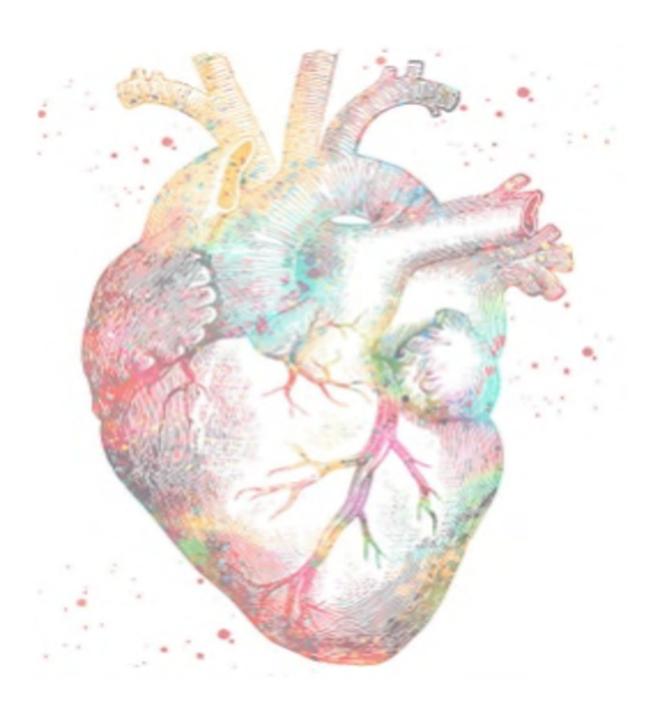
CARDIOVASCULAR RESEARCH INSTITUTE SUMMER 2022 NEWSLETTER



FROM THE DIRECTOR



Xander Wehrens, MD, PhD

Dear Colleagues,

The CVRI has many things to celebrate as we settle into the summer months! Throughout the last few months, we have administered three graduate school courses focusing on cardiovascular systems, for which faculty received top rankings for their teaching by the students. We completed an outstanding spring seminar series and celebrated a myriad of achievements with our members. Several CVRI members received Norton Rose Fulbright awards for excellence in teaching, educational leadership, and the development of educational materials.

Among other achievements to note, several CVRI members have been awarded grants and contracts from prominent foundations and federal funding organizations. Drs. Ketan Ghaghada, Scott LeMaire, Ying Shen (all BCM), and Dianna Milewicz (UT Health) are joint recipients of a Leducq International Network of Excellence Award. This achievement is highlighted in our newsletter with a spotlight piece. Other notable grant awards include a newly funded P01, headed by Dr. Margaret Goodell and two American Heart Association grants awarded to Dr. Na Li and Dr. Huaizhu Wu. Dr. Mihail Chelu has been approved for \$31M in funding from the Patient-Centered Outcomes Research Institute (PCORI) for a large multi-center, clinical study on conduction system cardiac pacing.

I am also pleased to announce that the CVRI will team up with our friends and colleagues at the Texas Heart Institute to jointly organize the fall seminar series starting in August 2022. In addition, we will be offering CME credits to eligible attendees for all seminars from now on. Please keep an eye on our website and your inboxes for announcements regarding the series.

Please join me in congratulating our members on all their accomplishments!

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2022 International Networks of Excellence Award



The Leducg Foundation is an international charitable organization funding collaborative research in cardiovascular disease and stroke. The organization is dedicated to improving human health through international efforts to combat cardiovascular disease. CVRI members Drs. Diana Milewicz (UTHealth), Scott LeMaire (BCM), Ketan Ghaghada (BCM), and Ying Shen (BCM) recently received word that their collaborative project titled "Cellular and Molecular Drivers of Acute Aortic Dissections" has been awarded a grant under the foundations 2022 International Networks of Excellence Program (INE). The proposal is one out of four selected from an extremely competitive field of over 100 applications, and features a network of collaborating North American and European investigators. Dr. Milewicz is an internationally recognized expert on genetics and molecular pathogenesis of aortic disease. She and Dr. Toru Suzuki, from the University of Leicester, will lead the overall project as the North American and European Coordinators, respectively. The Leduca Foundation has committed a total amount of \$7.5M in funding over the course of five years to execute the proposed research. Also collaborating on the project is Dr. Alan Daugherty, director of the Saha Cardiovascular Research Center at the University of Kentucky. Dr. Daugherty gave the keynote lecture at the Ninth Annual Symposium in April 2021. He also collaborates with Drs. LeMaire and Shen on a program funded through the American Association's Strategically Focused Heart Vascular Disease Research Network that focuses on sex-based differences in aortic disease.

