



LSU Health Shreveport

CENTER FOR CARDIOVASCULAR
DISEASES AND SCIENCES

ANNUAL REPORT

2022-2023

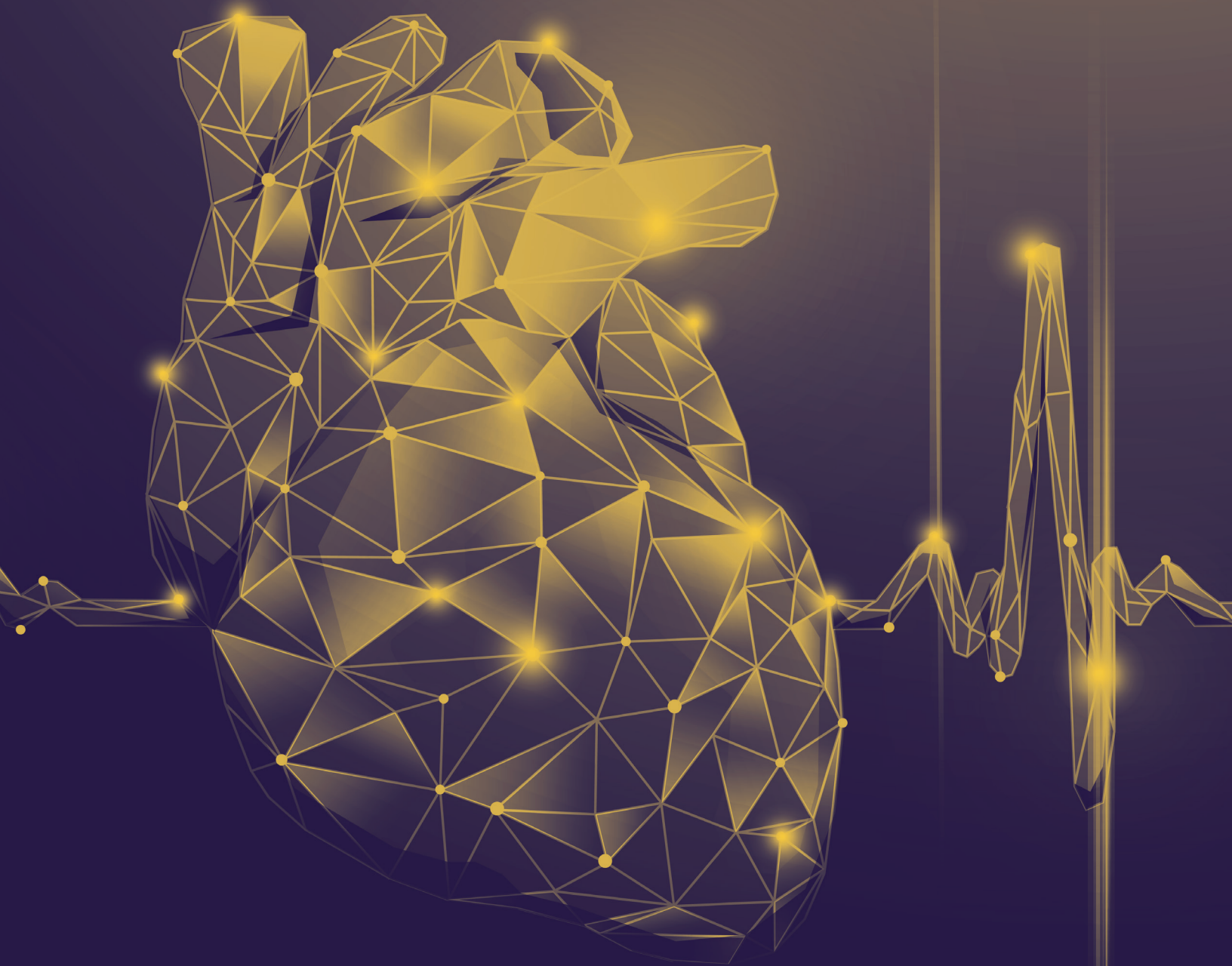




TABLE OF CONTENTS

- 3** Year at a Glance
- 4** Leadership
- 5** Support Staff
- 5** Board of Directors
- 6** Faculty & Research Focus Groups
- 7** Fellows
- 8** MTCP T32 Training Grant
- 9** CURIOUS Program
- 10** MS-CARDIO Program
- 11** Redox Biology COBRE
- 13** Core Facilities
- 14** New Funding
- 15** Biomedical Research and Industry Day (BRAID)
- 16** Feist Cardiovascular Research Symposium
- 17** Feist Seminar Series
- 18** News
- 20** Community Outreach
- 22** Researcher Profiles



YEAR AT A GLANCE



52 CCDS Faculty Members
15 CCDS-Funded Fellows



The CCDS Awarded more than **\$670,000** in Intramural Grants and Provided over **\$440,000** in Additional Research Support in 2022-2023.



CCDS Faculty Published **172 Research Articles** in 2022-2023.



CCDS Faculty and Trainees Brought in over **\$18 million** in Extramural funding in 2022-2023.



In 2022-2023, CCDS Investigators Filed **12 Technology Disclosures, 11 Patent Applications** and Were Awarded **2 New Patents**.



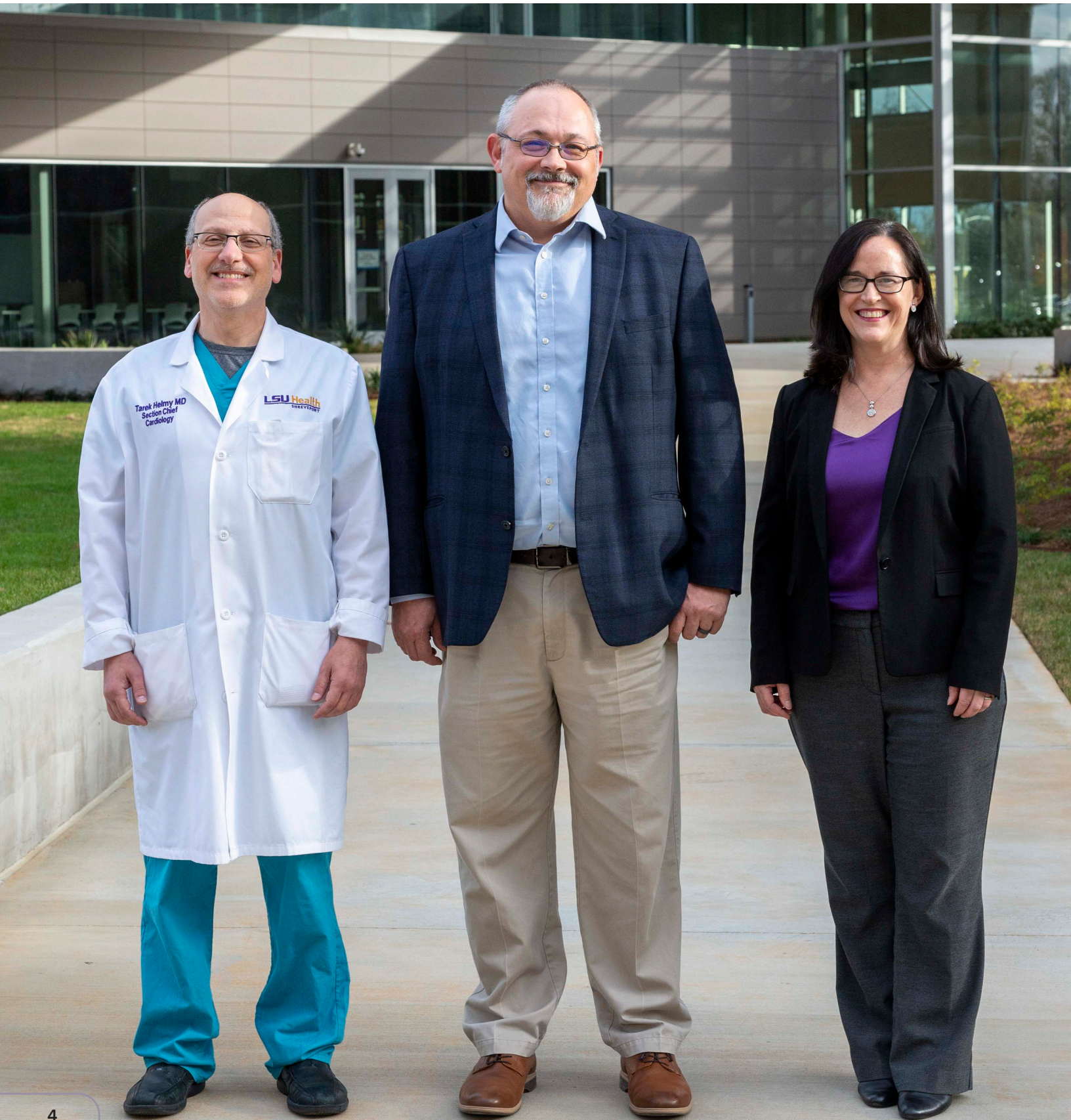
CCDS Clinical Faculty Participated in **19 Clinical Studies** in 2022-2023.

LEADERSHIP

Tarek Helmy, MD
CCDS Assistant Director
for Clinical and Translational Research

A. Wayne Orr, PhD
CCDS Director

Karen Stokes, PhD
CCDS Assistant Director
for Scientific Excellence



STAFF

Monicah Jepkemboi
Clinical Research Coordinator

Danielle Hartman, MBA-HC
Academic Coordinator

Shantel Vital
Research Associate

Robbie Dayton
Research Associate



BOARD OF DIRECTORS



Elizabeth Disbrow, PhD
Associate Professor of Neurology
Director of Center for Brain Health



Norman Harris, PhD
Vice Chancellor of Research
Dean of School of Graduate Studies
Professor of Pathology and Translational Pathobiology



Christopher Kevil, PhD
Vice Chancellor of Research
Dean of School of Graduate Studies
Professor of Pathology and Translational Pathobiology



Kevin McCarthy, PhD
Professor and Chair of Cellular Biology and Anatomy



Karen Stokes, PhD
CCDS Assistant Director for Scientific Excellence
Professor of Molecular and Cellular Physiology



Andrew Yurochko, PhD
Professor and Carroll Feist Endowed Chair of Viral Oncology
Department Vice Chair of Microbiology and Immunology



David Guzick, MD, PhD
Chancellor
Professor of Obstetrics and Gynecology, Public Health



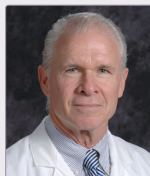
Tarek Helmy, MD
CCDS Assistant Director for Clinical and Translation Research
Professor of Internal Medicine
Division Chief of Cardiology



