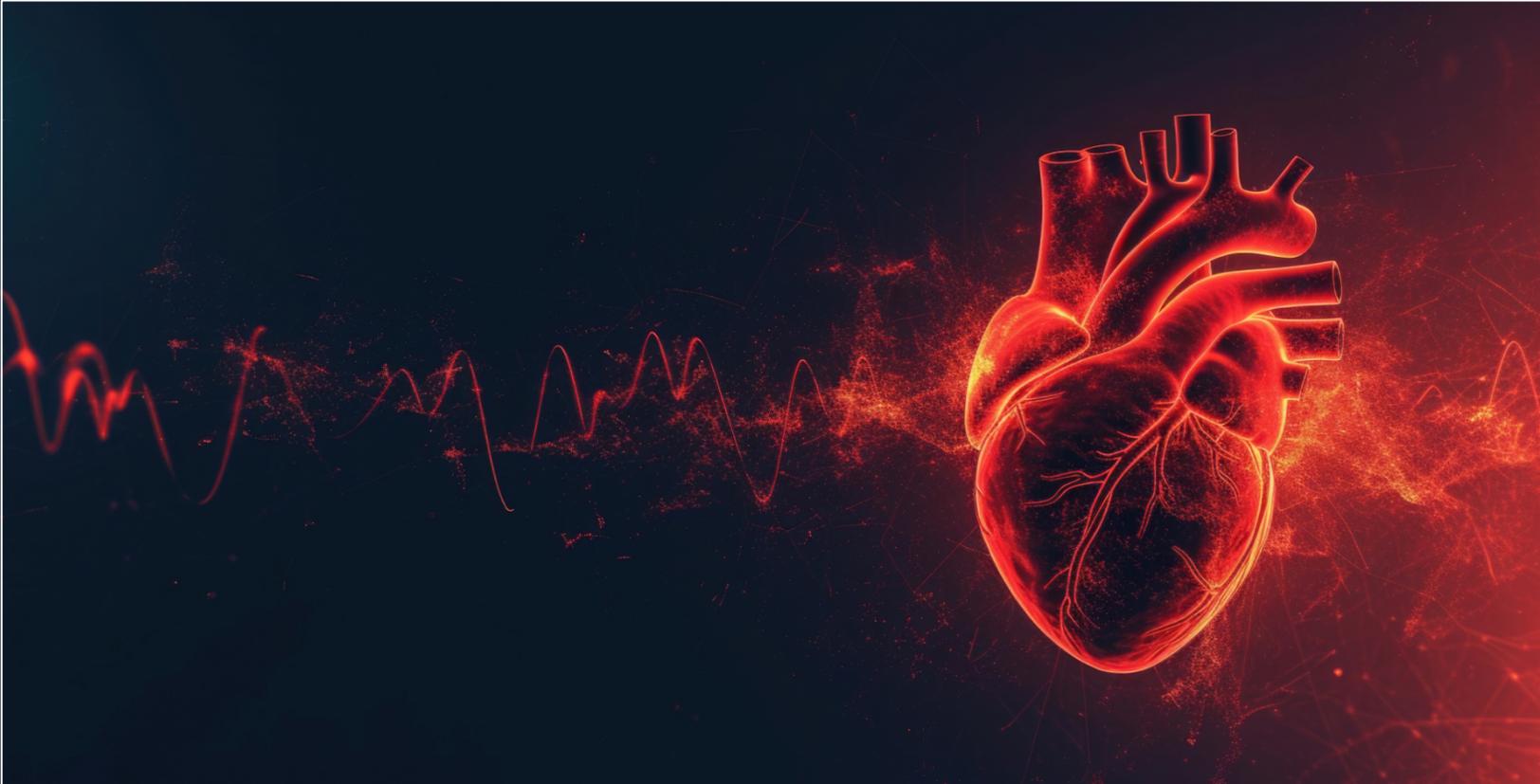


Cardiovascular Research Institute



Summer 2024 Newsletter

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Highlights from the 11th Annual Cardiovascular Research Institute (CVRI) Symposium

