## CARDIOVASCULAR RESEARCH INSTITUTE SPRING 2022 NEWSLETTER

## FROM THE DIRECTOR



Xander Wehrens, MD, PhD

Dear Colleagues,

The CVRI has many things to celebrate in 2022! Throughout the last few months, we have administered two graduate school courses focusing on cardiovascular diseases and pathophysiology. The third and final course of this academic year will begin May 23, 2022. Additionally, we have hosted several top tier seminar speakers during the spring seminar series, including NASA Astronaut, Kathleen Rubins, PhD who recently spoke about the Cardinal Heart Experiment during her seminar hosted March 28, 2022. The attendance of the CVRI seminars has been outstanding, exceeding 100 attendees on several occasions.

On April 6, 2022 the CVRI hosted it's 9th Annual Symposium. This virtual event featured nine outstanding invited speakers, including Nobel prize winner Dr. Gregg Semenza, who gave an exhilarating lecture on his broadranging research into the body's response to low oxygen environments. The poster session featured over 70 abstracts. Among the many outstanding presentations, the highest ranked posters presenters received awards. In addition, recipients of the Dr. Mark L. Entman Awards for Excellence in Cardiovascular Education were announced.

Members of the CVRI have had numerous achievements that are highlighted throughout the Spring 2022 newsletter. I look forward to what's to come throughout the remainder of 2022!

Best wishes.

Xander Wehrens, MD, PhD

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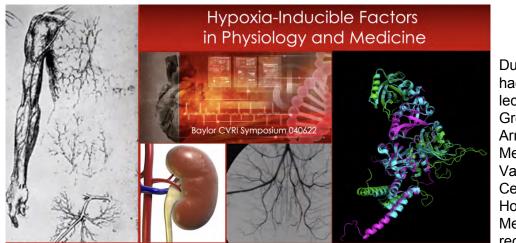
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### **KEYNOTE LECTURE**



During the symposium, participants had the privilege to enjoy a keynote lecture by Nobel laureate, Dr. Gregg L. Semenza, C. Michael Armstrong Professor of Genetic Medicine and Director of the Vascular Program at the Institute of Cell Engineering at the Johns Hopkins University School of Medicine. Dr. Semenza was recognized for his groundbreaking

research in 2019 when he was awarded the Nobel Prize in Physiology or Medicine with William G. Kaelin, Jr., MD of the Dana-Farber Cancer Institute and Professor Sir Peter J. Ratcliffe of Oxford University.

One of today's preeminent researchers on the molecular mechanisms of oxygen regulation, Dr. Semenza has led the field in uncovering how cells adapt to changing oxygen levels. He is best known for his ground-breaking discovery of the HIF-1 (hypoxia-inducible factor 1) protein, which controls changes in gene expression in response to changes in oxygen availability. The discovery of HIF-1 has far-reaching implications for understanding and treating conditions, such as cancer and ischemic cardiovascular disease, in which hypoxia plays an important role in disease pathogenesis.



Pictured: Dr. Gregg L. Semenza

In his presentation titled "Hypoxia-inducible factors in physiology and medicine", Dr. Semenza shared with us his journey from discovering and purifying HIF1a out of gallons of Hela cell culture, to the current frontier in HIF1a related research and their application in disease therapy. Dr. Semenza gave an overview of the molecular mechanisms of oxygen homeostasis. He then discussed several vignettes that highlight the central role of HIF pathway in development and normal physiology. He focused most of the talk on several common diseases, including anemia in chronic kidney disease, ischemic cardiovascular disease, and pulmonary hypertension to highlight the current studies in targeting HIF, both inhibiting and activation to treat diseases. He ended with the latest work on HIF inhibitors in clinical studies for cancer treatment. In addition, he also presented interesting genetic data in the Tibetan and Andean human populations as well as other high-altitude animals to illustrate how evolution exerts selection pressure through this pathway.



Pictured: Gregg L. Semenza, MD, PhD (L) and A.J. Marian, MD (R)

### DR. MARK L. ENTMAN AWARDS FOR EXCELLENCE IN CARDIOVASCULAR EDUCATION

The Dr. Mark L. Entman Awards for Excellence in Cardiovascular Education was established by the CVRI to recognize faculty for outstanding teaching and service in the graduate school curriculum.