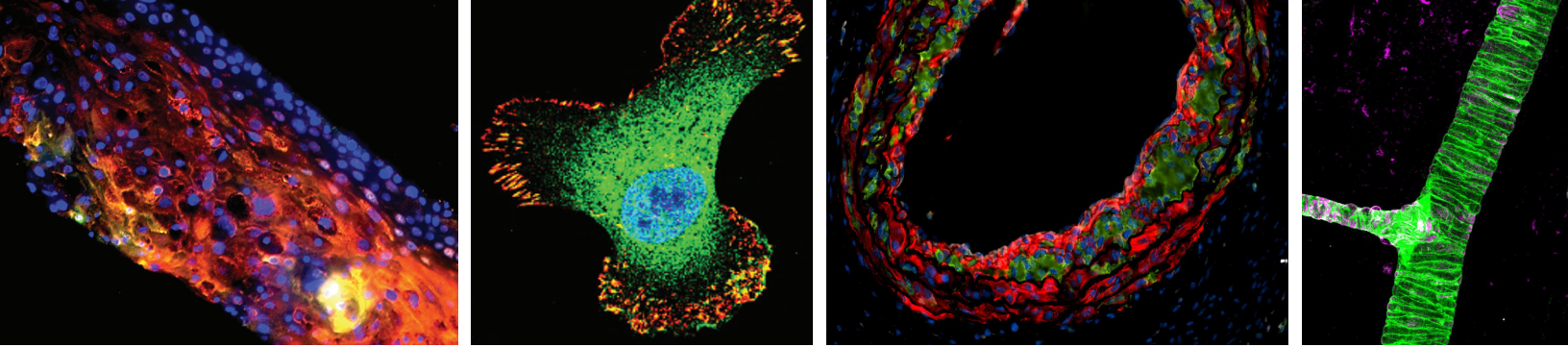
Richard Mansour, MD
Professor of Medicine
Program Director of Hematology/Oncology Fellowship
Interim Director of Feist-Weiller Cancer Center



A. Wayne Orr, PhD
CCDS Director
Professor and Research Division Director of Pathology and Translational Pathobiology



R. Keith White, MD, FACS
Chairman and Professor of Surgery
John C. McDonald MD Endowed Chair of Surgery



CENTER FOR CARDIOVASCULAR DISEASES AND SCIENCES

FACULTY & RESEARCH FOCUS GROUPS

Vascular Biology and Inflammation

Mabruka Alfaidi, MD, PhD
 Randall Buddington, PhD
 Prangthip Charoenpong, MD, MPH
 Yufeng Dong, MD, PhD
 Monica C. Gestal, PhD
 Norman Harris, PhD
 Sushil Jain, PhD, FACN, FICN
 Jeremy Kamil, PhD
 Christopher Kevil, PhD
 Alok Khandelwal, PhD
 Gopi Kolluru, PhD
 Kevin McCarthy, PhD
 Sarah Murnane, PT, DPT
 A. Wayne Orr, PhD
 Changwon Park, PhD
 Christopher Pattillo, PhD
 Oren Rom, PhD, RD
 Xingguai Shen, PhD
 Karen Stokes, PhD
 James Traylor, MD
 Yuping Wang, MD
 R. Keith White, MD, FACS
 Matthew Woolard, PhD
 Art Yurdagul, Jr., PhD
 Andrew Yurochko, PhD

Cardiac Biology

Chowdhury Abdulah, PhD
 Md. Shenuarin Bhuiyan, PhD
 Mohammad A.N. Bhuiyan, PhD
 Steven Conrad, MD, PhD, MS, MSE, MBA, MSST, MSc
 Diana Cruz-Topete, PhD
 Tarek Helmy, MD
 Tarek Magdy Mohamed, PharmB, PhD
 Kalgi Modi, MD
 Manikandan Panchatcharam, PhD
 Ashritha Penagaluri, PhD

Neurovascular Biology and Stroke

J. Steven Alexander, PhD
 Mabruka Alfaidi, MD, PhD
 Connie Arnold, PhD
 Terry Davis, PhD
 Nirav Dhanesha, PhD
 Elizabeth Disbrow, PhD
 Nicolas Goeders, PhD
 Bharat Guthikonda, MD, MBA, FACS, FAANS
 Norman Harris, PhD
 Hui-Chao (Reggie) Lee, PhD
 Kevin Lin, PhD
 Xiaohong Lu, PhD
 Kevin Murnane, PhD
 Hyung Nam, PhD
 Krista Rodgers, PhD
 Karen Stokes, PhD
 Hong Sun, MD, PhD
 Vesna Tesic, PhD
 Yin-Chieh Wu, PhD
 Quanquang Zhang, PhD

Cardiometabolism

Md. Shenuarin Bhuiyan, PhD
 Diana Cruz-Topete, PhD
 Nirav Dhanesha, PhD
 Chris Kevil, PhD
 Gopi Kolluru, PhD
 Tarek Magdy Mohamed, PharmB, PhD
 A. Wayne Orr, PhD
 Christopher Pattillo, PhD
 Oren Rom, PhD
 Matthew Woolard, PhD
 Art Yurdagul, Jr., PhD

FELLOWS

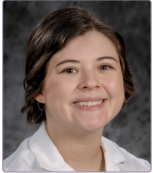
Pre-Doctoral Fellows



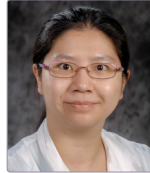
Megan Butler
Mentor: Dr. Karen Stokes
Molecular and Cellular Physiology
MTCP T-32 Fellow



Ashton Jorgenson
Mentor: Dr. Hyung Nam
Pharmacology, Toxicology and Neuroscience



Luisa Delgadillo
Mentor: Dr. Christopher Pattillo
Molecular and Cellular Physiology



Jiyu Li
Mentor: Dr. Hong Sun
Cellular Biology and Anatomy



Tashawna Esmond
Mentor: Dr. Karen Stokes
Molecular and Cellular Physiology
MTCP T-32 Fellow



Sudha Sharma
Mentor: Dr. Sumitra Miriyala
Cellular Biology and Anatomy



Nicole Hall
Mentor: Dr. Nicholas Goeders
Pharmacology, Toxicology, and Neuroscience
MTCP T-32 Fellow



Naznin Remex Sultana
Mentor: Dr. Md Shenuarin Bhuiyan
Pathology and Translational Pathobiology
AHA Fellow

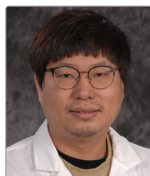


Lauren Henderson
Mentor: Dr. Jeremy Kamil
Microbiology and Immunology
MTCP T-32 Fellow

Post-Doctoral Fellows



Richa Aishwarya, PhD
Mentor: Dr. Md Shenuarin Bhuiyan
Pathology and Translational Pathology
AHA Fellow



Minseong Kim, PhD
Mentor: Dr. Changwon Park
Molecular and Cellular Physiology



Randa Eshaq, PhD
Mentor: Dr. J. Steven Alexander
Molecular and Cellular Physiology



Matthew Scott, PhD
Mentor: Dr. A. Wayne Orr
Pathology and Translational Pathobiology
AHA Fellow



Alexandra Finney, PhD
Mentor: Dr. Oren Rom
Pathology and Translational Pathobiology
AHA Fellow



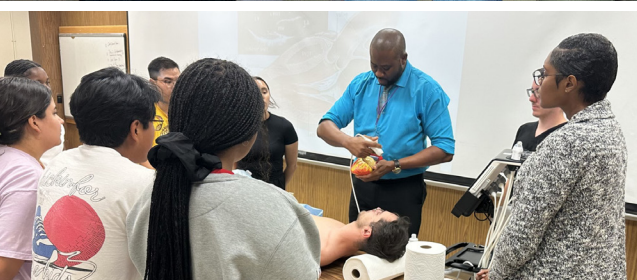
Multidisciplinary Training in Cardiovascular Pathophysiology (MTCP) Program

Two years ago, the Center for Cardiovascular Diseases and Sciences was awarded an NIH T32 grant from the National Heart, Lung and Blood Institute. Led by Principal Investigators A. Wayne Orr, PhD and Karen Stokes, PhD, the Multidisciplinary Training in Cardiovascular Pathophysiology (MTCP) T32 program is the first grant of its kind on our campus. T32 trainees follow a similar training program as intramural Malcolm Feist Predoctoral Fellowship awardees but enter their program at an earlier stage. Therefore, the training environment in both programs includes a mix of junior and senior trainees from multiple labs and cardiovascular focus areas. It is anticipated that the enhanced training will make the T32 fellowship recipients more competitive for extramural fellowships from the American Heart Association and the National Institutes of Health. We are privileged to have three outstanding cardiovascular scientists as members of our External Advisory Committee: Rakesh Patel, PhD, Professor and Vice Chair for Research, Department of Pathology, University of Alabama at Birmingham; Brant Isakson, PhD, Professor, Department of Molecular Physiology and Biophysics, University of Virginia School of Medicine; and Viola Vaccarino, MD, PhD, Wilton Looney Professor of Cardiovascular Research, Department of Epidemiology, Emory University. All

our External Advisory Committee members visited our campus in February as part of our Inaugural Feist Cardiovascular Research Symposium that included a seminar by Dr. Isakson.

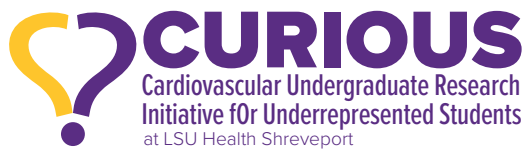
The T32 program accepts two new students each year. Our first two students, Ms. Lauren Henderson, Department of Microbiology & Immunology (Mentor: Jeremy Kamil, PhD) and Nicole Hall, Department of Pharmacology, Toxicology & Neuroscience (Mentor: Nicholas Goeders, PhD) have completed their second year and are preparing other fellowship applications. They have both presented at local and national conferences. Megan Butler and Tashawna Esmond, both from the Department of Molecular & Cellular Physiology (Mentor: Karen Stokes, PhD) have completed their first year and are already preparing their first manuscripts. Both fellows have presented at intramural/regional conferences, and Ms. Butler presented her work at a national conference.

For the upcoming year, we have accepted two more candidates, Katelyn Parrish, Department of Microbiology & Immunology (Mentor: Monica Cartelle Gestal, PhD) and Zithlaly Amezquita, Department of Molecular & Cellular Physiology (Mentor: Norman Harris, PhD).



Cardiovascular Undergraduate Research Initiative for Underrepresented Students (CURIOUS) Program

In 2019, the Center of Excellence for Cardiovascular Diseases and Sciences introduced our new Cardiovascular Undergraduate Research Initiative for Underrepresented Students (CURIOUS) Program. The CURIOUS program is an NIH-funded 8-week summer research program in cardiovascular disease for undergraduate students who are interested in pursuing research as part of their scientific or clinical career goals. Principle investigators in our Center serve as mentors, and the program is directed by Karen Stokes, PhD.



Learn more at www.lsuhs.edu/curious

In the past year we completed our 2022 program and began our 2023 program. At the end of our 2022 program, a poster session was held at which all students presented their work not only to faculty and trainees at LSU Health Shreveport, but also to faculty from regional universities. Our returning student, Brianna Callicoatte (Centenary College of Louisiana), gave an excellent talk. Our external advisory committee met with the students and the CURIOUS faculty and provided excellent feedback. One student, Morgan Bradford (mentor: Krista Rodgers, PhD), got the opportunity to present her work at the International Stroke Conference. Another student, Aubrey “Cole” Goodman (LSUS), accepted an invitation to return for a second year. He was joined by 10 new students in the 2023 program. These students hailed from eight universities — seven of those in Louisiana. They are

participating in an extensive enrichment program designed to include training in the Responsible Conduct of Research, career development workshops, cardiovascular basics and cutting-edge techniques, joint lab meetings and life lunches.

One of the highlights of the summer program — for both students and faculty — was guest seminar speaker Tracie C. Collins, MD, MPH, MHCDS, Dean and Professor, University of New Mexico (UNM), College of Population Health, Internal Medicine/Vascular Specialist at UNM Department of Internal Medicine.

Dr. Collins spoke on “Transitioning to a School of Public Health: The Role of Clinical Research.” Over lunch with the CURIOUS students, Dr. Collins touched on how to pursue a career as a clinician-scientist.