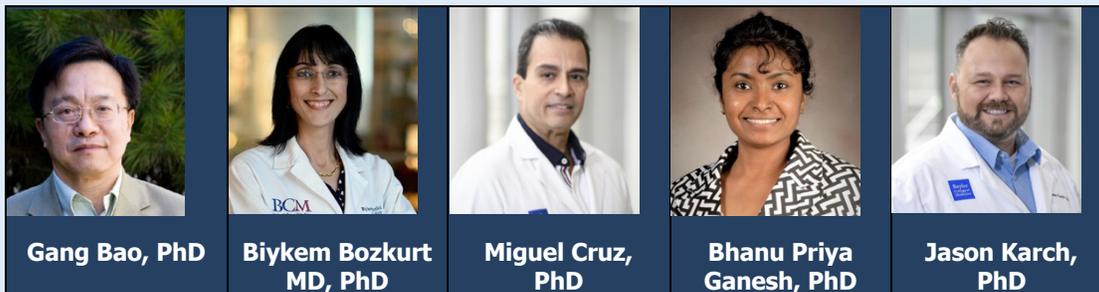
We are thrilled to share the highlights from the 11th Annual Cardiovascular Research Institute (CVRI) Symposium, held on April 10, 2024, at Baylor College of Medicine. Chaired by **Dr. Xander Wehrens**, Director of the CVRI, and **Dr. Biykem Bozkurt**, Associate Director of the CVRI, the symposium brought together a distinguished gathering of leading researchers, clinicians, and students dedicated to cardiovascular science.

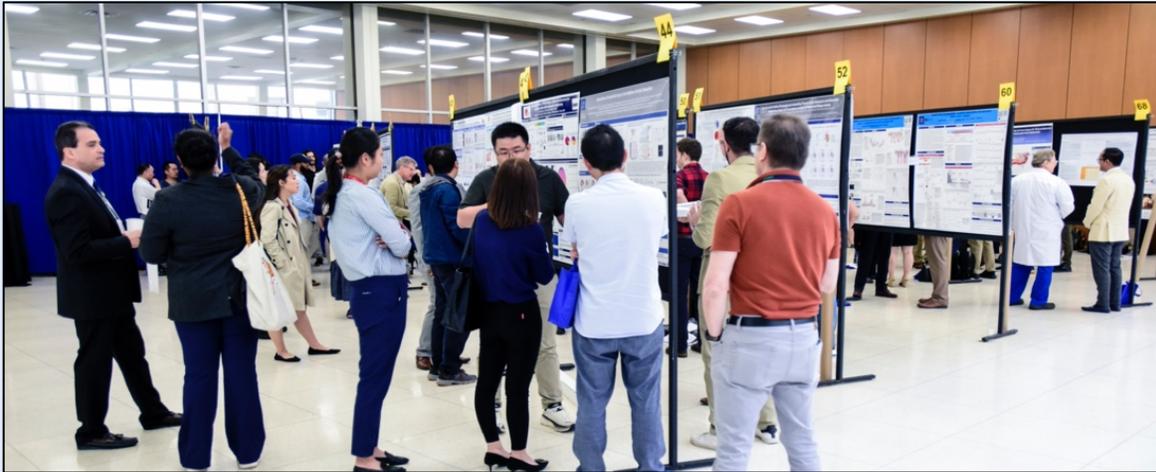
Throughout the day-long event, attendees were immersed in a dynamic program that featured research and innovative discoveries. Our distinguished keynote lecturer, **Dr. Andrew R. Marks**, MD, Chair and Professor at Columbia University, delivered an outstanding lecture titled "Leaky Ryanodine Receptors Provide Clues for Treating Disorders of Heart, Muscle, and Brain." Dr. Marks' insights set the stage for insightful discussions and collaborations throughout the symposium.



Pictured L to R: Drs. Xander Wehrens and Andrew Marks

Additionally, the symposium featured nine invited speakers from the Texas Medical Center who covered a wide spectrum of topics addressing the CVRI's pivotal themes such as Arrhythmias and Channelopathies, Heart Failure and Cardiomyopathy, Aortopathy and Valvular Heart Disease, Cardiac Regeneration and Stem Cells, and Congenital Developmental Heart Disease.