Mark L. Entman, MD William J. Osher Chair and Professor Department of Medicine, Cardiovascular Sciences Scientific Director The DeBakey Heart Center In honor of Dr. Entman's extensive contributions to cardiovascular education and research at Baylor College of Medicine, the CVRI will present this prestigious award at the annual symposium. Dr. Entman is Professor of Medicine, Cardiovascular Sciences, the William J. Osher Professor of Cardiovascular Research, and the Scientific Director of the DeBakey Heart Center. Dr. Entman was recruited to Baylor as an assistant professor in 1970. He was a Howard Hughes Medical Investigator from 1971-1979. In 1977, Dr. Entman became the Chief of the Section of Cardiovascular Sciences and the Director of the Division of Research of the NHLBI National Research and Demonstration Center (now the DeBakey Heart Center) at Baylor College of Medicine and The Methodist Hospital from 1976-1985. Dr. Entman has been an inspirational leader whose research has spanned a range of topics, including the role of myocardial calcium and sarcoplasmic reticulum function, acute inflammation and myocardial injury, and the chronic inflammatory response in cardiac repair and remodeling.

Before joining the Baylor College of Medicine faculty, Dr. Entman's training at Duke involved matriculation in the highly innovative Research Training Program designed there to promote the proper background for cellular and molecular research for MDs seeking a career in academic

medicine. In 1974, his former mentor at Duke, Dr. Salih Wakil, joined the Baylor faculty as chairman of biochemistry and the two collaborated in writing the NIH training grant to establish the MD/PhD Program at Baylor, of which Dr. Entman was a co-director until 1980. In 1978, Dr. Entman became the director of the Section of Cardiovascular Sciences in the Department of Medicine and he was paramount in the new development of that program. The core curriculum for the DeBakey Heart Center Graduate Program arose from those efforts and was funded for many years by an NIH training grant which supported an independent graduate program directed by his colleague and close friend, Dr. Julius Allen. The resources of this program also provided the structure of a Basic Science Training program in Pediatric Cardiology at Texas Children's Hospital which was financed by an independent NIH training program.

Dr. Entman has given countless lectures to trainees on the Cardiovascular Sciences PhD Track and has been dedicated to furthering the educational mission at Baylor College of Medicine. Dr. Entman has mentored over 50 physician-scientists and researchers, many of whom are now leading cardiology departments and research programs across the US and world. His enthusiasm and commitment to the educational programs at Baylor College of Medicine is revered among his trainees and peers.



Dr. Sandra Haudek is pictured presenting the Dr. Mark L. Entman and Best Poster Awards at the 9<sup>th</sup> Annual CVRI Symposium.

### **DR. MARK L. ENTMAN TEACHING AWARD**

The Dr. Mark L. Entman Teaching Award for Excellence in Cardiovascular Education recognizes course instructors who provide highly rated lectures in the cardiovascular courses offered by the Graduate School of Biomedical Sciences (GSBS) at Baylor College of Medicine. Registered learners who are enrolled or auditing one of the GSBS courses are provided lecture evaluations from the CVRI. A ranking of lectures is generated based on the scores received in those evaluations, and the CVRI Education and Training Committee reviews scores and eligibility criteria to determine the award recipient.

Jason M. Karch, PhD Assistant Professor Department of Integrative Physiology



"Dr. Karch is being honored with the 2022 Dr. Mark L. Entman Teaching Award for Excellence in Cardiovascular Education for his lecture entitled 'Cardiac cell death', which is part of the "Advanced Topics in Cardiac Pathophysiology & Disease" course.

*Dr. Karch's lecture received the highest ratings among all three cardiovascular courses offered by the Graduate School, based on evaluations provided by the graduate students and other learners.* 

The CVRI is pleased to honor Dr. Karch for this outstanding accomplishment and his dedication to cardiovascular education.

-Xander Wehrens, MD, PhD Professor of Molecular Physiology & Biophysics Director, CVRI



### **DR. MARK L. ENTMAN SERVICE AWARD**

The Dr. Mark L. Entman Service Award for Excellence in Cardiovascular Education recognizes individuals who have made outstanding contributions to the educational mission of the CVRI. The CVRI Education and Training Committee Chairs provide a list of eligible candidates to committee members, who then nominate and vote on each candidate. The candidate who receives the highest number of votes is deemed the awardee.