CURIOUS students interested in going to medical school were matched with a near-peer medical student mentor from our new MS-CARDIO program, and those planning to pursue a PhD were matched with a CCDS graduate student. At least two students will be selected to attend a national conference with their mentor, and two students will be invited to return to the program for a second year.

We look forward to hosting students again next year. Our application deadline for next year’s program is Feb. 12, 2024.



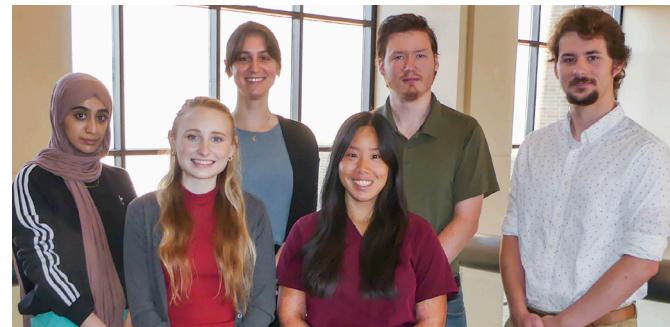
Medical Students – Cardiovascular Research and Discovery Opportunities (MS-CARDIO)

This year, the Center of Excellence for Cardiovascular Diseases and Sciences launched our new Medical Students Cardiovascular Research and Discovery Opportunities (MS-CARDIO) Program. Over the past few years, our Center has developed programs and initiatives for all training levels from high school to postdoctoral fellows and residents. The MS-CARDIO program was developed to fill the remaining gap by providing medical students a cardiovascular research program over the summer, with the option to extend their research over the following Fall and Spring.

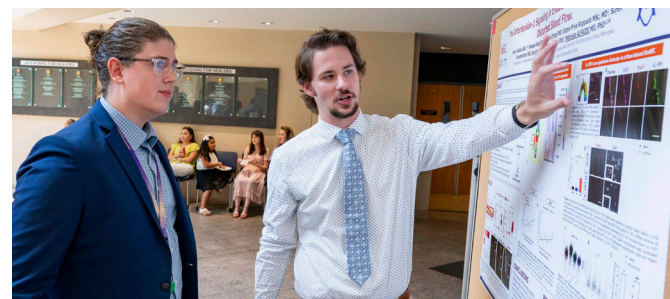
Six medical students, including one MD/PhD student, participated in the program this year. The program ran for five weeks over the summer, during which time the students received multiple enrichments including “how to prepare for residency,” a discussion on translational research, and training in cardiovascular anatomy/pathology. In addition, the students completed some professional development and met with our summer seminar speaker, Dr. Tracy Collins (see the CURIOS page for more on her visit).

Upon entry into the program, the students were matched with near-peer mentees in the CURIOS program, so that they could help guide them in preparing for applying to, and entering, medical school. All students presented their work at the end-of-program poster session, held in conjunction with the CURIOS poster session, with poster awards given at the end of the session. In addition, the Center will provide funding for the students to attend and present their work at a national conference.

We plan to solicit program feedback from the participating students so that we can continue to improve MS-CARDIO for years to come. Our application deadline for next year’s program will be in the spring.



Learn more at www.lsuhs.edu/ms-cardio



COBRE Center for Redox Biology and Cardiovascular Diseases

The Center for Redox Biology and Cardiovascular Disease was started in 2018 through the NIH Centers of Biomedical Research Excellence (COBRE) grant mechanism. The mission of the COBRE Center for Redox Biology and Cardiovascular Disease is to advance the understanding of redox biology control of heart and vascular disease processes that may lead to new and better ways to detect or treat cardiovascular disease. The Center for Redox Biology and Cardiovascular Disease COBRE provides substantial research support to faculty who have not yet received major extramural funding, to allow for programmatic development. This research support is coupled with ongoing faculty mentoring from the COBRE Mentoring Committee and access to COBRE Core Facilities that enable both COBRE and non-COBRE researchers to establish nationally competitive research programs in cardiovascular redox biology. The COBRE is just completing Phase 1 of funding and continued support was just awarded for Phase 2.

COBRE Projects

**Gopi Kolluru, PhD**

Assistant Professor of Research in Pathology and Translational Pathobiology

CSE and Hydrogen Sulfide Role in Aging Vasculature

**Diana Cruz Topete, PhD**

Associate Professor of Molecular and Cellular Physiology

Stress exacerbates myocardial ischemic injury by blocking estrogen's antioxidant protection in the female heart

**Mabruka Alfaidi, MD, PhD**

Assistant Professor of Internal Medicine, Division of Cardiology

Nck1 in Cerebral Ischemia Reperfusion Injury

**Tarek Magdy Mohamed, PharmB, PhD**

Assistant Professor of Pathology and Translational Pathobiology

Racial Disparities in Doxorubicin-induced Cardiotoxicity

COBRE Graduated Projects

**Christopher Pattillo, PhD**

Associate Professor of Molecular and Cellular Physiology

Cellular Reductive State Regulates Arteriogenesis

**David Krzywanski, PhD**

Nicotinamide nucleotide transhydrogenase regulates redox balance in atherosclerosis

COBRE Past Projects

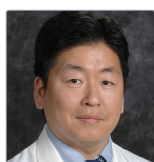
**Paari Dominic, MD, PhD**

Role Of Hydrogen Sulfide and Oxidative Stress in Methamphetamine-Induced Cardiac Arrhythmias

**Manikandan Panchatcharam, PhD**

Associate Professor of Cellular Biology and Anatomy

Oxidative Stress Mediated Myocardial Lipid Dysfunction

**Hugh Nam, PhD**

Associate Professor of Pharmacology, Toxicology, and Neuroscience

Neurogranin Regulation in Cardiovascular Disease

**Sumitra Miriyala, PhD**

AIFM2: A novel mediator of heart failure development and progression

COBRE Pilot Projects

**Alok Khandelwal, PhD**

Assistant Professor, Research at Feist-Weiller Cancer Center

Targeting CXCL 17 (C-X-C Motif Chemokine Ligand 17) in Atherosclerosis

**Kevin Murnane, PhD**

Associate Professor of Pharmacology, Toxicology and Neuroscience

Elucidating the role of oxidative stress and inflammation in methamphetamine induced neurovascular

COBRE Past Pilot Projects

**Diana Cruz Topete, PhD**

Associate Professor of Molecular and Cellular Physiology

Redox State and Sex Differences in Cardiac miR-34a Expression

**Gopi Kolluru, PhD**

Assistant Professor of Research in Pathology and Translational Pathobiology

CSE and Hydrogen Sulfide Role in Aging Vasculature

COBRE LEADERSHIP



Christopher Kevil, PhD
COBRE Principal Investigator



A. Wayne Orr, PhD
Redox Molecular Signaling Core Director



Karen Stokes, PhD
Animal Models and Histology Core Director



Andrew Yurochko, PhD
Director of the Mentoring Committee

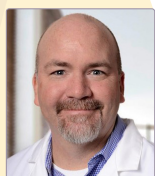
COBRE EXTERNAL ADVISORY COMMITTEE



David Fulton, PhD
Augusta University



Hong Wang, MD, PhD
EMBA Temple University



Peter Mohler, PhD
Ohio State University



COBRE Professional Development Lecture Series

Sruti Shiva, PhD

Editor-in-Chief, Nitric Oxide
Professor, Department of Pharmacology and Chemical Biology
Co-Director, Center for Metabolism and Mitochondrial Medicine
Pittsburgh Heart, Lung and Blood Vascular Medicine Institute

Publishing in the Redox Landscape: Think “Radically” to Maximize Your Potential

Eric Kelley, PhD

Co-Editor in Chief, Advances in Redox Research
Professor and Vice Chair for Research, Physiology and Pharmacology
West Virginia University

Publishing Promotion and Tenure

Rakesh Patel, PhD

Reviews Editor, Redox Biology
Professor and Vice Chair for Research, Department of Pathology
Director, Center for Free Radical Biology
University of Alabama at Birmingham

A Review of Review Articles: My Perspectives from Redox Biology

David Wink, PhD

American Association for Advancement of Science Fellow
Deputy Chief, Cancer Innovation Laboratory
National Cancer Institute, NIH

Spatial mapping of the NOS2 and COX2 provides novel insight into poor outcome in ER-breast cancer. New targets in the immunotherapy arsenal

Cindy Martin, MD

Chief, Division of Advanced Heart Failure, Heart Transplantation and Mechanical Circulatory Support
C. and L. Davis Chair in Cardiac Function
Houston Methodist DeBakey Heart and Vascular Center
Houston Methodist J.C. Walter Jr. Transplant Center
Houston Methodist Hospital

The Right Ventricular: Development to Dysfunction

T. Scott Isbell, PhD, DABACC, FAACC

Louis and Marguerite Privat and Marguerite Hard Memorial Professor in Experimental Pathology
Associate Professor, Pathology and Director of Laboratory Medicine
Saint Louis University School of Medicine

Laboratory Medicine S.W.O.T. Analysis

COBRE CORE FACILITIES

Animal Models and Histology Core

The COBRE Animal Models and Histology Core facility provides services for mouse genotyping and tissue histology, as well as access to state-of-the-art tools for analyzing cardiovascular function. Dr. Karen Stokes serves as the Overall Core Director, while Dr. Hugh Price serves as the Leader of the Histology and Genotyping Subcore and Dr. Shenuarin Bhuiyan serves as the Leader of the Cardiovascular Phenotyping Subcore. The genotyping component of the Histology and Genotyping Subcore genotypes mice for the COBRE projects and offers a fee-for-service for other CCDS investigators. This subcore also provides a centralized histology service with several cardiovascular-relevant histological stains. The Cardiovascular Phenotyping Subcore includes modalities for radio telemetry, laser speckle imaging and doppler for measuring blood flow, pressure-volume loop, treadmill with gas analyzer to monitor respiratory metabolism and ultra-high frequency ultrasound housed in separate rooms of a dedicated lab suite, along with dedicated analysis stations. Both subcores have full-time staff to perform measurements. This core also contributed to the purchase of an Isoplexis Isospark that is run by the Immunophenotyping Subcore of the Center for Applied Immunology and Pathological Processes.

Redox Molecular Signaling Core

The COBRE Redox Molecular Signaling Core facility provides services for vascular cell model generation and quantitative analysis of reactive oxygen, nitrogen, and sulfur species. Dr. Wayne Orr serves as the Overall Core Director, whereas Dr. Xinggui Shen serves as the Leader of the Analytical Redox Biology Subcore and Dr. Yunfeng Zhao serves as the Leader of the Molecular Signaling Subcore. The Analytic Redox Biology Sub-Core provides high quality, accurate measurements of reactive oxygen, nitrogen, and sulfide species. High performance liquid chromatography (HPLC) systems are used to specifically quantify cellular and mitochondrial superoxide production, hydrogen sulfide pools, and thiols. A highly sensitive EcoPhysics NO Analyzer is used to measure nitric oxide and its metabolites in a variety of biological samples, and a recently purchased Orbitrap Exploris 480 will be used to expand the mass spectrometry capabilities of the core. The Molecular Signaling Sub-Core offers services for molecular cloning and site-directed mutagenesis. This core provides services for endothelial, smooth muscle, and cardiac myocyte cell isolation, for generation of vascular cell lines, and for lentivirus production for transient or stable modification of cardiovascular cells. This core can also produce CRISPR/Cas9 knockout cells for CCDS investigators. In addition, this core provides access to equipment and expertise for exposing vascular cells to hypoxia/reoxygenation injury (Coy Hypoxic Chamber).