The symposium displayed over 70 poster presentations by basic science and clinical trainees, as well as junior faculty, providing an important platform for emerging researchers to share their innovative work. The CVRI recognized excellence through the “Best Poster Awards,” honoring outstanding contributions in both basic science and clinical research. These awards were announced in categories by Dr. Lilei Zhang, chair of the seminar and symposium committee.

Best Poster Awards



Undergraduate Category Winner:

Jernie Rideb

Mentor: Lilei Zhang, MD, PhD

Baylor College of Medicine - Molecular and Human Genetics

Poster title: “Unraveling the Behavioral Phenotype of Tango2 Deficiency: Lessons from Transgenic Mice and Vitamin B Deficiency”



Graduate Category Winner:

Maria Jose Arredondo, MD

Mentor: Christina Miyake, MD

Texas Children’s Hospital - Pediatrics - Cardiology

Poster title: “Nutritional Vitamin Supplemental is An Alternative Antiarrhythmic Approach to Prevent and Treat Lethal Tango2 Deficiency Disorder Related Ventricular Arrhythmias During Inpatient Admission”



Postdoctoral Research Trainee Category Winners:

Fansen Meng, PhD

Mentor: James Martin, MD, PhD

Texas Heart Institute - Gene Editing Lab

Poster title: “A Novel Gene Therapy CM-Yapon Provides Long-Term Protection Against Myocardial Infarction”

Weiyi Xu, PhD

Mentor: Lilei Zhang, MD, PhD

Baylor College of Medicine - Molecular and Human Genetics

Poster title: “Modeling Tango2-Deficiency Disorder with iPSC-CMS Revealed Possible Nav1.5 Dysfunction”



Clinical Fellow/Resident Category Winner:

Anna H. Xue, MD

Mentor: Joseph Coselli, MD, FACS
Baylor College of Medicine - Cardiothoracic Surgery

Poster title: "Reoperation After Prior Aortic Root Replacement: Evolution of Technique Over 30 Years"



Junior Faculty/Clinical Research Category Winner:

David R. Murdock, MD

Mentor: Dianna Milewicz, MD, PhD
UTHealth - Internal Medicine / Medical Genetics

Poster title: "Non-Canonical Splice Variants in Genes for Thoracic Aortic Disease Are Enriched in Acute Thoracic Aortic Dissection Cases and Marfan Syndrome Families Negative Panel Testing"

★
★
Congratulations!
★
★

Furthermore, the annual Dr. Mark L. Entman Award for Excellence in Cardiovascular Education was presented during the symposium. Established in 2021 by the CVRI to recognize faculty members for outstanding teaching and service in the graduate school curriculum in honor of Dr. Entman's extensive contribution. This year's winners are **Dr. Christopher Ward** and **Dr. William Lagor**.



Christopher Ward, PhD
Assistant Professor
Department of Integrative
Physiology/Advanced
Technology Cores

Teaching Award Winner

In the AY 2022-2023, Dr. Ward delivered three lectures across two course series. Based on the students' evaluations, he achieved perfect scores of 5 out of 5 for all his lectures.



William Lagor, PhD
Professor
Department of Integrative
Physiology

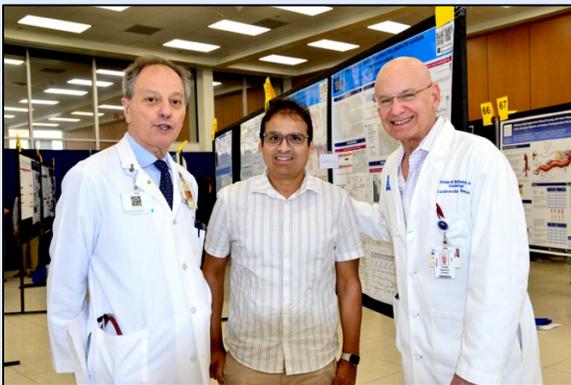
Service Award Winner

Dr. Lagor was nominated by several faculty members. He has been an enthusiastic lecturer and course co-director who has helped build the CVRI course about 5 years ago.