The new collaborative project focuses on acute aortic dissections (AAD) and the prevention of dissection-related deaths and disability by identifying molecular changes in the aortic wall that trigger dissections. Data will be used to discover biomarkers and therapeutics that reliably predict and effectively prevent AADs.



Dr. Milewicz has made seminal discoveries of key genetic drivers of AAD. Her team at UT Health will identify stepwise changes leading to AAD in mouse models of AAD based on her genetic discoveries. Drs. LeMaire and Shen have developed AAD mouse models, defined roles for cell death in AAD, and identified aortic single cell death in transcriptomes of mouse and human aortas. Both groups pursue studies focused on the role of mitochondria in AAD. Dr. Ghaghada has developed novel CT imaging methodologies for prediction of AAD in mice and will lead studies to determine if imagingderived quantitative metrics of aortic walls predicts AAD in mouse models. Based on novel cell specific analyses of aortic tissue samples from patients with aortic disease and control subjects, the proposal will test the hypothesis that over-active cellular motors in the major cells in the aortic wall, smooth muscle cells, increase energy production by the cells and ultimately cause mitochondrial failure. Rigorous testing of this hypothesis using several mouse models of dissection that reflect known risk factors for the disease will identify critical changes in cells. The changes will then be validated in patients' aortic tissue samples and targeted with therapeutics to prevent dissections. Investigators also propose innovative studies to address a critical tool that is missing in the clinical management of at-risk patients: a reliable biomarker to indicate an imminent risk for AAD. Together, the INE will work to make substantial progress towards preventing premature deaths due to AAD.

The Cardiovascular Research Institute has funded multi-PI research proposals through the Pilot Award Program to several investigators involved in this Leducq grant: Drs. LeMaire, Ghaghada, Shen, and Milewicz have all participated either as PI or key personnel in pilot projects studying cardiovascular diseases, including AAD.



Pictured above: Dianna Milewicz, MD, PhD and Zhen Zhou, PhD (UT Health)

International Networks of Excellence in Cardiovascular Research Grant Grant Opportunities Proposal Deadlines

Letter of Intent (LOI) Deadline Notification of Application Status Full Application Deadline Scientific Advisory Committee Review Leducq Board of Directors Review Funding to Commence Tuesday, September 13, 2022 Early Nov. 2022 Tuesday, February 14, 2023 April – May 2023 May 2023 Monday, January 1, 2024

NATIONAL RANKINGS



Cardiology and Heart Surgery Specialty



Honor Roll #2



Regionally Ranked #1 in Texas #1 in Southwest Texas Children's Hospital Ranked Best in Children's Hospitals for Cardiology & Heart Surgery

Nationally Ranked Congratulations to 7 #1 clinicians, surgeons,

U.S. News & World Report 2022-2023 rankings for Best Children's Hospital Announced!

Congratulations to Texas Children's Hospital and the cardiovascular team of clinicians, surgeons, and scientists who have made the Pediatric Heart Center **#1 in the nation for 5 consecutive years!**

Regionally, TCH's pediatric cardiovascular service ranked #1 in Texas and #1 in the Southwest.

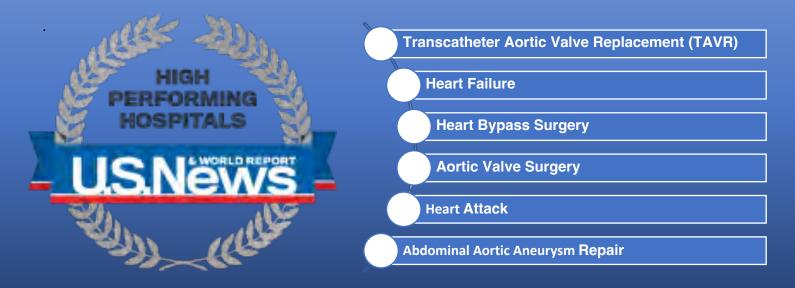
Overall, TCH ranked #2 among children's hospitals nationally.