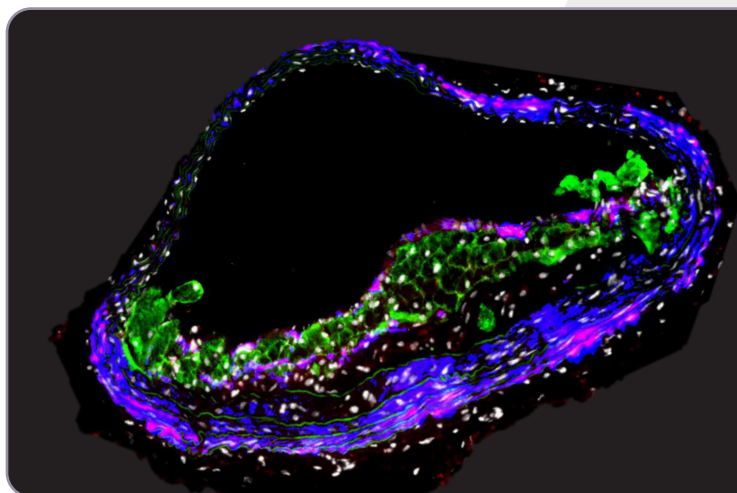
CCDS CORE FACILITIES

CCDS Surgical Models Core

Many cardiovascular disease models, such as the middle cerebral artery occlusion model of ischemic stroke, the coronary artery ligation model of myocardial infarction, the femoral artery ligation model of peripheral artery disease, and the partial carotid ligation model of disturbed flow, require surgical expertise that can be difficult to develop for individual laboratories and can be highly susceptible to technician turnover. To alleviate this issue, we established the CCDS Surgical Models Core facility to provide technical support for these surgical techniques. This type of facility provides consistent surgical techniques across multiple research projects to ensure data quality. The Surgical Models Core Research Associate, Ms. Shantel Vital, has extensive experience in surgical models of cardiovascular disease through multiple years of service to CCDS laboratories. This core is housed in the same area as the COBRE Animal Models Phenotyping Core, with each core enhancing the functionality of the other.

CCDS Virus Production Core

Modulation of gene expression by viral gene therapy represents a long-standing target for cardiovascular disease research. Recently, AAV delivery of a PCSK9 mutant has facilitated the speed at which investigators can perform cardiovascular disease research by providing an inducible model of hypercholesterolemia without the need to backcross mouse strains to the ApoE or LDL receptor knockout background. The goal of the CCDS Virus Production Core is to provide commercial quality AAV particles for cardiovascular studies at a reduced rate. This service is housed in the same facility as the COBRE Molecular Signaling Core. This core facility is run by Mr. Robbie Dayton, a Research Associate with extensive experience in AAV production. Mr. Dayton has produced all AAVs for cardiovascular studies at LSU Health Shreveport to date and his custom AAV preparations are currently in use by several investigators at LSU Health Shreveport and at three other universities around the country.



NEW FUNDING 2022-2023

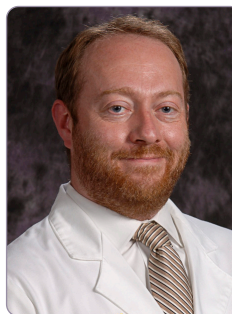


Nirav Dhanesha, PhD

NIH/NHLBI R01

\$1,785,531

Mechanisms for Deep Vein Thrombosis Following Stroke



Kevin Murnane, PhD

Beckley Psytech

\$1,250,000

Assessing a novel short-acting tryptamine psychedelic for efficacy in individuals undergoing residential treatment for methamphetamine



Elizabeth Disbrow, PhD

Michael J. Fox Foundation

\$85,301

Black and African American Connections to Parkinson's Disease Study



Krista Rodgers, PhD

NIH/NINDS R01

\$1,825,000

Mechanisms of Juvenile Neurogenesis and Post-Stroke Recovery: Determining the Role of Age-Associated Neuroimmune Interactions



Norman Harris, PhD

NIH/NEI/NIGMS R01

\$1,460,000

Retinal Vasculature in Hypertension

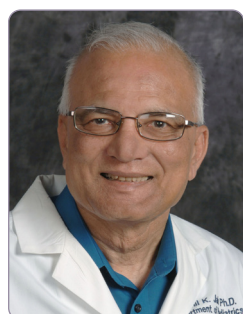


Arif Yurdagul, PhD

NIH/NHLBI R01

\$2,833,115

Dysregulations in Polyamine Metabolism During Atherosclerosis



Sushil Jain, PhD

NIH/NCCIH/NIA

\$360,000

Optimization of Glutathione Levels and Alzheimer Disease risk in African Americans



Andrew Yurochko, PhD

NIH P01

\$2,021,890

Human Cytomegalovirus Dysregulation of Host Hematopoietic Progenitor Cell Signaling Pathways to Modulate Latency, Reactivation, and Hematopoiesis During Transplantation

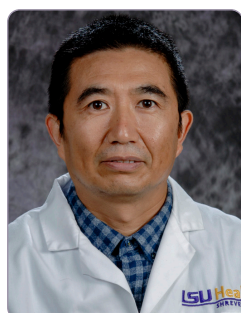


Kevin Lin, PhD and Quanguang Zhang, PhD

NIH/NIA R01

\$3,536,600

Using Photobiomodulation to Alleviate Brain Hypoperfusion in Alzheimer's Disease





Biomedical Research and Industry Day (BRAID)

In 2014, the CCDS and the Center for Biomedical Engineering and Rehabilitation Science (CBERS) at Louisiana Tech University partnered to host an annual Industry Day conference. The conference has evolved over the years and is now named Biomedical Research and Industry Day (BRAID).

This partnership has since expanded to include other centers at LSU Health Shreveport (Center for Brain Health and the Louisiana Addiction Research Center) and multiple other universities in our region: LSU Shreveport, Grambling State University, Centenary College of Louisiana and the University of Louisiana Monroe. BRAID serves as a forum for trainees to learn about research careers outside academia and for our researchers to learn about the translation of biomedical research to industry.

Each year in the Fall, BRAID brings together over 100 students, trainees, scientists and clinicians interested in research in the commercial sector. In 2022, the event was held at LSU Shreveport with the theme “Translational Science: Collaborative Innovation to Improve Health.” The conference included trainee and junior faculty talks and posters. Seminars were offered by invited industry speakers including Daniel J. Fox, MPH, PhD, Director of Clinical Research, Springfield Clinic, and Founder and CEO of Clinical Research Payment Network; Randi Parks, PhD, Principal Scientist at Abiomed Inc.; Fridrik Karlsson, PhD, AR Fellow and Scientific Director at Pfizer, Inc.; and Mark S. Kindy, PhD, FAHA, Professor and Director, Department of Pharmaceutical Science at University of South Florida, and Senior Research Career Scientist at the James A. Haley VA Medical Center. Wayne Nix, MBA, Chief Innovation Officer at LSU Health Shreveport, led a lively panel discussion with our external speakers and Kevin Pavlik, PhD, co-founder and COO of Innolyzer, LLC. The day concluded with prizes for the best poster presentations.



2022 Poster Presentation Winners

High School Poster Category:

First Place – Katherine Michael (LSUHS, SMART Program)

Undergraduate Poster Category:

First Place – Connor Haskins (LA Tech)

Second Place – Audrey Lashley (LSUS)

Graduate Poster Category:

First Place – Utsab Subedi (LSUHS)

Second Place – Jiyu Li (LSUHS)

Third Place – Luisa Delgadillo (LSUHS)

Post-Doctoral Poster Category:

First Place – Alexandra Finney, PhD (LSUHS)

Second Place – Randa Eshaq, PhD (LSUHS)

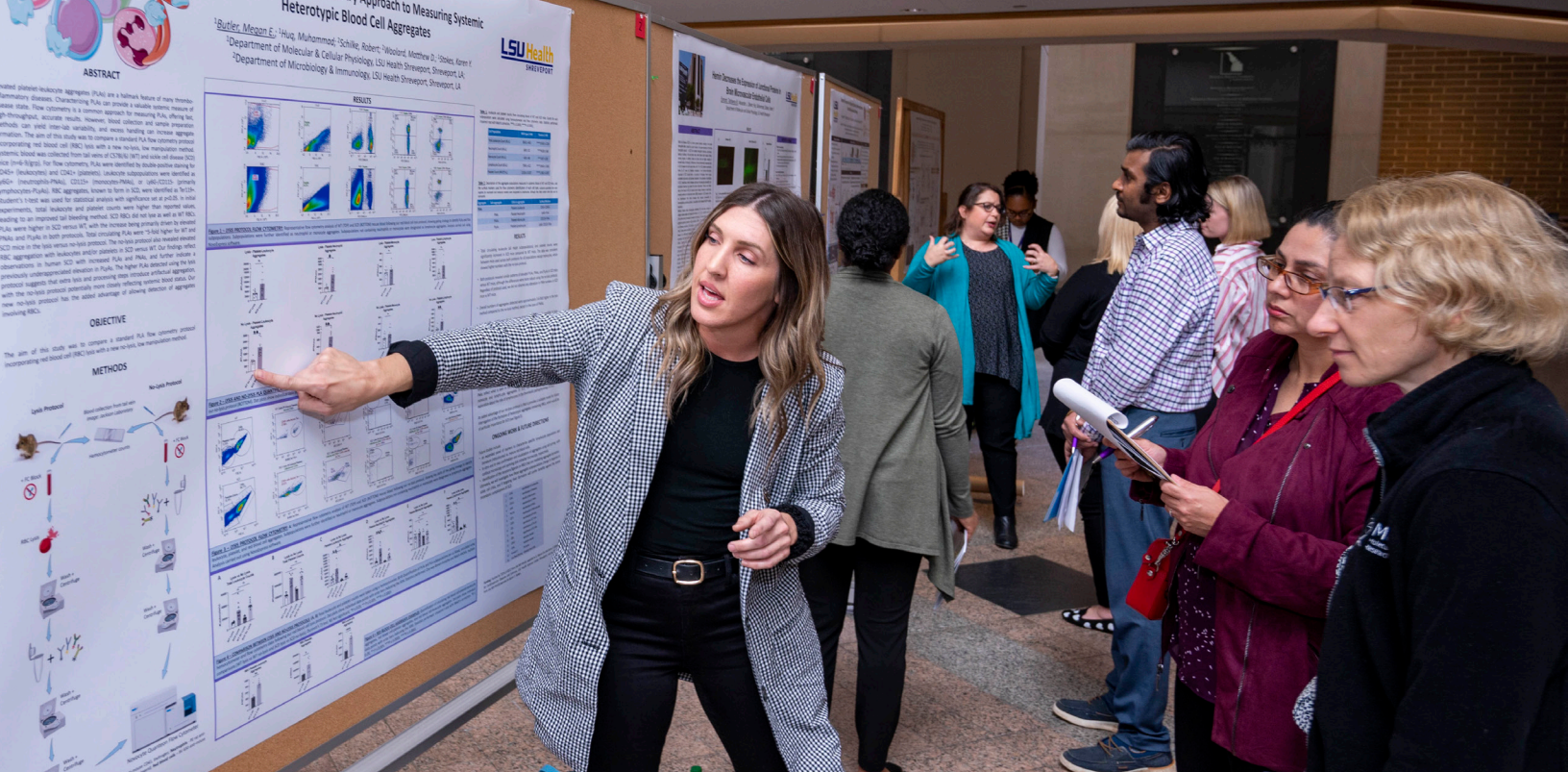
Medical Student Poster Category:

First Place – Ross Dies (LSUHS)

Second Place – Jay Manuel (LSUHS)

Clinical Fellow Poster Category:

First Place – Matthew Martin, PT, DPT (LSUHS)



Malcolm Feist Cardiovascular Research Symposium

The Center for Cardiovascular Diseases and Sciences presented their Second Annual Malcolm Feist Cardiovascular Research Symposium on Feb. 6, 2023. This full-day event, organized by Oren Rom, PhD, Arif Yurdagül, PhD and Karen Stokes, PhD, began with a networking breakfast, followed by a morning session with talks given by LSU Health Shreveport trainees and faculty, and featuring guest speaker Brant Isakson, PhD, Professor of Molecular Physiology and Biological Physics at the University of Virginia Health System.