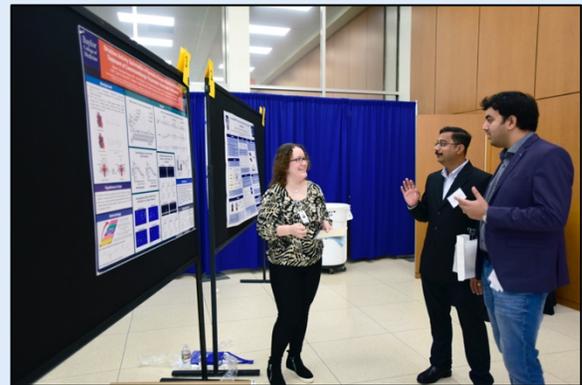
We extend our heartfelt thanks to all participants, presenters, and organizers whose contributions made this year's symposium a resounding success. Together, we continue to advance cardiovascular research and education at Baylor College of Medicine and across the Texas Medical Center.



Pictured: Dr. Heinrich Taegtmeier



Pictured L to R: Dr. Ali J. Marian, Priyatansh Gurha, and Christie Ballantyne



Pictured L to R: Mara Turkieltaub Paredes, Mohit Hulsukar, and Satadru Lahiri



Pictured: Dr. Andrew Marks

T32 Training Program in Cardiovascular Research and Drug Discovery

The Baylor College of Medicine Research Training Program in Cardiovascular Research and Drug Development is designed to prepare PhD students for a research career in cardiovascular research in academia or the pharmaceutical industry.

Our innovative program includes interactive didactic courses, individualized training plans, formal training of research mentors, mentor training of the trainees, and an exceptional research infrastructure within the largest medical center in the world. The program emphasizes the highest standards of rigor and reproducibility, equity, and ethics, while incorporating strong translational and clinical components to allow our trainees to bridge critically important gaps in basic and translational cardiovascular research to develop future therapeutic interventions.

Funded by a T32 grant from the National Heart, Lung and Blood Institute (NHLBI), our program is led by program directors Xander Wehrens, MD, PHD Director of the Cardiovascular Research Institute, and Damian Young, PhD, Associate Director of the Center for Drug Development.

Dr. Wehrens and Dr. Young are delighted to introduce the first group of students accepted into the program.



Zaniqua Bullock

Graduate Student

Department: Pathology & Immunology

Mentor: William Decker, PhD



Jorie Fleischman

Graduate Student

Department: Integrative Physiology

Mentor: Christine Beeton, PhD



Zian Liao

Graduate Student

Department: Pathology & Immunology

Mentor: Martin Matzuk, MD, PhD



Dexter Robichaux

Graduate Student

Department: Integrative Physiology

Mentor: Jason Karch, PhD



New CVRI Administrator

We are excited to welcome Tyler Robinson as the new Senior Business Operations Associate at CVRI. He was born and raised in Houston and has been working for the University of Houston for the last 9 years. In his spare time, he enjoys listening to music and trying new restaurants in the city. Tyler is eager to contribute to CVRI and help drive its long-term success.

First-in-Human Total Artificial Heart Implant a Success



The Texas Heart Institute (THI), [BiVACOR®](#), a clinical-stage medical device company, Baylor St. Luke's Medical Center and Baylor College of Medicine announced today the successful first-in-human implantation of the BiVACOR Total Artificial Heart (TAH) as part of the [U.S. Food and Drug Administration \(FDA\) Early Feasibility Study \(EFS\) on July 9, 2024](#). BiVACOR's TAH is a titanium-constructed biventricular rotary blood pump with a single moving part that utilizes a magnetically levitated rotor that pumps the blood and replaces both ventricles of a failing heart.

The first-in-human clinical study aims to evaluate the safety and performance of the BiVACOR TAH as a bridge-to-transplant solution for patients with severe biventricular heart failure or univentricular heart failure in which left ventricular assist device support is not recommended. Following this first implantation completed at Baylor St. Luke's Medical Center by Baylor College of Medicine surgeons, four additional patients are to be enrolled in the study.

"As for the implantation in the human, it went as expected with no complications. Clinically, the device performed very well," said Dr. Alexis Shafii, surgical director of heart transplantation at Baylor St. Luke's Medical Center and associate professor of surgery - cardiothoracic transplant and circulatory support at Baylor College of Medicine. "Having this technologically advanced device is offering something special in the field."