Xander H.T. Wehrens, MD, PhD Professor Department of Integrative Physiology Director Cardiovascular Research Institute

*"Dr. Wehrens has sustained leadership in developing highly-successful BCM-wide platforms for cardiovascular education including the CVRI seminars and CVRI symposium"* -Scott LeMaire, MD; Professor of Surgery and Vice-Chair for Research

"Dr. Wehrens is currently overseeing the curriculum design of 3 major didactic courses in cardiovascular sciences. As the co-director of the MSTP program, he devotes significant effort in recruiting MD/PhD students and promoting the career development of the next generation of physician scientists. He has trained many trainees in cardiovascular research, who have now successful and independent careers as basic scientists or physician scientists in the field."

-Na Li, PhD; Associate Professor of Medicine- Cardiovascular Sciences

*"The CVRI started and over time has thrived because of his dedication, effort, and persistence!" -Sandra Haudek, MSc PhD; Associate Professor of Medicine* 



### **BEST POSTER AWARDS**



**Arielys Mendoza** Mentor: Jason M. Karch, PhD Dept. of Integrative Physiology Title: "The Protective Role of Bcl-Rambo in the Heart"

### Sara Stephens

Mentor: Christina Y. Miyake, MD Dept. of Pediatrics Title: "A Study of 460 Infants with Supraventricular Tachycardia Utilizes Patient Characteristics and Factors Associated with Recurrence to Create a Clinically Relevant Algorithm for Physicians"





#### Kimberly Rebello, MD

Mentor: Scott LeMaire, MD Dept. of Surgery Title: "Role of RIPK3-Mediated Smooth Muscle Cell Death in Sporadic Aortic Aneurysm and Dissection Development"

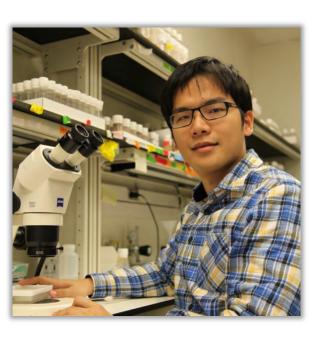
#### Chang-Ru Tsai, PhD

Mentor: James F. Martin, MD, PhD Dept. of Integrative Physiology Title: "Hippo signaling-deficient cardiac fibroblasts promote fibrosis and inflammation in the murine heart via BMP4 signaling"

Hua Mao, PhD

Mentors: Christie Ballantyne, MD & Xinchun Pi, PhD Dept. of Medicine- Athero & Lipo Title: "Bone Morphogenic Protein-binding Endothelial Regulator Regulates Pulmonary Hypertension and Vascular Remodeling"





### **HONORS AND AWARDS**

Irina Larina, PhD Elected 2022 Fellow of Optica Society/OSA.





BCM From The Labs celebrated Baylor College of Medicine **Women in Science. Lilei Zhang, MD, PhD** was recognized for her work on <u>The Circadian clock</u> <u>in heart failure</u>.

Joshua Wythe, PhD awarded a new R01 grant from NIH/NHLBI for his project titled, "Decoding the Molecular and Cellular Mechanisms of Mutant KRAS-Driven Brain Arteriovenous Malformations".

The <u>TCH/Baylor</u> <u>Pediatric Cardiovascular</u> <u>Anesthesiology</u> <u>Fellowship</u> has been accredited by the ACGME under the direction of **Premal Trivedi, MD**.





Bill Lagor, PhD successfully renewed his R01 grant titled, "Genetic Repair of Familial Hypercholesterolemia". This project stemmed from a CVRI pilot award awarded to Dr. Lagor in 2015.



Mohit Hulsurkar, PhD Recipient of the AHA Career Development Award Project: "Role of Nucleoside-Diphosphate Kinase Signaling in Atrial Fibrillation".



Pictured left to right: Mrs. and Dr. Wayne Goodman; Brendan Lee, MD, PhD; Jason Mills, MD, PhD; Indira Mysorekar, PhD; Xander Wehrens, MD, PhD.

Dr. Xander Wehrens has been inducted into the Association of American Physicians (AAP). The AAP is an honorary medical society founded in 1885 by Sir William Osler and six other distinguished physicians of his era for "the advancement of scientific and practical medicine". Election to the AAP is an honor extended to physicians with outstanding credentials in basic or translational biomedical research and is limited to 70 persons per year. The AAP includes ~1200 active members and 700 emeritus and honorary members.