CCDS held their Annual Meeting over lunchtime, with all CCDS members invited to join and hear the latest news from the CCDS. A poster session was held after lunch, followed by an afternoon session with talks by LSU Health Shreveport trainees and faculty, and culminated with the Annual Malcolm Feist Clinical and Translational Lecture. The 2023 lecture was given by Iris Jaffe, MD, PhD, Executive Director, Molecular Cardiology Research Institute (MCRI), Director, Vascular Biology Research Center in MCRI, Elisa Kent Mendelsohn Professor of Molecular Cardiology, at Tufts University School of Medicine. The day finished with awards given for the best posters. In addition, the awards for the D. Neil Granger, PhD Outstanding Pre-Doctoral, Post-Doctoral and Clinical Trainees were announced — these awards were based on nominations by mentors and accomplishments over the past year, and we were privileged that Dr. Granger attended the symposium and presented these awards in person.

The symposium was overlapped with a visit by the External Advisory Committee members for our Multidisciplinary Training in Cardiovascular Pathophysiology (MTCP) T32 program.



D. Neil Granger, PhD Outstanding Award Winners

Pre-Doctoral – Naznin Sultana Remex

Post-Doctoral – Randa Eshaq, PhD

Clinical – Nimer Adeeb Abushehab, MD

..... Pre-Doctoral Poster Category Winners

First Place – Naznin Sultana Remex and Lauren Henderson

Second Place – Brenna Pearson-Gallion

Third Place – Jiyu Li

Post-Doctoral Poster Category Winners

First Place – Richa Aishwarya, PhD

Second Place – Sumit Kumar Anand, PhD

Third Place – Cyrine Ben Dhaou, PhD

Clinical Poster Category Winners

First Place – Tyler Pierotti, MD

Second Place – Zaki Al-Yafeai, MD

Third Place – Aamina Shakir, MD

MALCOLM FEIST CARDIOVASCULAR SEMINAR SERIES

Charles D. Nichols, PhD

Professor of Pharmacology and Experimental Therapeutics
LSU Health New Orleans

Psychedelics as Potent Anti-Inflammatory Therapeutics

Huabo Su, PhD

Associate Professor
Vascular Biology Center, Medical College of Georgia
Augusta University

NEDD8, a Small Protein Modifier with a Huge Impact on Cardiac Function

Babak Razani, PhD

Professor of Medicine
Director of Center for Immunometabolism
University of Pittsburgh Medical Center
Chief of Cardiology
Pittsburgh VA Medical Center

Dietary Protein and Cardiovascular Risk: The Good, the Bad, and the Ugly

Edward Thorp PhD

Associate Professor of Pathology & Pediatrics
Feinberg School of Medicine
Northwestern University

Phagocyte Regulation of Inflammation in Cardiac Disease

Alisa Wolberg, PhD

Professor of Pathology and Laboratory Medicine
UNC Blood Research Center
University of North Carolina at Chapel Hill
Fibrinogen, factor XIII

Red Blood Cells in Venous Thrombosis/Thromboembolism

Angela J. Glading, PhD

Associate Professor of Pharmacology and Physiology
University of Rochester, Rochester NY

Cell Adhesion-Dependent Regulation of Endothelial Quiescence: Lessons from Cerebral Cavernous Malformation

Sumanth D. Prabhu, MD

Lewin Distinguished Professor of Cardiovascular Diseases
Chief, Division of Cardiology
Washington University in St. Louis

Immune Activation in Heart Failure

Dolly Mehta, PhD

Professor of Pharmacology and Regenerative Medicine
University of Illinois, Chicago, IL

Mechanisms Regulating Endothelial Regeneration and Tissue Homeostasis

NEWS



Irvine H. Page Junior Faculty Research Award Finalist

Congratulations to Arif Yurdagul, PhD, Assistant Professor of Molecular and Cellular Physiology, who was selected as a finalist for the 2023 Irvine H. Page Junior Faculty Research Award by the ATVB Council of the American Heart Association. This prestigious award recognizes investigators in the formative years of their faculty careers who have the potential to become future leaders in cardiovascular research.



CCDS Cardiometabolism & NAFLD Focus Group

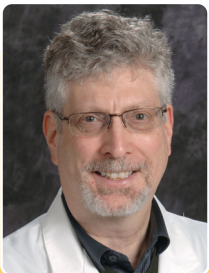
The CCDS Cardiometabolism & NAFLD Focus Group celebrated two years of achievements on June 23, 2022.

Since July 2021, the group has held monthly meetings where labs rotate to present their progress in NAFLD-related projects or discuss important advances/publications in the field. Over the past two years the group has grown to include 10 Principal Investigators and their teams.

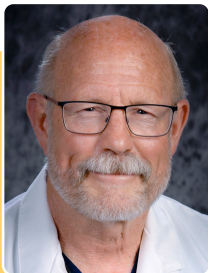
Collectively they have submitted 11 grants, more than half of which are already funded for a total of \$5.5 Million, and had papers published in or accepted to several prestigious journals. Members of the group have been finalists for or received awards for their work on cardiometabolism research and have been invited to present oral talks and posters at local, national and international conferences.

The objectives of the group are to combine expertise in the fields of metabolism, inflammation, redox, ECM and cardiovascular biology, and collaborate and share experience, ideas, samples, data and resources to advance training, publications, funding opportunities, understanding the mechanisms linking NAFLD and CVD, and discovery of new approaches to treat NAFLD and cardiovascular complication.

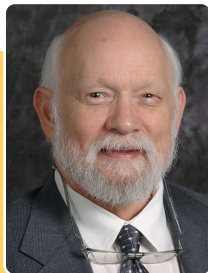
CCDS Faculty Named World's Top 2% Scientists in 2022



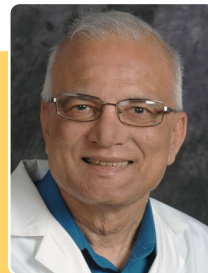
J. Steven
Alexander, PhD



Randal
Buddington, PhD



Nicholas
Goeders, PhD



Sushil
Jain, PhD



Chris
Kevil, PhD



Yuping
Wang, PhD

NEWS

Center for Redox Biology and Cardiovascular Disease Receives \$10.7 Million Phase 2 Award

A new Centers of Biomedical Research Excellence (COBRE) Phase 2 grant from the National Institutes of Health provides \$10.7 million over five years in continued support of the Center for Redox Biology and Cardiovascular Disease (CRBCD) at LSU Health Shreveport. The Center for Redox Biology and Cardiovascular Disease, led by Chris Kevil, PhD, was established in 2018 with a \$10.5 million Centers of COBRE Phase 1 award from the National Institute of General Medical Sciences (NIGMS) branch of the NIH.

The Centers of Biomedical Research Excellence (COBRE) support the establishment and development of innovative, state-of-the-art biomedical and behavioral research centers at institutions in IDeA-eligible states through awards for three sequential five-year phases. The latest Phase 2 award aims to strengthen the Center for Redox Biology and Cardiovascular Disease as a successful COBRE Phase 1 center through continued development of investigators to compete effectively for independent research, pilot project funding, and further improvements to research infrastructure.

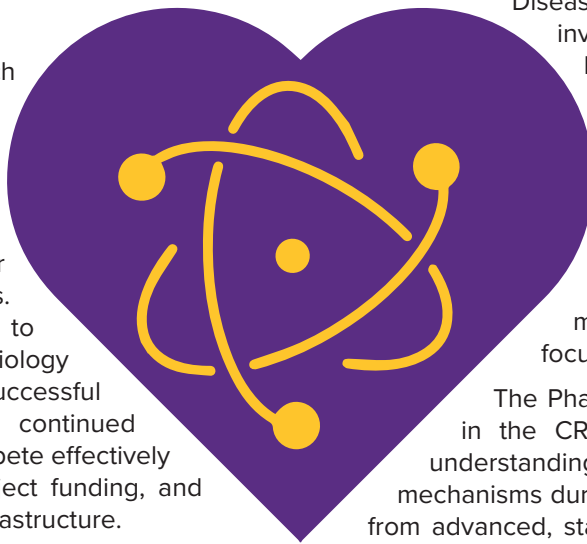
The Center for Redox Biology and Cardiovascular Disease COBRE aims to advance understanding of redox biology control of heart and vascular disease processes that may lead to new and better ways to detect or treat cardiovascular disease, the leading cause of death and disability in the United States. Louisiana is substantially affected by cardiovascular disease with nearly one quarter of deaths in the state attributed to it. While advances in cardiovascular treatments have been realized, many disease mechanisms remain poorly understood.

It has become increasingly clear that changes in heart and vascular oxidant stress and antioxidant defenses, the so-called 'redox balance', plays critical roles in disease initiation and propagation. However, specific disease mechanisms controlled by redox biology pathways remain poorly defined, which requires further study and research in this area.

In Phase 1, the Center for Redox Biology and Cardiovascular Disease brought together numerous junior investigators with state-of-the-art knowledge and expertise across different departments to address redox biology molecular mechanisms contributing to cardiovascular pathophysiology. Continued growth of the CRBCD and recruitment of junior faculty to the program and LSU Health Shreveport to increase the competitiveness of major research grant programs is the focus for Phase 2.

The Phase 2 research projects of junior faculty in the CRBCD over will provide an advanced understanding of redox biology pathophysiology mechanisms during cardiovascular disease with support from advanced, state-of-the-art animal models and redox molecular pathology research core facilities.

Cutting-edge research core facilities were established during Phase 1 and will continue to grow to serve the COBRE program, institution, and others across the nation. Research and professional development programs are also proposed that will provide continued growth and leadership for all associated participants and trainees, and the CRBCD's world-class advisory committee will continue to provide input and advise projects leaders throughout the Phase 2 program.



LSUHS Faculty Led First PV Loop case in Louisiana

Some of our Cardiology Faculty and Residents made history by leading the first PV Loop case in Louisiana. On Feb. 7, LSUHS faculty members Dr. George Mina, Assistant Professor of Cardiology, Dr. Tarek Helmy, Professor and Division Chief of Cardiology, Dr. Usman Mustafa, Cardiology Resident, and Dr. Steven Bailey, Chair and Professor of Internal Medicine performed the analysis procedure at Ochsner LSU Health Shreveport — Academic Medical Center. The procedure allows for real-time monitoring and better predictions of which medications and treatments will be best for the patient. Currently, this analysis is only being used at high performing centers such as Mayo Clinic, UAB and Tufts.



COMMUNITY OUTREACH

AHA Go Red

The CCDS was proud to be a sponsor of the 2023 AHA NWLA Go Red for Women Luncheon that was held at the Shreveport Convention Center on February 28, 2023. Researchers with the CCDS showed their support and appreciation at this annual event which helps raise critically needed funds that support important education and research initiatives in the fight against heart disease and stroke.