Texas Heart Institute at Baylor St. Luke's Medical Center



Nationally Ranked #13 in Cardiology and Heart Surgery

Congratulations to the cardiovascular team of Texas Heart Institute at Baylor St. Luke's Medical Center THI/ BSLMC Hospital was ranked #13 by US News and World Report in the specialty of Cardiology and Heart Surgery. The THI/BSLMC was deemed as a high performing hospital of 6 cardiovascular conditions.



NORTON ROSE FULBRIGHT FACULTY EXCELLENCE AWARDS

The Cardiovascular Research Institute strives to offer top tier cardiovascular education. Under the oversight of the Education and Training Committee (ETC), the CVRI offers three graduate courses in the Graduate School of Biomedical Sciences. The ETC oversees curriculum development for each course, and reviews learner evaluations throughout the academic year.

In 2020, the CVRI established an internal course evaluation for trainees to complete after each lecture. The evaluations are used to improve upon lecture content and overall curriculum. Additionally, scores determine candidates for the Mark L. Entman Award for Excellence in Cardiovascular Education, which was established by the CVRI in 2021. The Entman Award recognizes course instructors who provide highly rated lectures in the cardiovascular courses offered by the CVRI. Recipients of the Entman Award are announced at the CVRI Annual Symposium.

Additionally, the CVRI supports faculty members who are nominated for the Norton Rose Fulbright Faculty Excellence Awards (NRF) annually. In addition to providing metrics for cardiovascular course evaluations, leadership also writes letters of recommendation as needed that are included in nomination packages. In 2022, ten CVRI members were recognized by the College for their exemplary educational contributions.

Educational Leadership



M. Tyson Pillow, MD, MEd I Emergency Medicine

Xander Wehrens, MD, PhD I Integrative Physiology

Educational Materials



Mirza Umair Khalid, MD I Medicine-Cardiology

Teaching and Evaluation



Subhasis Chatterjee, MD I Surgery



David Durgan, PhD I Anesthesiology



Sean Hartig, PhD I Medicine-Endocrinology



Xinchun Pi, PhD I Medicine-Cardiovascular Research



Russell Ray PhD I Neuroscience



Jose Serpa-Alvarez, MD I Medicine-Infectious Diseases



Lilei Zhang, MD, PhD I Molecular & Human Genetics

MICHAEL E. DEBAKEY, MD

EXCELLENCE IN RESEARCH AWARDS

The Michael E. DeBakey, MD Excellence in Research Awards are given annually to Baylor College of Medicine faculty who have made the most significant published contribution to clinical or basic biomedical research. The awards are funded by the DeBakey Medical Foundation.

Several members of the CVRI are recipients of the 2022 Michael E. DeBakey, MD Excellence in Research Awards. An online ceremony and symposium will be hosted Wednesday, August 17. The ceremony is viewable live via YouTube.



PETER HOTEZ, M.D., PH.D.

Professor, Pediatrics and Molecular Virology Texas Children's Hospital Chair in Tropical Pediatrics Co-Director, Texas Children's Center for Vaccine Development Dean, National School of Tropical Medicine



MARIA ELENA BOTTAZZI, PH.D.

Professor, Pediatrics and Molecular Virology & Microbiology Co-Director, Texas Children's Hospital Center for Vaccine Development Associate Dean, National School of Tropical Medicine

JOSEPH HYSER, PH.D.

Assistant Professor, Alkek Center for Metagenomics and Microbiome Research Department of Molecular Virology and Microbiology

SUNDEEP G. KESWANI, M.D.

Chief of Pediatric Surgery Professor, Departments of Surgery, Pediatrics & Obstetrics and Gynecology Clayton Endowed Chair in Surgical Research



KATHERINE Y. KING, M.D., PH.D.

Associate Professor in the Department of Pediatrics, Division of Infectious Diseases Associate Vice Chair for Research, Department of Pediatrics Co-Director of the Medical Scientist Training Program

IRINA V. LARINA<mark>, P</mark>H.D.