### **EDUCATION**

#### Graduate School of Biomedical Sciences Cardiovascular Courses

The Cardiovascular Research Institute offers 3 graduate courses open to PhD students, postdocs, 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.

### ENROLL IN TERM 5

#### Registration: April 25- May 6, 2022

#### Advanced Topics in Vascular Pathophysiology and Disease

#### 4 Credits

**GS-DD-6404** 

This course emphasizes cardiovascular disease pathology with a focus on vascular disorders and atherosclerosis. Lectures will cover all components of the normal system, inherited forms of disease, and the pathogenesis of acquired types of disease. Topics include vascular diseases, lipid disorders, atherosclerosis, hemostasis and bleeding disorders, microcirculation disorders, stroke, hypertension, and peripheral artery disease. The course will also discuss the cutting-edge research approaches used in cardiovascular research.

#### Course Directors: William Lagor, PhD & Xander Wehrens, MD, PhD

Monday, Tuesday, Wednesday, Thursday I May 23 - July 22, 2022 I 9 - 10 AM

Spring 2023

#### Term 3 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.

Tuesday, Thursday I 10 - 11 AM

#### Term 4

### 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.

Monday, Tuesday, Wednesday, Thursday I 9-10 AM

Course Director: Xander Wehrens, MD, PhD

#### 2 Credits

#### Room N317

4 Credits

### **2022 SPRING SEMINAR SERIES**

The CVRI conducts a bi-monthly <u>seminar series</u> during the spring and fall of each year. Seminars are open to faculty, students, staff, and all who are interested in cardiovascular science. Seminars are hosted via Zoom on select Wednesdays from 12-1 p.m.



#### May 4, 2022

Jeffrey Saffitz, MD, PhD Chief, Pathology Beth Israel Deaconess Medical Center Professor, Pathology Harvard Medical School

Title: *"Immune Signaling in the Pathogenesis of Arrhythmogenic Cardiomyopathy"* 



May 11, 2022

### Francesco Ramirez, PhD

Dr. Amy and James Elster Chair of Molecular Biology Professor, Pharmacological Sciences, Orthopedics, Medicine, Cardiology Icahn School of Medicine

Title: "Molecular Pathophysiology of Thoracic Aortic Aneurysm in Marfan Syndrome"



#### May 25, 2022

Ronglih Liao, PhD, FAHA Co-Director Stanford Amyloid Center Professor, Medicine Stanford University School of Medicine

Title: "Cardiac Amyloidosis: Then and Now"



#### June 8, 2022

Julieta Palomenque, PhD Assistant Professor Faculty of Medical Sciences Cardiovascular Research Center National University of La Plata, Argentina

Title: "The Impact of Different Models of Metabolic Stress on Cardiac Ca2+ Handling"

Many thanks to all the 2022 Spring Seminar Series speakers!

### **SPRING SEMINAR SERIES SPOTLIGHT**

#### NASA ASTRONAUT, KATHLEEN RUBINS, PhD



### Exploring Heart Cells in Microgravity: Molecular Biology Research Beyond Earth

Pictured top left to right: Kathleen Rubins, PhD; Xander Wehrens, MD, PhD; Lilei Zhang, MD, PhD; bottom left to right: Margaret A. Goldstein, PhD; Jeffrey Sutton, MD, PhD; Joseph Wu, MD, PhD (Stanford).

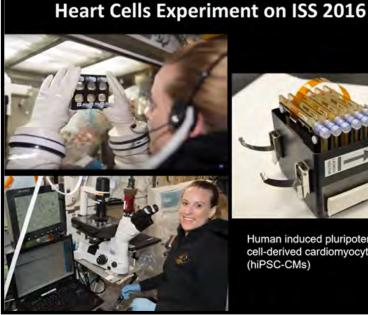
On March 28th the CVRI had the honor of hosting NASA Astronaut and molecular biologist, Kathleen Rubins, PhD as a speaker in the spring seminar series. Her seminar discussed events occurring in the realm of human health research in space and particularly the effects of microgravity on heart tissue function. Additionally, Dr. Rubins spoke about the Cardinal Heart Experiment and her experience on the International Space Station. The talk drew over 100 attendees from the greater TMC; including attendees from TRISH and the Dept. of Space Medicine, and Stanford Cardiovascular Institute.

The CVRI partnered with NASA to host the seminar.