AHA Heart Walk

Each year CCDS faculty, staff and students walk together to support cardiovascular research and help raise awareness for the fight against heart disease and stroke. The AHA NWLA Heart Walk took place on April 29, 2023, and raised over \$150,000.

Faces of Research

The CCDS in partnership with the American Heart Association (AHA) hosted their annual “Faces of Research” reception and tour on February 2, 2023. Community leaders and AHA supporters learned firsthand from our cardiovascular researchers about the in-depth research occurring on our campus and they enjoyed visiting several of our research labs. In the past year, the AHA has funded around \$2M in research at LSU Health Shreveport. Funding from the AHA makes it possible for our researchers to continue their work studying cardiovascular disease and enhancing the treatment of cardiovascular disease in Northwest Louisiana.





Learn more at www.lsuhs.edu/hearthealthday



Chowdhury S. Abdullah, PhD

Instructor – Research, Department of Pathology and Translational Pathobiology

chowdhury.abdullah@lsuhs.edu

Joined LSUHS - 2016

EDUCATION/TRAINING

B. Pharm – University of Dhaka

M. Pharm – University of Dhaka

PhD – South Dakota State University

Post-Doctoral – LSU Health Shreveport

HONORS/AWARDS

CCDS Malcolm Feist Postdoctoral Transition Award (2023)

D. Neil Granger Outstanding Postdoctoral Trainee Award, LSUHS – Shreveport (2022)

APS Cardiovascular Section Outstanding Postdoctoral Award (2021)

The Michael Bristow Investigator Travel Award, ISHR – NAS (2021)

AHA BCVS New Investigator Travel Awards (2018, 2015)

Early Career Investigator Travel Award, ISHR – NAS (2017)

AHA Postdoctoral Fellowship (2020-2021)

National Rho Chi Honor Society Member (2015)

SERVICE

Grant Reviewer, American Heart Association (AHA) Fellowship Basic Science 1 Committee

Peer Reviewer in Journals including Circulation, Circulation: Heart Failure, Circulation: Cardiovascular Imaging, Journal of the American Heart Association, Arteriosclerosis, Thrombosis, and Vascular Biology, Journal of Cardiovascular Pharmacology, Journal of Pharmacological Sciences

CURRENT RESEARCH

Metabolic syndrome (MetS), including diabetes, hypertension, obesity, and abnormal lipid levels, is at epidemic levels worldwide. It is a complex cluster of pathological derangements that significantly increase adverse cardiovascular events, including heart attack, stroke, cardiac arrest, and sudden cardiac death. Despite our heart being a metabolically omnivore organ, chronic overabundance of nutrients, i.e., lipids, overwhelms its ability to utilize the excess lipids. These excess lipids and their toxic intermediates ectopically deposited in internal organs, including the heart, causing cardiac lipotoxicity that underlies the development of heart failure. My current research focuses on identifying novel molecular regulators promoting mitochondrial lipid utilization and oxidative phosphorylation in the heart. Currently, no treatments can tackle nutrient excess, i.e., lipid-induced toxicity in patients' hearts with MetS. Hence, my long-term research goal is to lay a conceptual groundwork by identifying novel therapeutic targets to prevent cardiac lipotoxicity. I use complementary in vitro and in vivo small animal pre-clinical MetS models with genetic approaches to dissect molecular dysfunctions in cardiac lipotoxicity.

SELECTED PUBLICATIONS

Abdullah CS, Remex NS, Aishwarya R, Nitu S, Kolluru GK, Traylor J, Hartman B, King J, Bhuiyan MAN, Hall N, Murnane KS, Goeders NE, Kevil CG, Orr AW, Bhuiyan MS. Mitochondrial dysfunction and autophagy activation are associated with cardiomyopathy developed by extended methamphetamine self-administration in rats. *Redox Biol.* 2022; 58:102523. PMID: 36335762.

Abdullah CS, Aishwarya R, Alam S, Remex NS, Morshed M, Nitu S, Miriyala S, Panchatcharam M, Hartman B, King J, Bhuiyan MAN, Traylor J, Kevil CG, Orr AW, Bhuiyan MS. The molecular role of Sigmar1 in regulating mitochondrial function through mitochondrial localization in cardiomyocytes. *Mitochondrion.* 2022; 62:159-175. PMID: 34902622.

Abdullah CS, Aishwarya R, Alam S, Morshed M, Remex NS, Nitu S, Kolluru GK, Traylor J, Miriyala S, Panchatcharam M, Hartman B, King J, Bhuiyan MAN, Chandran S, Woolard MD, Yu X, Goeders NE, Dominic P, Arnold CL, Stokes K, Kevil CG, Orr AW, Bhuiyan MS. Methamphetamine induces cardiomyopathy by Sigmar1 inhibition-dependent impairment of mitochondrial dynamics and function. *Commun Biol.* 2020; 3(1):682. PMID: 33203971.

Abdullah CS, Alam S, Aishwarya R, Miriyala S, Bhuiyan MAN, Panchatcharam M, Patillo CB, Orr AW, Sadoshima J, Hill JA, Bhuiyan MS. Doxorubicin-induced cardiomyopathy associated with inhibition of autophagic degradation process and defects in mitochondrial respiration. *Sci Rep.* 2019; 9(1): 2002; PMID: 30765730.

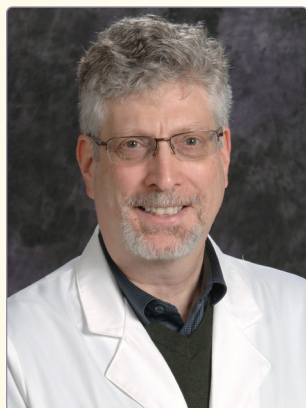
Abdullah CS, Alam S, Aishwarya R, Miriyala S, Panchatcharam M, Bhuiyan MAN, Peretik JM, Orr AW, James J, Osinska H, Robbins J, Lorenz JN, Bhuiyan MS. Cardiac dysfunction in the Sigma 1 receptor knockout mouse associated with impaired mitochondrial dynamics and bioenergetics. *J Am Heart Assoc.* 2018; 7(20): e009775. PMID: 30371279.

Remex NS*, **Abdullah CS***, Aishwarya R, Nitu SS, Traylor J, Hartman B, King J, Bhuiyan MAN, Kevil CG, Orr AW, Bhuiyan MS. Sigmar1 ablation leads to lung pathological changes associated with pulmonary fibrosis, inflammation and altered surfactant protein levels. *Front Physiol.* 2023; 14:1118770. PMID: 37051024. *co-first authors

Aishwarya R*, **Abdullah CS***, Remex NS, Alam S, Morshed M, Nitu S, Hartman B, King J, Bhuiyan MAN, Orr AW, Kevil CG, Bhuiyan MS. Molecular characterization of skeletal muscle dysfunction in Sigma 1 receptor (Sigmar1) knockout mice. *Am J Pathol.* 2022; 192(1):160-177. PMID: 34710383. *co-first authors

Abdullah CS, Jin ZQ. Targeted deletion of T cell S1P receptor 1 renders mouse heart vulnerable to fibrosis in normoglycemia but reduces myocardial fibrosis under hyperglycemia. *FASEB J.* 2018; 32(10):5426-5435. PMID: 29698062.

Abdullah CS, Li Z, Wang X, Jin ZQ. Depletion of T lymphocytes ameliorates cardiac fibrosis in streptozotocin-induced diabetic cardiomyopathy. *Int Immunopharmacol.* 2016; 39:251-264. PMID: 27494688.



J. Steven Alexander, PhD

Professor, Departments of Molecular & Cellular Physiology,
Medicine, and Neurology
Center for Tissue Engineering and Regenerative Medicine

jonathan.alexander@lsuhs.edu

CURRENT RESEARCH

My current research focuses on the mechanisms of stroke injury and the use of stem cells to suppress brain damage, a major cause of neurovascular-mediated disability, especially relevant to COVID19 pathophysiology. I am a member of the Center for Tissue Engineering and Regenerative Medicine and am helping to develop IP related to stem cell therapies in stroke. We also have patent technology related to the development of a vascular stabilizer, Bryostatin-1 which is in development for neurovascular stress in Alzheimer's disease and in transplantation. We also have patented technology related to crosslinked polyvinyl alcohol 3D bioprinting for synthetic bone, esophagus, biliary duct replacements.

SELECTED PUBLICATIONS

Dao N, Cozean C, Chernyshev O, Kushida C, Greenburg J, **Alexander JS**. Retrospective Analysis of Real-World Data for the Treatment of Obstructive Sleep Apnea with Slow Maxillary Expansion Using a Unique Expansion Dental Appliance (DNA). *Pathophysiology*. 2023 May 9;30(2):199-208. doi: 10.3390/pathophysiology30020017. PMID: 37218915; PMCID: PMC10204354.

Hall N, Dao N, Hewett C, Oberle S, Minagar A, Lamon K, Ford C, Blough BE, **Alexander JS**, Murnane KS. Methamphetamine and Designer Stimulants Modulate Tonic Human Cerebrovascular Smooth Muscle Contractility: Relevance to Drug-Induced Neurovascular Stress. *Pathophysiology*. 2023 Apr 18;30(2):144-154. doi: 10.3390/pathophysiology30020013. PMID: 37092527; PMCID: PMC10123609.

Meyer H, Trosclair L, Clayton SD, O'Quin C, Connelly Z, Rieger R, Dao N, Alhaque A, Minagar A, White LA, Solitro G, Shah-Bruce M, Welch VL, Villalba S, **Alexander JS**, Sorrells D. 'Distraction Vaginogenesis': Preliminary Results Using a Novel Method for Vaginal Canal Expansion in Rats. *Bioengineering (Basel)*. 2023 Mar 12;10(3):351. doi: 10.3390/bioengineering10030351. PMID: 36978742; PMCID: PMC10045428.

Reekes TH, Ledbetter CR, **Alexander JS**, Stokes KY, Pardue S, Bhuiyan MAN, Patterson JC, Lofton KT, Kevil CG, Disbrow EA. Elevated plasma sulfides are associated with cognitive dysfunction and brain atrophy in human Alzheimer's disease and related dementias. *Redox Biol*. 2023 Jun; 62:102633. doi: 10.1016/j.redox.2023.102633. Epub 2023 Feb 17. PMID: 36924684; PMCID: PMC10026043.

Maxey BS, White LA, Solitro GF, Conrad SA, **Alexander JS**. Experimental validation of a portable tidal volume indicator for bag valve mask ventilation. *BMC Biomed Eng*. 2022 Nov 17;4(1):9. doi: 10.1186/s42490-022-00066-y. PMID: 36384855; PMCID: PMC9668705.

Doudi S, Barzegar M, Taghavi EA, Eini M, Ehterami A, Stokes K, **Alexander JS**, Salehi M. Applications of acellular human amniotic membrane in regenerative medicine. *Life Sci*. 2022 Dec 1; 310:121032. doi: 10.1016/j.lfs.2022.121032. Epub 2022 Oct 5. PMID: 36206834.

Veerareddy P, Dao N, Yun JW, Stokes KY, Disbrow E, Kevil CG, Cvek U, Trutschl M, Kilgore P, Ramanathan M, Zivadinov R, **Alexander JS**. Dysregulated Sulfide Metabolism in Multiple Sclerosis: Serum and Vascular Endothelial Inflammatory Responses. *Pathophysiology*. 2022 Sep 17;29(3):570-582. doi: 10.3390/pathophysiology29030044. PMID: 36136071; PMCID: PMC9502521.