Associate Professor in the Department of Integrative Physiology



SCOTT A. LEMAIRE, M.D. Jimmy and Roberta Howell Professor of Cardiovascular Surgery Vice Chair for Research, Michael E. DeBakey Department of Surgery Professor of Molecular Physiology and Biophysics Director of Research, Division of Cardiothoracic Surgery &

YING H. SHEN, M.D., PH.D. Professor, Director of Aortic Disease Research Laboratory Michael E. DeBakey Department of Surgery









HONORS AND AWARDS



Team Lead by Mihail Chelu, MD, PhD awarded \$31M for Large Study on Conduction System Pacing for Resynchronization Therapy in Patients with Heart Failure.



Mihail Chelu, MD, PhD Associate Professor of Cardiology, Director of Electrophysiology Baylor College of Medicine



Kenneth A. Ellenbogen, MD Professor of Cardiology, Director of Electrophysiology Virginia Commonwealth University



Richard Holubkov, PhD Professor of Pediatrics University of Utah

A research team led by Dr. Mihail Chelu (Baylor College of Medicine), Dr. Kenneth A. Ellenbogen (Virginia Commonwealth), and Dr. Richard Holubkov (University of Utah) has been awarded \$31M by the **Patient-Centered Outcomes Research Institute (PCORI)** for a large study on conduction system pacing for cardiac resynchronization therapy in patients with heart failure and conduction system disease. The study will involve 2,136 patients and 55 enrolling sites in the US and Canada. Read more about the study <u>HERE</u>.

PCORI is an independent, nonprofit organization authorized by Congress in 2010. Its mission is to fund research that will provide patients, their caregivers, and clinicians with the evidence-based information needed to make better-informed healthcare decisions. For more information about PCORI's funding, visit <u>www.pcori.org</u>.



Margaret Goodell, PhD Professor and Chair of Molecular & Cellular Biology



Christie Ballantyne, MD Professor of Medicine, Atherosclerosis

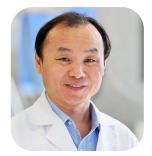
Drs. Margaret Goodell (BCM), Katherine King (BCM), Daisuke Nakada (BCM), and Elizabeth Platz (Johns Hopkins), awarded a multi-PI P01 for their program, "Modifiable Drivers of Expansion and Malignant Transformation from Clonal Hematopoiesis". The Program consists of 3 projects and 2 cores. Dr. Christie Ballantyne, co-investigator for Project 3 entitled, "Contribution of Inflammation and DNA damaging factors to clonal expansion and malignant transformation in a community cohort of older adults" is using data from a multi-PI collaboration with the Broad Institute to identify individuals with clonal hematopoiesis of indeterminate potential (CHIP) based upon exome sequencing. This data will be leveraged to examine how the progression of CHIP over a 20 year period is associated with the development of cancer and also to understand the mechanisms for the progression of CHIP.



Na Li, PhD Associate Professor of Cardiovascular Research Baylor College of Medicine

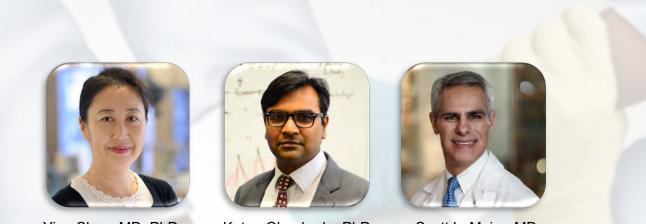
Dr. Na Li awarded the Established Investigator Award for her project titled, "Arrhythmogenesis associated with the TANGO2-deficiency". This grant will provide \$400,000 over 5 years.





Huaizhu Wu, PhD Associate Professor of Cardiology Baylor College of Medicine

Dr. Huaizhu Wu, awarded the Transformational Project Award for his project titled "Inflammatory Links between Hypertriglyceridemia and Atherosclerosis". This grant will provide \$300,000 over 3 years.



Ying Shen, MD, PhD (Lead PI) Ketan Ghaghada, PhD (PI)

Scott LeMaire, MD (PI)

Recipients of a multi-PI R01!

Project entitled, "Endothelial Dysfunction in the Development of Aortic Degeneration, Dissection, and Rupture".



CONGRATULATIONS!

Congratulations to all faculty recognized for exemplary educational contributions!



