Learning and Molecular Dynamics Simulation of KCNH2
Loyola University
01/01/21- 12/31/21

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

Florin Despa
Role of Systemic Amylin Dyshomeostasis in Alzheimer's Disease
National Institute on Aging
09/15/16- 05/31/22

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

Sanda Despa
Role of Myocyte Na⁺ Dysregulation in Diabetic Heart Disease
National Heart Lung and Blood Institute
08/01/17- 07/31/22

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
08/20/18-07/31/22

Protease Activity in Atherosclerotic Plaque Formation and Protection by Novel HDL-targeting Protease Inhibitors
Medical Foundation
12/01/18-11/30/21

High Density Lipoprotein Targeting Protease Inhibitors for Preservation of Lung Function
Alpha One Foundation Incorporated
07/01/21-06/30/23

Identifying Pharmacokinetic Markers to Predict Altered Lipoprotein Kinetics in the Vascepa to Accelerate Lipoprotein Uptake and Elimination (VALUE) Study
Amarin Pharma Incorporated
07/30/21-07/30/22

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

Xiangan Li
Relative Adrenal Insufficiency is a Risk Factor and an Endotype for Sepsis
National Institute of General Medical Sciences
05/01/21- 04/30/26

Mechanism of Adrenal Insufficiency as A Risk Factor for Sepsis
National Institute of General Medical Sciences
09/01/17-08/31/22

RESEARCH FUNDING CONTINUED

Synthetic HDL a Potential Sepsis Therapy
National Institute of General Medical Sciences
11/01/15-11/30/21

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
10/01/19-10/31/21

Hong Lu

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

Debra Moser

Rural Intervention for Caregivers' Heart Health (RICHH)
National Institute of Nursing Research
09/26/16-06/30/22

Online Cognitive Behavioral Therapy for Depressive Symptoms in Rural Coronary Heart Disease Patients
Patient Centered Outcomes Research Institute
10/01/2020 to 09/30/2024

Gia Mudd-Martin

Corazón de la Familia (Heart of the Family)
National Institute of Nursing Research

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
04/01/19-03/31/22

Kentucky Lung Cancer Survivorship Program
Bristol Myers Squibb Foundation Incorporated
09/01/14- 12/31/21

Addressing Comprehensive Lung Cancer Biomarker Testing Through Project ECHO
American Cancer Society
05/01/21-03/01/22

Mariana Nikolova-Karakashian

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

Jonathan Satin

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

Venkateswaran Subramanian

Calpains and Abdominal Aortic Aneurysms
National Heart Lung and Blood Institute
08/10/17-07/31/22

Role of miR-146a in Abdominal Aortic Aneurysm
National Heart Lung and Blood Institute
01/01/22- 12/31/25

Ryan Temel

TRAF6 Nanoimmunotherapy to Resolve Plaque Inflammation
Mount Sinai
08/15/18-06/30/22

Targeting MicroRNA-33 To Reduce Intracranial Atherosclerosis and Other Neurovascular Hallmarks of Vascular Cognitive Impairment and Dementia
National Institute of Neurological Disorders & Stroke
04/01/19-03/31/22

RESEARCH FUNDING CONTINUED

Therapeutic Targeting of Metabolic microRNAs as a New Treatment Paradigm for NASH
Aalborg University
01/01/19-12/31/24

Dongfang Wang
SBIR Development of a Minimally Invasive Single Cannulation, Compact Single Port Pulsatile Ventricular Assist Device (sppVAD) for Total LV Support
W-Z Biotech LLC
10/01/21- 09/30/22

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
04/01/19-07/31/22

Christopher Mark Waters
Biophysical Mechanisms of Hyperoxia-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
12/15/16-11/30/21

Nancy Webb
Serum Amyloid A, Inflammasome Activation, and Abdominal Aortic Aneurysms
National Heart Lung and Blood Institute
01/01/17-12/31/21

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

Regulatory Mechanisms of Glycoprotein Sialylation
Case Western Reserve
01/01/21- 11/30/24

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

Coordination of the TFPI/Protein S and APC/Protein S Anticoagulant Systems
Pfizer Inc
06/22/21-05/31/23

SEMINARS AND JOURNAL CLUBS

* 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>

Cardiovascular Seminar Series for Today's Clinician-Scientists

TODD 170

Noon- 12:50 PM and Zoom

Speakers will discuss late-breaking research, critical review of the guidelines, and other relevant cardiovascular topics. These presentations are expected to deliver knowledge and strategies that directly result in changes in practice that can improve patient outcomes. CMEs available.

Thursday 2/24/2022	Precision Medicine in Pulmonary Arterial Hypertension Speaker: Anna Hemnes, MD Vanderbilt University Medical Center
Thursday 3/24/2022	Point of Care Ultrasound in Clinical Practice Today Speaker: James Kirkpatrick, MD University of Washington
Thursday 4/28/2022	ABCs of AF Speaker: Hakan Oral, MD University of Michigan, Frankel Cardiovascular Center
Thursday 5/26/2022	Percutaneous Mitral Valve Repair in 2022 Speaker: Mohamad Adnan (Mohamad) Alkhouli, M.D. Mayo Clinic, Rochester, MN

Please RSVP to cmcmu2@uky.edu if attending in-person for lunch.