CAs a microbiologist and veteran NASA astronaut of two long-duration space missions aboard the International Space Station, Dr. Rubins provided a fascinating seminar on what it is like to live and work in space as a scientist. Her collaborative research on the effects of microgravity on heart tissue structure and function, along with other studies, push the frontier of new knowledge with applications to improve health on Earth.

#### Jeffrey P. Sutton, MD, PhD

Friedkin Chair, Founding Director and Professor Center for Space Medicine Chair of the Board, Translational Research Institute for Space Health





Human induced pluripotent stem cell-derived cardiomyocytes (hiPSC-CMs)



Dr. Rubins helped connect the dots as to how conducting good science in space can increase our knowledge of human physiology and its adaptability to environmental stressors. Her groundbreaking work with DNA sequencing in space has opened the opportunity to study how genetics interact with the environment to shape adaptation.



**Dorit Donoviel. PhD** Executive Director, Translational Institute for Space Medicine **Baylor College of Medicine** 

### **AMERICAN HEART ASSOCIATION**

<b>Program</b> <b>AHA Predoctoral Fellowship</b> 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.	<u>Proposal Deadline</u> September 7, 2022	Award Start Date January 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.	September 8, 2022	January 1, 2023
<b>Career Development Award</b> 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.	December 8, 2022	April 1, 2023
<b>Research Supplement to Promote Diversity in Science</b> Under the mentorship of current AHA awardees, this mechanism supports research experiences for predoctoral and postdoctoral fellows from underrepresented racial and ethnic	February 1, 2023	April 1, 2023



groups in science.

# American Heart Association®

#### May 2022

PAR-22-056: Limited Competition: Research Resource for Human Organs and Tissues (U42 Clinical Trial Not Allowed). Deadline: May 25, 2022.

PAR-21-088: NHLBI Program Project Applications (P01 Clinical Trial Optional). Deadline: May 25, 2022.

PAR-21- 038: Stephen I. Katz Early-Stage Investigator Research Project Grant (R01 Clinical Trial Not Allowed) Deadline: May 26, 2022.

CDC-RFA-DD22-2203: **Population-based Surveillance of Outcomes, Needs, and Wellbeing of Children and Adolescents with Congenital Heart Defects.** Deadline: May 28, 2022.

#### June 2022

PAR-20-185: **NIH Research Project Grant** (Parent R01 Clinical Trial Not Allowed). Deadline: June 5, 2022.

PAR-20-184: **Research Project Grant** (Parent R01 Basic Experimental Studies with Humans Required). Deadline: June 5, 2022.

PAR-20-183: **Research Project Grant** (Parent R01 Clinical Trial Required). Deadline: June 5, 2022.

PAR-21-272: Maximizing Opportunities for Scientific and Academic Independent Careers (MOSAIC) Postdoctoral Career Transition Award to Promote Diversity (K99/R00 – Independent Clinical Trial Required). Deadline: June 12, 2022.

PA-20-190: Mentored Research Scientist Development Parent Award (K01-Independent Clinical Trial Not Allowed). Deadline: June 12, 2022.

PA-20-203: Mentored Clinical Scientist Research Career Development Award (Parent K08 Independent Clinical Trial Not Allowed): Deadline: June 12, 2022.

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

#### June 2022

RFA-HL-23-018: Maximizing the Scientific Value of the NHLBI Biologic Specimen Repository: Scientific Opportunities for Exploratory Research (R21). Deadline: June 21, 2022.

#### <u>July 2022</u>

PAS-22-096: Stimulating Hematology Investigation: New Endeavors (SHINE) (R01 Clinical Trial Not Allowed). Deadline: July 5, 2022.

PA-20-188: **NIH Pathway to Independence Award** (Parent K99/R00 Clinical Trial Not Allowed). Deadline: July 12, 2022.

PA-20-205. Mentored Patient-Oriented Research Career Development Award (Parent K23 Independent Basic Experimental Studies with Humans Required). Deadline: July 12, 2022.

PA-20-200: **NIH Small Research Grant Program** (Parent R03 Clinical Trial Not Allowed). Deadline: July 16, 2022.

PA-19-111: **Improving Outcomes in Cancer Treatment-Related Cardiotoxicity** (R21 Clinical Trial Optional). Deadline: July 16, 2022.

#### August 2022

PA-21-047: Ruth L. Kirschstein National Research Service Award (NRSA) Individual Senior Fellowship (Parent F33). Deadline: August 8, 2022.