Dr. Biykem Bozkurt, professor of medicine-cardiology has been accepted into the Hedwig van Ameringen Executive Leadership in Academic Medicine (ELAM) fellowship program, an initiative focused on advancing women in academic medicine, dentistry, public health, and pharmacy. Dr. Bozkurt was nominated to take part in the program by Dr. Paul Klotman, president, CEO, and executive dean of Baylor, and Dr. Alicia Monroe, provost and senior vice president of academic and faculty affairs.

Additional Ventures : Expansion Awards

This year, 2 CVRI colleagues received Expansion Awards in biomedical research dedicated to single ventricle heart disease from Additional Ventures.

Congratulations Dr. Turaga and Dr. Kuyumcu-Martinez!



ADDITIONAL VENTURES



"Spatial Transcriptomics Investigation of Pediatric HLHS Myocardium

Diwakar Turaga, MD, PhD

Assistant Professor Pediatrics-Critical Care Texas Children's Hospital Baylor College of Medicine

Focus Area: Disease Etiology Strategic Topic: Normal Cardiac Development "Defining cell specific roles of RBFOX2 in cardiovascular development and HLHS

Muge Kuyumcu-Martinez, PhD

Associate Professor Biochemistry & Molecular Biology; Neuroscience and Cell Biology University of Texas Medical Branch at Galveston

Focus Area: Disease Etiology Strategic Topic: Normal Cardiac Development





Dr. Christie Ballantyne and Dr. Richard Gibbs have been awarded the the <u>Common Spirit Physician Enterprise VISION</u> <u>Award in Academic Excellence</u>. Out of 26 submissions, their project HeartCare, a collaboration between Baylor cardiologists, the CVRI, and the Human Genome Sequencing Center and published in <u>Genetics in Medicine</u>, was selected. The pilot study

demonstrated how the application of genomic technology has the potential to help a healthcare system improve cardiovascular care. It is not being followed up by another study on cardiometabolic precision medicine with Dr. Ashok Balasubramanyam.

Dr. Katherine King, associate professor of pediatrics – infectious diseases, published research last year that has been recognized in *Cell Stem Cell's* "The Best of Cell Stem Cell" for 2021. She was ranked eighth for her <u>findings</u> that inflammatory signaling during infection drives Dnmt3a mutant clonal hematopoiesis. Read more in Baylor's <u>From the Labs</u>. This work formed the basis of one of the projects that are part of a newly funded Program Project Grant (P01 grant) by the National Institutes of Health entitled 'Modifiable Drivers of Expansion and Malignant Transformation from Clonal Hematopoiesis' (P01CA265748, PI: Margaret Goodell).





Research postdoctoral fellow **Dr. Kimberly Rebello** was presented with the Nicholas T. Kouchoukos Award for best basic scientific presenation at the American Association for Thoracic Surgery (AATS) Aortic Symposium for her presentation titled, "Role of RIPK3-Mediated Smooth Muscle Cell Death in the Development of Sporadic Aortic Aneurysms and Dissection". Dr. Rebello is mentored by Drs. Scott A. LeMaire and Ying H. Shen. Dr. Rebello's work also won a best poster award at the 9th Annual CVRI Symposium in April 2022.

NOTABLE PODCASTS



Dr. Xiaoming Jia, PGY6, Cardiology, took a closer look at the mechanism of icosapent ethyl in triglyceride-lowering and ASCVD risk reduction with Dr. Michael Shapiro, professor, Cardiology, Wakeforest University, for a podcast titled, "CardioNerds: 214. Review of Icosapent Ethyl with Dr. Michael Shapiro."

On May 15, Dr. Aliza Hussain, Fellow Physician, PGY5, Cardiology, planned a discussion on the Cardionerds Podcast as the FIT Lead for an episode titled, "207. Lipids: REDUCE-IT Versus STRENGTH Trials – EPA in Clinical Practice with Peter Toth."



Click above to learn more





2022 FALL SEMINAR SERIES



"Blood Pressure Regulation: A Microbial Perspective"

David Durgan, PhD Assistant Professor Anesthesiology and Integrative Physiology Baylor College of Medicine



CME provided.

Mark L. Entman, MD Distinguished Lecture in Cardiovascular Research



The Annual Mark L. Entman, MD Distinguished Lecture in Cardiovascular Research

The Cardiovascular Research Institute hosts this annual lectureship to bring in leading experts from across the globe in honor of Dr. Mark L. Entman's extensive contributions to cardiovascular research at Baylor College of Medicine.