Story by Graciela Gutierrez, BCM Communications. Pictured: The BiVACOR Total Artificial Heart

Click here to read more: [First-in-Human Total Artificial Heart Implant a Success](#)

American Heart Association Funding Opportunities

Opportunity	Proposal Deadline	Award Start Date
<p><u>AHA Predoctoral Fellowship</u> The purpose of this funding opportunity is to enhance the integrated research and clinical training of promising students who are matriculated in pre-doctoral or clinical health professional degree training programs and who intend careers as scientists, physician-scientists or other clinician-scientists, or related careers aimed at improving global cardiovascular, cerebrovascular and brain health.</p> <p>Please contact Lyndsie Whitehead, Assistant Director of Foundation Relations at lyndsie.whitehead@bcm.edu with any additional questions.</p>	9/4/24	1/1/25
<p><u>AHA Postdoctoral Fellowship</u> The purpose of this funding opportunity is to enhance the training of postdoctoral applicants who are not yet independent. The applicant must be embedded in an appropriate investigative group with the mentorship, support, and relevant scientific guidance of a research mentor. Recognizing the unique challenges that clinicians, in particular, experience in balancing research and clinical activity, this award mechanism aims to be as flexible as possible to enable applicants to develop academic careers in research alongside fulfilling clinical service commitments.</p> <p>Please contact Lyndsie Whitehead, Assistant Director of Foundation Relations at lyndsie.whitehead@bcm.edu with any additional questions.</p>	9/5/24	1/1/25
<p><u>Merit Award</u> Funds investigators with stellar track records of accomplishment, demonstrated by federal or equivalent funding from multiple sources and excellent publication records with substantial impact, who have the potential to move a field of science forward with creative approaches that are aligned with the AHA's mission.</p>	9/10/24	4/1/25
<p><u>AHA Institutional Research Enhancement Award (AIREA)</u> Stimulates research at educational institutions that provide baccalaureate or advanced degrees related to scientific research training. Eligible institutions may not have been major recipients of NIH support. Awards provide funding for small-scale research projects related to cardiovascular diseases and brain health, enhancing the research environment at eligible institutions, and exposing students to research opportunities.</p>	9/12/24	1/1/25
<p><u>Career Development Award</u> 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.</p>	12/5/24	4/1/25
<p><u>Research Supplement to Promote Diversity in Science</u> To enable current AHA awardees to identify and serve as mentors for predoctoral and postdoctoral fellows from underrepresented groups in science and medicine.</p>	2/6/25	7/1/25

See more funding opportunities through the American Heart Association, [HERE](#).



Additional Funding Opportunities

Opportunity - Thoracic Surgery Foundation	Application open date	Deadline
<p>Nina Starr Braunwald Research Fellowship Award Nina Starr Braunwald, MD was the first woman to be certified by the American Board of Thoracic Surgery and the first woman to conduct open heart surgery. This research award in her name supports up to \$55,000 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. Since the award's inception, Braunwald Fellows have gone on to become established leaders within the field. The Braunwald Award is widely recognized as one of the specialty's most prestigious research fellowships.</p>	7/1/24	9/15/24
<p>Catalyst Award for Data Access A new offering for the 2025 TSF Award cycle, the Catalyst Grant for Data Access provides support for STS Database Participant User File (PUF) research expenses, or other standalone research projects of a similar nature. Support of up to \$10,000 will be awarded to cover data access costs and other direct costs.</p>	7/1/24	9/15/24
<p>STS Research Award This award provides operational support of original research efforts by cardiothoracic surgeons who have completed their formal training, and who are seeking initial support and recognition for the research program. Awards of up to \$90,000 per year for up to two years are granted to support the work of an early-career cardiothoracic surgeon (within seven years of first faculty appointment at time of application deadline). The STS Research Award designation is given to the highest-ranking TSF Research Award application.</p>	7/1/24	9/15/24
<p>TSF Research Award This award provides operational support of original research efforts by cardiothoracic surgeons who have completed their formal training, and who are seeking initial support and recognition for the research program. Awards of up to \$85,000 per year for up to two years are granted to support the work of an early-career cardiothoracic surgeon (within seven years of first faculty appointment at time of application deadline).</p>	7/1/24	9/15/24
<p>STS Database Clinical Research Fellowship Award The STS Research and Analytic Center (RAC) is the home for database harvest analytics and clinical research efforts leveraging the family of cardiothoracic surgery registries within the STS National Database. The transition of database and research analytics in-house to the STS RAC presents an opportunity for clinical fellows to deeply engage in STS clinical outcomes research activities working closely with the in-house database and analytics staff, gaining fundamental knowledge in statistical modeling and research based on the STS Database. In collaboration with the Thoracic Surgery Foundation, the STS Research and Analytic Center will support one research fellow for a one-year period with a grant of \$80,000. This award is open to those in active residency training in an approved ACGME or equivalent training program, or within the first two years of practice.</p>	7/1/24	9/15/24