PA-21-048: Ruth L. Kirschstein National Service Award (NRSA) Individual Postdoctoral Fellowship (Parent F32). Deadline: August 8, 2022.

PA-21-051: **Ruth L. Kirschtein National Service Award (NRSA) Individual Predoctoral Fellowship** (Parent F31). Deadline: August 8, 2022.

PA-21-052: Ruth L. Kirschstein National Research Service Award (NRSA) Individual Predoctoral Fellowship (Parent F31-Diversity). Deadline: August 8, 2022.

#### January 2022

Mentias A, Keshvani N, **Desai MY**, Kumbhani DJ, Sarrazin MV, Gao Y, Kapadia S, Peterson ED, Mack M, Girotra S, Pandey A. Risk-Adjusted, 30-Day Home Time After Transcatheter Aortic Valve Replacement as a Hospital-Level Performance Metric. J Am Coll Cardiol. 2022 Jan 18;79(2):132-144.

Singh N, Bhatt DL, Miller M, Steg PG, Brinton EA, Jacobson TA, Jiao L, Tardif JC, Mason RP, **Ballantyne CM;** REDUCE-IT Investigators. Consistency of Benefit of Icosapent Ethyl by Background Statin Type in REDUCE-IT. J Am Coll Cardiol. 2022 Jan 18;79(2):220-222.

**Al Rifai M**, Blaha MJ, Nambi V, Shea SJC, Michos ED, Blumenthal RS, **Ballantyne CM**, Szklo M, Greenland P, Miedema MD, Nasir K, Rotter JI, Guo X, Yao J, Post WS, Virani SS. Determinants of Incident Atherosclerotic Cardiovascular Disease Events Among Those With Absent Coronary Artery Calcium: Multi-Ethnic Study of Atherosclerosis. Circulation. 2022 Jan 25;145(4):259-267.

Chiang CH, Chiang CH, Pickering JW, Stoyanov KM, Chew DP, Neumann JT, Ojeda F, Sörensen NA, Su KY, Kavsak P, Worster A, Inoue K, Johannessen TR, Atar D, Amann M, Hochholzer W, Mokhtari A, Ekelund U, Twerenbold R, Mueller C, Bahrmann P, Buttinger N, Dooley M, Ruangsomboon O, Nowak RM, DeFilippi CR, **Peacock WF**, Neilan TG, Liu MA, Hsu WT, Lee GH, Tang PU, Ma KS, Westermann D, Blankenberg S, Giannitsis E, Than MP, Lee CC. Performance of the European Society of Cardiology 0/1-Hour, 0/2-Hour, and 0/3-Hour Algorithms for Rapid Triage of Acute Myocardial Infarction : An International Collaborative Meta-analysis. Ann Intern Med. 2022 Jan;175(1):101-113.

Select publications are from CVRI members who published in the top 1% of journals ranked with an Impact Factor greater than 15.

## Share your work! Increase your impact!

<u>Email us</u> with your latest publications and we will share it with our CV community on social media.

#### February 2022

**Mahtta D,** Ramsey DJ, Lee MT, Chen L, Al Rifai M, Akeroyd JM, Vaughan EM, Matheny ME, Santo KRDE, Navaneethan SD, Lavie CJ, **Birnbaum Y, Ballantyne CM,** Petersen LA, **Virani SS**. Utilization Rates of SGLT2 Inhibitors and GLP-1 Receptor Agonists and Their Facility-Level Variation Among Patients with Atherosclerotic Cardiovascular Disease and Type 2 Diabetes: Insights From the Department of Veterans Affairs. Diabetes Care. 2022 Feb 1;45(2):372-380.

Masip J, **Peacock FW**, Arrigo M, Rossello X, Platz E, Cullen L, Mebazaa A, Price S, Bueno H, Di Somma S, Tavares M, Cowie MR, Maisel A, Mueller C, Miró Ò; Acute Heart Failure Study Group of the Association for Acute Cardiovascular Care (ACVC) of the European Society of Cardiology. Acute Heart Failure in the 2021 ESC Heart Failure Guidelines: a scientific statement from the Association for Acute CardioVascular Care (ACVC) of the European Society of Cardiology. Eur Heart J Acute Cardiovasc Care. 2022 Feb 8;11(2):173-185.