Save the Date

Wednesday

December 7, 2022

12 - 1 PM

Stanley Nattel, MD Paul-David Chair in Cardiovascular Electrophysiology University of Montreal Director of the Electrophysiology Research Program Montreal Heart Institute Montreal, Quebec

EDUCATION

Graduate School of Biomedical Sciences Cardiovascular Courses

The Cardiovascular Research Institute offers 3 graduate courses open to PhD students, postdocs, other trainees, staff, and all others interested in cardiovascular science. Lectures are in person.

Mid-term and Final Exams are provided via BlackBoard.

For those interested in these courses, there are 3 ways to sign up and participate.

- Enroll with the GSBS for full credit and grade (tests, surveys, and attendance required).
- Audit the course through GSBS for credit (surveys and attendance required for credit; no tests or letter grade assigned).
- Audit the course through the CVRI and attend lectures of interest. Email <u>cvri@bcm.edu</u> for further details.

The CVRI is committed to supporting the growth of our next generation of innovative scientists.

January 3 – March 3, 2023

Cardiovascular Diseases GS-DD-6210

This course provides a general overview of the main, common cardiovascular diseases and their causes. Topics covered include atherosclerosis, hypertension, congenital heart disease, ischemic heart disease, cerebral stroke, cardiac arrhythmias, and the effects of aging on the cardiovascular system.

Course Director: Xander Wehrens, MD, PhD

Tuesdays & Thursdays | 10 - 11 AM

Term 4

Term 3

March 13 – May 12, 2023

Advanced Topics in Cardiac Pathophysiology and Disease GS-DD-6403

This course covers the fundamentals of cardiac development, and cardiac function in both physiological and pathological conditions. The course will also discuss the cutting-edge research approaches used in cardiovascular research.

Course Directors: Na Li, PhD & Xander Wehrens, MD, PhD

Mondays, Tuesdays, Wednesdays & Thursdays | 9 - 10 AM

Term 5

May 22 - July 21, 2023

Advanced Topics in Vascular Pathophysiology and Disease GS-DD-6403

This course covers the fundamentals of cardiac development, and cardiac function in both physiological and pathological conditions. The course will also discuss the cutting-edge research approaches used in cardiovascular research. Course Directors: William Lagor, PhD & Xander Wehrens, MD, PhD

Mondays, Tuesdays, Wednesdays & Thursdays | 9 - 10 AM

4 Credits

2 Credits

4 Credits

CALL FOR APPLICATIONS

The Cardiovascular Research Institute (CVRI) at Baylor College of Medicine is pleased to announce pilot awards for proposals in cardiovascular research that will promote collaboration between investigators and are likely to lead to externally funded grants in the foreseeable future.

Submit your proposal <u>HERE</u>.

Timeline:

- Deadline for submission is August 19, 2022.
- Funding for selected proposals is anticipated to be available October 2022- June 30, 2023. No cost extensions will not be permitted.

Goal:

To promote the writing of multi-PI grants in the area of cardiovascular research (clinical, translational or basic). The expectation is that before the end of calendar year 2023, the co-PIs will submit a grant proposal for external funding (NIH, DOD, or NSF preferred).

Eligibility:

- BCM faculty who are members of the CVRI may submit applications. Please visit: <u>https://www.bcm.edu/research/research-centers/cardiovascular-research-institute/membership</u> to become a member.
- Each proposal must include, but not exceed two PIs, with primary appointments in at least two different BCM departments. Collaborators from other TMC institutions are allowed but cannot serve as one of the PIs.
- Only BCM faculty and their lab may receive CVRI pilot funds.
- IRB or IACUC approval must be approved at the time of application submission.

Application:

- Specific aims page
- Max of 6 pages of research plan with: significance, innovation, experimental design, timeline
- · Biosketches of the PIs and other key personnel
- Budget details
- Specific proposal for obtaining extramural funding (up to 1 page)

Amount of funding:

• 3-4 awards up to \$20,000 will be made in unrestricted funds.

To learn more, visit <u>www.bcm.edu/cvri</u> or email <u>cvri@bcm.edu</u>.