Gu P, Clifford E, Gilman A, Chang C, Moss E, Fudman DI, Kilgore P, Cvek U, Trutschl M, **Alexander JS**, Burstein E, Boktor M. Improved Healthcare Access Reduces Requirements for Surgery in Indigent IBD Patients Using Biologic Therapy: A 'Safety-Net' Hospital Experience. *Pathophysiology*. 2022 Jul 18;29(3):383-393. doi: 10.3390/pathophysiology29030030. PMID: 35893600; PMCID: PMC9326631.

Gomez-Torres O, Amatya S, Kamberov L, Dhaibar HA, Khanna P, Rom O, Yurdagül A Jr, Orr AW, Nunez K, Thevenot P, Cohen A, Samant H, **Alexander JS**, Burgos-Ramos E, Chapa-Rodriguez A, Cruz-Topete D. SLAMF1 is expressed and secreted by hepatocytes and the liver in nonalcoholic fatty liver disease. *Am J Physiol Gastrointest Liver Physiol*. 2022 Sep 1;323(3): G177-G187. doi: 10.1152/ajpgi.00289.2021. Epub 2022 Jul 19. PMID: 35853010; PMCID: PMC9377786.

Joined LSUHS - 1994

EDUCATION/TRAINING

BS – Boston University

PhD – Boston University

Post-Doctoral – Vanderbilt University

HONORS/AWARDS

2016-17 President, Vice President (2015-16), International Society for Neurovascular Disease

Grant Review, Deutsche Forschung Gemeinschaft (2008-2020)

Editor in Chief, Pathophysiology

President, LSUHS Faculty Senate (2019-2020)

HONORS/AWARDS TRAINEES

Mansoureh Barzegar

Travel Award to American Society for Sleep Research

Luke White

Dialysis Clinics Inc.

J. Winny Yun, PhD

Annette Funicello Research Fund Research Award

COBRE Supplement Award 'Alzheimer's disease and Sulfide Metabolism'

LSUHS COVID Intramural Award on Stem cell therapy for COVID related strokes



Mabruka Alfaidi MD, PhD

*Assistant Professor of Medicine (Tenure Track), Department of Internal Medicine, Division of Cardiology
Center for Cardiovascular Diseases and Sciences*

mabruka.alfaidi@lsuhs.edu

CURRENT RESEARCH

I am a translational cardiovascular scientist with a long-standing interest in vascular wall inflammation and treatment of ischemic heart disease, with originally being trained as a clinical cardiologist then as a basic science researcher, I have the skill sets in various fields, including translational cardiovascular pathologies, molecular biology, and inflammation. I obtained my PhD from the University of Sheffield, UK in 2016, after discovering that in ischemic heart disease patients, the leaderless cytokine interleukin-1 β is predominantly processed and released by the endothelium. My research vision is to develop a targeted therapy to modulate the disease process. The short-term goals of my research program, for which I received an AHA Career Development Award, are to understand how endothelial-to-mesenchymal transition develops in response to the atherogenic disturbed blood flow and how that influences atherosclerosis progression and plaque instability.

SELECTED PUBLICATIONS

Alfaidi M, Wilson H, Daigneault M, Burnett A, Ridger V, Chamberlain J, Francis S. Neutrophil elastase promotes interleukin-1 β secretion from human coronary endothelium. *J Biol Chem*. 2015; 290:24067-24078.

Alfaidi M, Acosta CH, Wang D, Traylor JG, Orr AW. Selective role of nck1 in atherogenic inflammation and plaque formation. *J Clin Invest*. 2020; 130:4331-4347

Iqbal J, Chamberlain J, **Alfaidi M**, Hughes M, Alizadeh T, Casbolt H, Evans P, Mann B, Motterlini R, Francis S, Gunn J. Carbon monoxide releasing molecule a1 reduces myocardial damage after acute myocardial infarction in a porcine model. *J Cardiovasc Pharmacol*. 2021. doi:10.1097/FJC.0000000000001067

Kidder E, Pea M, Cheng S, Koppada SP, Visvanathan S, Henderson Q, Thuzar M, Yu X, **Alfaidi M**. The interleukin-1 receptor type-1 in disturbed flow-induced endothelial mesenchymal activation. *Front Cardiovasc Med*. 2023;10:1190460. doi: 10.3389/fcvm.2023.1190460.

INVITED SPEAKER

Biomechanics in Vascular Biology and Disease Gordon Research Conference; Mount Holyoke College in South Hadley, Massachusetts, USA (The Interleukin-1 Receptor Type-1 in Endothelial-to-Mesenchymal Activation) (08/2023).

Featured speaker at the regional "5th Annual Gulf Coast Vascular Research Consortium". Hosted by Texas A&M, College Station, TX (The Interleukin-1 Receptor Mechano-Signaling Roles) (08/2023)

Raising Star Session – Invited Lecture. 12th International Conference of NO & 22nd Annual Meeting of NOSJ, Redox week in Sendai, Japan. (10/2022).

Joined LSUHS - 2017

EDUCATION/TRAINING

PhD – University of Sheffield, UK

Post-Doctoral – LSU Health Shreveport

HONORS/AWARDS

British Atherosclerosis Society Young Investigator Award, 2020

ATVB Young Investigator Award, 2021

Young Investigator Award at GRC-Biomechanics 2023

AHA Career Development Award 2021-2024

COBRE-NIH/NIGMS Project Leader 2023-2026

SERVICE

Grant Review, American Heart Association (AHA) clinical and basic science: predoctoral/postdoctoral/ CDA.

Member of the ATVB Early Career Committee, ATVB Council of American Heart Association (AHA).

Liaison ATVB Women's Leadership Committee.

Chair: Membership Committee (NAVBO) 2023-2026.

Editorial Board, Arteriosclerosis, Thrombosis and Vascular Biology (ATVB). Digital Strategy Team co-editor.

Associate Editor, Heart Valve Disease, Frontiers in Cardiovascular Medicine.



Connie Arnold, PhD

Professor, Department of Medicine and Feist-Weiller Cancer Center
Chief, Division of Healthcare Disparities

connie.arnold@lsuhs.edu

CURRENT RESEARCH

As a health services researcher for the past 30 years, I have co-lead an interdisciplinary team investigating the impact of patient literacy on health and healthcare. I am Principal Investigator of a NIH-funded R01 (1 R01 CA240496- 01A1) to investigate health literacy intervention, shared decision-making strategy to overcome disparities in colorectal cancer screening in resource limited, rural community health clinics in North Louisiana. Along with Dr. Terry Davis, I have a productive record of federally funded research developing and implementing interventions to reduce disparities and improve health outcomes of vulnerable populations. Our wide-ranging work focuses on improving cancer screening in rural Federally Qualified Health Centers, self-management of diabetes in safety net settings and use of health coaches to facilitate weight loss in community clinics as well as developing strategies to improve medication adherence. We are the Health Literacy Principal Investigators for the NIH funded Louisiana Clinical and Translational Science Center (LA CaTS), where provide training statewide in communicating understandable and useful information to patients and the public, an unprecedented collaborative effort among eleven academic institutions in Louisiana.

SELECTED PUBLICATIONS

Davis TC, Beyl R, Bhuiyan MAN, Davis AB, Vanchiere JA, Wolf MS, **Arnold CL**. COVID-19 Concerns, Vaccine Acceptance and Trusted Sources of Information among Patients Cared for in a Safety-Net Health System. *Vaccines*. 2022; 10(6):928. <https://doi.org/10.3390/vaccines10060928>. PMID: 35746535; PMCID: PMC9227546

Davis TC, Morris JD, Reed EH, Curtis LM, Wolf MS, Davis AB, **Arnold CL**. Design of a randomized controlled trial to assess the comparative effectiveness of a multifaceted intervention to improve three-year adherence to colorectal cancer screening among patients cared for in rural community health centers. *Contemporary Clinical Trials*, 2022 Feb;113:106654. doi: 10.1016/j.cct.2021.106654. Epub 2021 Dec 11. PMID: 34906745; PMCID: PMC8844093.

Höchsmann C, Dorling J, Martin CK, Newton Jr. RL, Apolzan JW, Myers CA, Denstel KD, Mire EF, Johnson WD, Zhang D, Stat MA, **Arnold CL**, Davis TC, Fonseca V, Lavie CJ, Price-Haywood EG. Effects of a 2-Year Primary Care Lifestyle Intervention on Cardiometabolic Risk Factors: A Cluster-Randomized Trial. *Circulation* 2021; 143:00–00. DOI: 10.1161/CIRCULATIONAHA.120.051328

-Myers C, Martin C, Apolzan J, **Arnold C**, Davis T, Johnson W, Katzmarzyk P. Food Insecurity and Weight Loss in an Underserved Primary Care Population: A Post-hoc Analysis of a Cluster-Randomized Trial. *Annals of Internal Medicine*. 2021 Mar 9. doi: 10.7326/M20-6326. Epub ahead of print. PMID: 33683931.

Davis T, Singh J, Lance JG, Latiolais L, Kevil C, Yurochko A, Bodily J, Sapp M, Scott R, Weinberger P, Vanchiere J and **Arnold C**. COVID-19 Community Testing in Rural Areas: A Partnership between an Academic Medical Center and Community Clinics. *Journal of Community Medicine & Health Education*. 2020;10(4):1-2.

Katzmarzyk PT, Martin CK, Newton, Jr. RL, Apolzan JW, **Arnold CL**, Davis TC, et al. Two-Year Weight Loss in an Underserved Primary Care Population: A Cluster- Randomized Trial. *New England Journal of Medicine*. 2020 Sept 3. 383:909-918. DOI: 10.1056/NEJMoa2007448.

Arnold CL, Rademaker A., Morris J., Wiltz G., Ferguson L.A., and T.C. Davis. (2019) Follow-up Approaches to a Health Literacy Intervention to Increase Colorectal Cancer Screening in Rural Community Clinics: A Randomized Control Trial. *Cancer*. 2019 125(20):3615-3622

Joined LSUHS - 1992

EDUCATION/TRAINING

BS – LA Tech University

MS – Texas A&M University

PhD – Texas A&M University

HONORS/AWARDS

Excellence in Extramural Research, Office of Research – LSU Health Shreveport

Selected to Serve on Governor's COVID-19 Inequity Task Force

Invited member, LA DHHS. Take Aim at Cancer in Louisiana Initiative Clinical Committee on Breast and Colon Cancer

American Cancer Society Champion of Hope

Invited faculty of the Principles and Practice of Cancer Prevention and Control Course, part of the National Cancer Institute Summer Curriculum in Cancer Prevention

Southern American Federation for Clinical Research/Southern Society for Clinical Investigation Student Research Award

REVIEW PANELS

NIH, Scientific Review Panel

American Cancer Society, Cancer Prevention and Control, Scientific Panel Review

HRSA, Scientific Review Panel



Md. Shenuarin Bhuiyan, PhD

Associate Professor

Division for Pathology and Translational Pathobiology

shenu.bhuiyan@lsuhs.edu

CURRENT RESEARCH

I have an NIH R01 funded established laboratory to understand the regulatory mechanism of cardiac lipid metabolism under metabolic stress condition using integrated molecular, genetic and functional approaches in genetically modified mice. My overarching research goal is to elucidate novel physiological functions of the Sigma-1 receptor (Sigmar1) in the heart and to discover its molecular functions during adverse cardiac remodeling and failure. My laboratory has the expertise in working with cardiovascular biology and equipped with all the techniques and skills necessary to measure all aspects of molecular cardiovascular biology need to study cardiomyopathy, and genetic models of heart failure including cardiac functional analysis such as echocardiography, invasive hemodynamics, and blood pressure measurements.