Fall 2024 James T. Willerson, MD Cardiovascular Sciences Seminar Series

The James T. Willerson, MD Cardiovascular Sciences Seminar Series continues in Fall 2024. In collaboration with Texas Heart Institute, these seminars are in-person and held at Baylor College of Medicine on select Wednesdays at noon. CME credit is available to eligible attendees. Email CVRI@bcm.edu for further details.

Sept. 11th



Siddharth Prakash, MD, PhD

Professor
Department of Internal Medicine
UTHealth
McGovern Medical School

Seminar Location: McMillian Auditorium

Sept. 18th



Nicolas Palaskas, MD

Associate Professor
Department of Cardiology
MD Anderson

Seminar Location: McMillian Auditorium

Oct. 2nd



Kurt Prins, MD, PhD, FAHA

Director of Translational Research in
Pulmonary Hypertension
Director of Chronic Thromboembolic
Pulmonary Hypertension Program
Associate Professor of Medicine
Lillehei Heart Institute

Seminar Location: McMillian Auditorium

Oct. 23rd



Farah Sheikh, PhD, FCVS, FAHA

Professor of Medicine
Department of Medicine
University of California-San Diego

Seminar Location: Kleberg Auditorium

Nov. 13th



Xiao Li, PhD

Assistant Investigator, McGill Gene
Editing Lab
Texas Heart Institute

Seminar Location: McMillian Auditorium

**Dec. 4th - Mark. L. Entman, MD Distinguished
Lecture in Cardiovascular Research**



Lorrie Kirshenbaum, PhD

Director, Institute of Cardiovascular Sciences
St. Boniface Hospital Albrechtsen Research Centre
Department of Physiology and Pathophysiology
Max Rady College of Medicine, Rady Faculty of
Health Sciences
University of Manitoba

Seminar Location: Kleberg Auditorium

Dec. 11th



Riham Abouleisa, PhD

Assistant Professor
Department of Surgery
Baylor College of Medicine

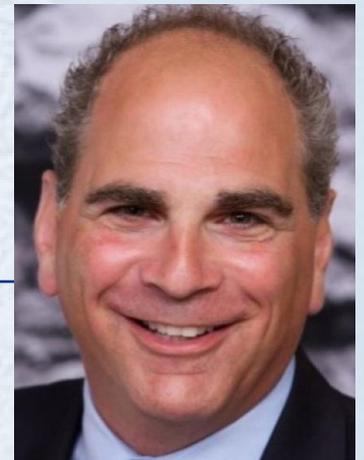
Seminar Location: Kleberg Auditorium

SAVE THE DATE

The Dr. Mark L. Entman Distinguished Lecture in
Cardiovascular Research



WEDNESDAY
December 4, 2024



Lorrie A. Kirshenbaum, PhD

Director, Institute of Cardiovascular Sciences

St. Boniface Hospital Albrechtsen Research Centre Department
of Physiology and Pathophysiology

Max Rady College of Medicine, Rady Faculty of Health Science
University of Manitoba

ONE BAYLOR PLAZA

Kleberg Auditorium

www.bcm.edu/cvri

REGISTRATION

September 9 - September 20, 2024

GS-DD-6210

Cardiovascular Diseases

October 7 - December 6, 2024

Tuesday, Thursday - 9 - 10 am

Room N317

2 credits

This course provides an 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. Learn from the best researchers, surgeons and physician scientists!