Program AHA Predoctoral Fellowship Enhances the training of promising students in pre-doctoral or clinical health professional degree training programs and who intend careers as scientists, or related careers aimed at improving global health and well-being.	Proposal Deadline Sept. 7, 2022	Award Start Date Jan. 1, 2023
AHA Postdoctoral Fellowship Enhances the training of postdoctoral applicants who are not yet independent. The applicant must be embedded in an appropriate investigative group with mentorship, support, and relevant scientific guidance of a research mentor.	Sept. 8, 2022	Jan. 1, 2023
AHA/CHF Congenital Heart Defect Research Awards The AHA and The Children's Heart Foundation (CHF) AHA/CHF Congenital Heart Defect Research Awards will support predoctoral and postdoctoral fellows who are actively conducting basic, clinical, population or translational research directly related to congenital heart defects.	Sept. 21, 2022	Jan. 1, 2023
Career Development Award Supports highly promising healthcare and academic professionals in the early years of first professional appointment to assure the applicant's future success as a research scientist in the field of cardiovascular and/or cerebrovascular disease research.	Dec. 8, 2022	Apr. 1, 2023
Research Supplement to Promote Diversity in Science Under the mentorship of current AHA awardees, this mechanism supports research experiences for predoctoral and postdoctoral fellows from underrepresented racial and ethnic groups in	Feb. 1, 2023	Apr. 1, 2023



science.

American Heart Association®

ADDITIONAL FUNDING OPPORTUNITIES

Leducq International Networks of Excellence in Cardiovascular Research. Letter of Intent (LOI) due Sept. 13, 2022.

HHMI Freeman Hrabowski Scholars Program. Deadline: Sept. 28, 2022.

Upcoming NIH deadlines: PAR-21-038: Stephen I. Katz Early-Stage Investigator Research Project Grant (R01 Clinical Trial Not Allowed) Deadline: Sept. 27, 2022.

PAR-19-155: **NHLBI Clinical Trial Pilot Studies** (R34 Clinical Trial Optional). Deadline: Oct. 16, 2022

RFA-HL-23-018: Maximizing the Scientific Value of the NHLBI Biologic Specimen Repository: Scientific Opportunities for Exploratory Research (R21). Deadline: Oct. 19, 2022.

Upcoming NIH deadlines:

PAR-21-038: Stephen I. Katz Early-Stage Investigator Research Project Grant (R01 Clinical Trial Not Allowed) Deadline: Sept. 27, 2022.

PAR-19-155: **NHLBI Clinical Trial Pilot Studies** (R34 Clinical Trial Optional). Deadline: Oct. 16, 2022

RFA-HL-23-018: Maximizing the Scientific Value of the NHLBI Biologic Specimen Repository: Scientific Opportunities for Exploratory Research (R21). Deadline: Oct. 19, 2022.

Standard NIH due dates for new, renewal, resubmission, revisions.

Thoracic Surgery Foundation Awards Program - Deadline: Sept. 15, 2022

TSF Resident Research Fellowship Award: Awards of up to \$85,000 per year for up to two years are granted to support the work of an earlycareer cardiothoracic surgeon (within 7 years of first faculty appointment at time of application deadline).

STS Research Award: Awards up of to \$90,000 per year for up to two years are granted to support the work of an early career cardiothoracic surgeon (within 7 years of first faculty appointment).

TSF Resident Research Fellowship Award: Awards of up to \$60,000 year year for up to two years to support the research fellowship of a resident who has not yet completed cardiothoracic surgical training.

Nina Starr Braunwald Research Award: This award provides operational support of original research efforts by women cardiac surgeons who have completed their formal training, and who are seeking initial support and recognition for their research program. Awards of up to \$85,000 per year for up to two years are made each year to support the work of an early-career woman cardiac surgeon (within 5 years of first faculty appointment).

Nina Starr Braunwald Research Fellowship Award: This award supports up to \$60,000 per year for up to two years for a woman resident working in a cardiac surgical clinic or laboratory research program who has not yet completed cardiothoracic surgical training.

Southern Thoracic Surgical Association (STSA) Resident Research Award: Awards of up to \$40,000 per year for up to two years to support the research fellowship of a resident who has not yet completed cardiothoracic surgical trainin



<u>May 2022</u>

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<u>Send us</u> your latest publications and be featured on our social media.

<u>May 2022</u>

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