PUBLICATIONS

JULY-SEPTEMBER

Adegboyega A, Wu JR, **Mudd-Martin G**. Acculturation Strategies and Pap Screening Uptake among Sub-Saharan African Immigrants (SAIs). *Int J Environ Res Public Health*. 2021 Dec 15;18(24):13204. doi: 10.3390/ijerph182413204.

Ahmed AI, Han Y, Al Rifai M, **Alnabelsi T**, Nabi F, Chang SM, Cocker M, *et al*. Prognostic Value of Computed Tomography-Derived Fractional Flow Reserve Comparison With Myocardial Perfusion Imaging. *JACC Cardiovasc Imaging*. 2021 Oct 7:S1936-878X(21)00691-4. doi: 10.1016/j.jcmg.2021.09.007.

Ahmed T, **Misumida N**, Grigorian A, Tarantini G, **Messerli AW**. Transcatheter Interventions for Valvular Heart Diseases in Liver Cirrhosis Patients. **Trends Cardiovasc Med**. 2021 Dec 30:S1050-1738(21)00164-X. doi: 10.1016/j.tcm.2021.12.014.

Akinyemiju T, Jones K, Gupta A, Oyekunle T, Saraiya V, Deveaux A, Salako O, *et al*. (**Arnett D**). Association of body composition with odds of breast cancer by molecular subtype: analysis of the Mechanisms for Established and Novel Risk Factors for Breast Cancer in Nigerian Women (MEND) study. *BMC Cancer*. 2021 Sep 25;21(1):1051. doi: 10.1186/s12885-021-08775-8.

Akpa O, Sarfo FS, Owolabi M, Akpalu A, Wahab K, Obiako R, Komolafe M, *et al*. (**Arnett D**). A Novel Afrocentric Stroke Risk Assessment Score: Models from the Siren Study.

J Stroke Cerebrovasc Dis. 2021 Oct;30(10):106003. doi: 10.1016/j.jstrokecerebrovasdis.2021.106003.

Al-Abdoun A, Mhanna M, Barabara-wi M, Abusnina W, **Gupta VA**. A Meta-Analysis of the Sodium-Glucose Cotransporter 2 Inhibitors in Patients With Heart Failure and Preserved Ejection Fraction. **Am J Cardiol**. 2021 Nov 16:S0002-9149(21)01036-5. doi: 10.1016/j.amjcard.2021.10.017.

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Alnabelsi T, Nabi F, Al-Mallah M. Obstructive Coronary Atherosclerosis in a Patient with a Calcium Score of Zero. *Methodist Debaquey Cardiovasc J*. 2021 Sep 24;17(4):87-89. doi: 10.14797/mdcvj.845.

Alsaedi H, Berrens ZJ, Lutfi R, Weinstein E, Montgomery EE, **Pearson KJ**, Kirby ML, *et al*. Simulation-based assessment of care for infant cardiogenic shock in the emergency department. *Nurs Crit Care*. 2021 Oct 26. doi: 10.1111/nicc.12716.

Amin S, **Gupta V**, Du G, **McMullen C**, Sirrine M, Williams MV, Smyth SS, *et al*. Developing and Demonstrating the Viability and Availability of the Multilevel Implementation

Strategy for Syncope Optimal Care Through Engagement (MISSION) Syncope App: Evidence-Based Clinical Decision Support Tool. *J Med Internet Res*. 2021 Nov 16;23(11):e25192. doi: 10.2196/25192.

Annabathula RV, Sinner GJ, **Alnabelsi TS**, Goodwin RP, **Sorrell VL**. Avoidance of ST-Segment-Elevation Myocardial Infarction Treatment for >1 Week Due to COVID-19 Fears. *Tex Heart Inst J*. 2021 Sep 1;48(4):e207390. doi: 10.14503/THIJ-20-7390.

Appiah F, **Charnigo RJ**. A Comparison of Methods for Predicting Future Cognitive Status: Mixture Modeling, Latent Class Analysis, and Competitors. *Alzheimer Dis Assoc Disord*. 2021 Oct-Dec 01;35(4):306-314. doi: 10.1097/WAD.0000000000000462.

Aru RG, Horsley NB, **Endean ED**. Contemporary Use of the Femoropopliteal Vein in Vascular Reconstructions. *Ann Vasc Surg*. 2021 Oct 10:S0890-5096(21)00665-8. doi: 10.1016/j.avsg.2021.07.019.

Ayoub K, Fry E, Marji M, Masri A, **Hesselson A**, **Ellison K**. Implantable cardioverter-defibrillators with end stage renal disease: nationwide inpatient sample database results. *Pacing Clin Electrophysiol*. 2021 Nov 22. doi: 10.1111/pace.14411.

Backer CL. Commentary: Slide tracheoplasty: The power of numbers. *J Thorac Cardiovasc Surg*.

PUBLICATIONS CONTINUED

2021 Nov 10:S0022-5223(21)01543-9. doi: 10.1016/j.jtcvs.2021.11.006.

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Backer CL. The vascular ring decision tree. *Eur J Cardiothorac Surg.* 2021 Dec 11:ezab525. doi: 10.1093/ejcts/ezab525.

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UPCOMING 2022 EVENTS

Feb 10-11: ACC Cardio-oncology Meeting

April 2-4: ACC 71st Annual Scientific Session & Expo

April 30: Latet in Cardiovascular Medicine and Surgery

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