Course Director: Xander Wehrens, MD, PhD

FOR MORE INFORMATION: CVRI@BCM.EDU

CARDIOVASCULAR RESEARCH INSTITUTE

2024-2025 Pilot Awards

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.

Timeline:

- Submit your proposal [HERE](#).
Deadline for submission is August 23, 2024.
- Funding for selected proposals is anticipated to be available October 2024-June 30, 2025.

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 2025, the co-PIs will submit a grant proposal for external funding (NIH preferred).

Eligibility:

- BCM faculty who are members of the CVRI may submit applications. Please visit: <https://www.bcm.edu/research/research-centers/cardiovascular-research-institute/membership> 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.
- IRB or IACUC approval must be approved at the time of application submission
- Only BCM faculty and their lab may receive CVRI pilot funds.

Application:

- Specific aims page
- Max of 6 pages of research plan with: significance, innovation, experimental design, timeline
- Biosketches of the PIs and other essential personnel
- Budget details
- Specific proposal for obtaining extramural funding

Amount of funding:

- 4 awards up to \$25,000 will be made in unrestricted funds.

Select Publications



**Share your work!
Increase your impact!**

Email cvri@bcm.edu with your latest publications and we will share it with our CV community on social media.

2024

Wang L, Hoang A, Gil-Iturbe E, Laganowsky A, Quick M, Zhou M. [Mechanism of anion exchange and small-molecule inhibition of pendrin](#). Nat Commun. 2024 Jan 6;15(1):346.

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Yafi MA, Hisham MHH, Grisanti F, Martin JF, Rahman A, Samee MA. [scGIST: gene panel design for spatial transcriptomics with prioritized gene sets](#). Genome Biol. 2024 Feb 26; 25(1):57.

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Wong ND, Fan WJ, Hu XD, Ballantyne C, Hoodgeveen RC, Tsai MY, Browne A, Budoff MJ. [Lipoprotein\(a\) and Long-Term Cardiovascular Risk in a Multi-Ethnic Pooled Prospective Cohort](#). J Am Coll Cardiol. 2024 Apr 23; 83(16): 1511-1525.

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Gaudet D, Pall D, Watts GF, Nicholls SJ, Rosenson RS, Modesto K, San Martin J, Hellawell, J, Ballantyne CM. [Plozasiran \(ARO-APOC3\) for Severe Hypertriglyceridemia](#). JAMA Cardiol. 2024 Jul 1;9(7):620-630.

Grant JK, Martin SS, Zhang S, Matsushita K, Virani SS, Blumenthal RS, Hoogeveen RC, Boerwinkle E, Ballantyne CM, Coresh J, Ndumele CE. [Racial Differences in the Burden of Atherosclerotic Cardiovascular Disease Related to Elevated Lipoprotein\(a\) Levels: The ARIC Study](#). Circulation. 2024 Jul 16;150(3):250-252.

Waldvogel SM, Posey JE, Goodell MA. [Human embryonic genetic mosaicism and its effects on development and disease](#). Nat Rev Genet. 2024 Apr 11.

Bozkurt B, Nair A. [Early Uptitration of GDMT Is Associated With More Successful Decongestion and Better Outcomes](#). J Am Coll Cardiol. 2024 July 23;84(4):337-339.

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CVRI Director



Biykem Bozkurt, MD, PhD
CVRI Associate Director



Christie Ballantyne, MD
Medicine, Atherosclerosis
& Lipoprotein



Changyi Johnny Chen MD, PhD
Surgery, Vascular Surgery



Mihail G. Chelu, MD, PhD
Medicine, Cardiology



Thomas Cooper, MD
Pathology



Irina V. Larina, PhD
Integrative Physiology



Ying Shen, MD, PhD
Surgery, Cardiothoracic



James Martin, MD, PhD
Integrative Physiology



Vijay Nambi, MD
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Lipoproteins



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Rolando Rumbaut, MD, PhD
Medicine, Pulmonary,
Critical Care

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Website: www.bcm.edu/cvri

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