Song S, Tien CL, Cui H, Basil P, Zhu N, Gong Y, Li W, Li H, Fan Q, Min Choi J, Luo W, Xue Y, Cao R, Zhou W, Ortiz AR, Stork B, Mundra V, Putluri N, York B, Chu M, Chang J, Yun Jung S, Xie L, Song J, **Zhang L, Sun Z.** Myocardial Rev-erb-Mediated Diurnal Metabolic Rhythm and Obesity Paradox. Circulation. 2022 Feb 8;145(6):448-464.

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Bauersachs J, de Boer RA, Lindenfield J, **Bozkurt B**. The year in cardiovascular medicine 2021: heart failure and cardiomyopathies. Eur Heart J. 2022 Feb 3;43(5):367-376.

Alkhouli M, Palacios IF, **Jneid H**. Risk Stratification of Patients Undergoing Mitrial TEER. J Am Coll Cardiol. 2022 Feb 15;79(6):574-576.

**Bozkurt B**, Hill JA, Al-Khatib SM. Sixth Annual Go Red for Women Issue. Circulation. 2022 Feb 15; 145(7):489-490.

Sajja A, Li HF, Spinelli KJ, Blumenthal RS, **Virani SS**, Martin SS, Gluckman TJ. Discordance Between Standard Equations for Determination of LDL Cholesterol in Patients with Atherosclerosis. J Am Coll Cardiol. 2022 Feb 15;79(6):530-541.

**Kayani WT**, **Khalid U**, **Alam M**. Predicting Left Main Coronary Artery Stenosis Without Imaging: Are We There Yet? J Am Coll Cardiol. 2022 Feb 22; 79(7):662-664.

Verma SK, Deshmukh V, Thatcher K, Belanger KK, Rhyner AM, Meng S, Holcomb RJ, Bressan M, **Martin JF**, **Cooke JP**, **Wythe JD**, Widen SG, Lincoln J, **Kuyumcu-Martinez MN**. RBFOX2 is required for establishing RNA regulatory networks essential for heart development. Nucleic Acids Res. 2022 Feb 28; 50(4):2270-2286.

Truong DT, Dionne A, Muniz JC, McHugh KE, Portman MA, Lambert LM, Thacker D, Elias MD, Li JS, Toro-Salazar OH, Anderson BR, Atz AM, Bohun CM, Campbell MJ, Chrisant M, D'Addese L, Dummer KB, Forsha D, Frank LH, Frosch OH, Gelehrter SK, Giglia TM, Hebson C, Jain SS, Johnston P, Krishnan A, Lombardi KC, McCrindle BW, Mitchell EC, Miyata K, Mizzi T, Parker RM, Patel JK, Ronai C, Sabati AA, Schauer J, **Sexson Tejtel SK**, Shea JR, **Shekerdemian LS**, Srivistava S, Votava-Smith JK, White S, Newburger JW. Clinically Suspected Myocarditis Temporally Related to COVID-19 Vaccination in Adolescents and Young Adults: Suspected Myocarditis after COVID-19 Vaccination. Circulation. 2022 Feb;145(5):345-356.

#### <u>March 2022</u>

O'Byrne ML, Glatz AC, Huang YV, Kelleman MS, Petit CJ, **Qureshi AM**, Shahanavaz S, Nicholson GT, Batlivala S, Meadows JJ, Zampi JD, Law MA, Romano JC, Mascio CE, Chai PJ, Maskatia S, Asztalos IB, Beshish A, Pettus J, Pajk AL, **Healan SJ**, Eilers LF, Merritt T, McCracken CE, Goldstein BH. Comparative Costs of Management Strategies for Neonates With Symptomatic Tetralogy of Fallot. J Am Coll Cardiol. 2022 Mar 29;79(12):1170-1180.

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2022 VOLUME 102 NO 3	WS.	
Normal Tissue	Muscle and Cardiac Diseases	Neuronal Diseases
Skeletal myocyte	miRNA mediated degradation DNA variants	RNA Toxicity
Cardiac myocyte	Posttranslational modifications	
Neuron	Calpain mediated	~
	JMC defects in myopathy	Transcript Sequestration
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Dr. Xander Wehrens' paper titled, <u>"The</u> role of junctophilin proteins in cellular function" will be featured on the July 2022, Volume 102, No. 3 cover of Physiological Reviews. The paper is coauthored with Prof. Stephan E. Lehnart at the University Goettingen in Göttingen, Germany.

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