SELECTED PUBLICATIONS

Abdullah CS, Aishwarya R, Alam S, Morshed M, Remex NS, Nitu S, Kolluru GK, Traylor J, Miriyala S, Panchatcharam M, Hartman B, King J, Bhuiyan MAN, Chandran S, Woolard MD, Yu X, Goeders NE, Dominic P, Arnold CL, Stokes K, Kevil CG, Orr AW, **Bhuiyan MS**. Methamphetamine induces cardiomyopathy by Sigmar1 inhibition dependent impairment of mitochondrial dynamics and function. *Commun Biol* 2020 Nov 17;3(1):682.

Abdullah CS, Priyanka R, Alam S, Richa A, Morshed M, Nitu SS, **Bhuiyan MS***, Quadir M*. Chemical Architecture of Block Copolymers Differentially Abrogate Cardiotoxicity and Maintain Anticancer Efficacy of Doxorubicin. *Mol Pharm*. 2020 Nov 5; doi: 10.1021/acs.molpharmaceut.0c00963. PMID: 33151075. * Corresponding author

Alam S, Abdullah CS, Richa A, Morshed M, Nitu SS, Miriyala S, Panchatcharam M, Kevil CG, Orr WA, **Bhuiyan MS**. Dysfunctional mitochondrial dynamic and oxidative phosphorylation precedes cardiac dysfunction in R120G- α B-crystallin induced desmin-related cardiomyopathy. *J Am Heart Assoc*. 2020;9: e017195.

Richa A, Alam S, Abdullah CS, Morshed M, Nitu SS, Panchatcharam M, Miriyala S, Kevil CG, **Bhuiyan MS**. Pleiotropic effects of mdivi-1 in altering mitochondrial dynamics, respiration, and autophagy in cardiomyocytes. *Redox Biol*. 2020 Jul 26; 36:101660.

Abdullah CS, Alam S, Aishwarya T, Miriyala S, Bhuiyan MAN, Panchatcharam M, Pattillo CB, Orr AW, Sadoshima J, Hill JA, **Bhuiyan MS**. Doxorubicin-induced cardiomyopathy associated with inhibition of autophagic degradation process and defects in mitochondrial respiration. *Sci Rep*. 2019 Feb 14;9(1):2002. doi: 10.1038/s41598-018-37862-3.

Abdullah CS, Alam S, Aishwarya T, Miriyala S, Panchatcharam M, Bhuiyan MAN, Peretik JM, Orr AW, James J, Osinska H, Robbins J, Lorenz JN, **Bhuiyan MS**. Cardiac dysfunction in the Sigmar1 knockout mouse associated with impaired mitochondrial dynamics and bioenergetics. *J Am Heart Assoc*. 2018;7: e009775

Alam S, Abdullah CS, Aishwarya T, Miriyala S, Panchatcharam M, Peretik JM, Orr AW, James J, Robbins J, **Bhuiyan MS**. Aberrant mitochondrial fission is maladaptive in Desmin mutation-induced cardiac proteotoxicity. *J Am Heart Assoc*. 2018;7:e009289.

Bhuiyan MS, McLendon P, James J, Osinska H, Gulick J, Bhandary B, Lorenz JN, Robbins J. In vivo definition of cardiac myosin-binding protein C's critical interactions with myosin. *Pflugers Arch* 2016;468 (10):685–1695.

Bhuiyan MS, Pattison JS, Osinska H, James J, Gulick J, McLendon PM, Hill JA, Sadoshima J, Robbins J. Enhanced autophagy ameliorates cardiac proteinopathy. *J Clin Invest* 2013;123(12):5284-97.

Bhuiyan MS, Gulick J, Osinska H, Gupta M, Robbins J. Determination of the critical residues responsible for cardiac myosin binding protein C's interactions. *J Mol Cell Cardiol*. 2012;53(6):838-847.

Joined LSUHS - 2015

EDUCATION/TRAINING

B. Pharm – University of Dhaka

M.Sc. – Tohoku University

PhD – Tohoku University

Post-Doctoral – Cincinnati Children's Hospital

HONORS/AWARDS

APS Cardiovascular Section New Investigator Award

APS Award Committee Member

K99/R00 NIH/NHLBI Award

The Richard J. Bing Award-Young Investigators (Finalist)

Mechanisms of Vasodilation and NO Society of Japan-Young Investigators Award (Finalist)

Tohoku University President Award- Best Doctoral Student

Sikander Gold Medal- Best Bachelor Student (Faculty of Pharmacy)

Editorial Board- JMCC, Sci Rep, Frontiers Physiology, J Pharmacol Sci

HONORS/AWARDS TRAINEES

Chowdhury S Abdullah

APS-Cardiovascular Section Outstanding Trainee Awards-2021

AHA Postdoctoral Fellowship-2020

BCVS Abstract Travel Grant-2018

BCVS Travel Award-2018

ISHR Travel Award-2017



Mohammad Alfrad Nobel Bhuiyan, PhD

Assistant Professor

Department of Internal Medicine

nobel.bhuiyan@lsuhs.edu

CURRENT RESEARCH

My current research focus is on drug abuse and drug abuse related cardiovascular and cognitive dysfunction. My long-term research interests involve the development of theory and applications in different areas of statistics and working with applied biostatisticians and clinical investigators to ensure their use in real biomedical applications. I have also specialized in machine learning and its application to large environmental and clinical datasets.

SELECTED PUBLICATIONS

Thotamgari SR, Grewal US, **Bhuiyan MAN**, Zain A, Dominic P The Association of Cardiac Arrhythmias with Chimeric Antigen Receptor T-cell Therapy in Hospitalized Patients: Insights from National Inpatient Sample, *European Journal of Cancer*, July 2022.

Johnette M, Caroline ES, Jazzlynn T, Robert L, Timothy JM, Victor JAVQ, Pam Mc, Laura A, **Bhuiyan MAN**, James CP, Kevin SM, Social Media Use and Body Image Issues Among Adolescents in a Vulnerable Louisiana Community, *Frontiers in Psychiatry*, July 2022.

Thotamgari SR, Aakash RS, Javaria A, Danish B, Sindhu T, Akhilesh B, **Bhuiyan MAN** et al "Low Left Atrial Appendage Emptying Velocity is a Predictor of Atrial Fibrillation Recurrence After Catheter Ablation." *Journal of Cardiovascular Electrophysiology*. June, 2022.

Davis TC, Beyl R, **Bhuiyan MAN**, Davis AB, Vanchiere JA, Wolf MS, & Arnold CL, COVID-19 Concerns, Vaccine Acceptance and Trusted Sources of Information among Patients Cared for in a Safety-Net Health System. *Vaccines*, 2022, 10(6), 928.

Batra V, Kevin SM, Brianne K, Amber NE, Yahya G, Laura N, Murray P, **Bhuiyan MAN** et al. "Early onset cardiovascular disease related to methamphetamine use is most striking in individuals under 30: A retrospective chart review." *Addictive behaviors reports* (2022): 100435.

Shah AN, Erika R, **Bhuiyan MAN**, Wolfe C, Bosse D, Simmons JN, Shah SS, Brokamp C, and Beck AF "Using Geomarkers and Sociodemographics to Inform Assessment of Caregiver Adversity and Resilience." *Hospital Pediatrics* 12, no. 8 (2022): 689-695.

Davis TC, Curtis LM, Wolf MS, Vanchiere JA, **Bhuiyan MAN**, Horswell R, Batio S, and Arnold CL "COVID-19 Knowledge, Beliefs, and Behavior Among Patients in a Safety-Net Health System." *Journal of Community Health* 47, no. 3 (2022): 437-445.

Aishwarya R, Abdullah CS, Remex NS, Alam S, Morshed M, Nitu S, Hartman B, **Bhuiyan MAN** et al. "Molecular Characterization of Skeletal Muscle Dysfunction in Sigma 1 Receptor (Sigmar1) Knockout Mice." *The American Journal of Pathology* 192, no. 1 (2022): 160-177.

Bhuiyan MAN, Ryan P, Oroumyeh F, Jathan Y, Roy M, Balachandran S, & Brokamp C. Source-specific contributions of particulate matter to asthma-related pediatric emergency department utilization. *Health Information Science and Systems*, 2021, 9(1), 1-9.

Abdullah CS, Aishwarya R, Alam S, Remex NS, Morshed M, Nitu S, Miriyala S, **Bhuiyan MAN** et al. "The molecular role of Sigmar1 in regulating mitochondrial function through mitochondrial localization in cardiomyocytes." *Mitochondrion* 62 (2022): 159-175.

Abdullah CS, Aishwarya R, Alam S, Morshed M, Remex NS, Nitu S, Kolluru GK, Traylor J, Miriyala S, Panchatcharam M, Hartman B, King J, **Bhuiyan MAN**, Chandran S, Woolard MD, Yu X, Goeders NE, Dominic P, Arnold CL, Stokes K, Kevil CG, Orr AW, Bhuiyan MS. Methamphetamine induces cardiomyopathy by Sigmar1 inhibition dependent impairment of mitochondrial dynamics and function. *Commun Biol* 2020 Nov 17;3(1):682.

Abdullah CS, Alam S, Aishwarya T, Miriyala S, **Bhuiyan MAN**, Panchatcharam M, Pattillo CB, Orr AW, Sadoshima J, Hill JA, Bhuiyan MS. Doxorubicin-induced cardiomyopathy associated with inhibition of autophagic degradation process and defects in mitochondrial respiration. *Sci Rep*. 2019 Feb 14;9(1):2002. doi: 10.1038/s41598-018-37862-3.

Abdullah CS, Alam S, Aishwarya T, Miriyala S, Panchatcharam M, **Bhuiyan MAN**, Peretik JM, Orr AW, James J, Osinska H, Robbins J, Lorenz JN, Bhuiyan MS. Cardiac dysfunction in the Sigmar1 knockout mouse associated with impaired mitochondrial dynamics and bioenergetics. *J Am Heart Assoc*. 2018;7: e009775

Joined LSUHS - 2015

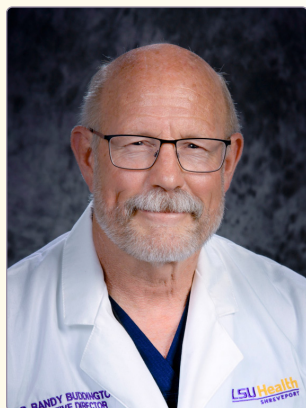
EDUCATION/TRAINING

B.Sc. – University of Dhaka

M.Sc. – University of Dhaka

M.Sc. – University of Cincinnati

PhD – University of Cincinnati



Randal K. Buddington, PhD

Professor, Department of Physiology

Executive Director, Stonewall Research Facility

randal.buddington@lsuhs.edu

CURRENT RESEARCH

Dr. Buddington is a physiologist who uses an integrative approach to investigate the responses of organs and tissues to the influences of development, nutrition, diseases, and medical interventions. His current research seeks to understand the consequences of prematurity and reducing the toxicities of chemotherapeutic agents without reducing efficacies. Results from his laboratory are transforming the care of preterm infants and improving chemotherapy regimens for cancer patients. A key strength of the Buddington lab are the numerous collaborators, including clinicians and other healthcare personnel, basic scientists, and veterinarians. They bring diverse expertise that spans molecules to organisms.

SELECTED PUBLICATIONS (FROM OVER 200)

Ibarra M, Combs R, Taylor ZL, Ramsey LB, Mikkelsen T, **Buddington RK**, et al. Insights from a pharmacometric analysis of HDMTX in adults with cancer: Clinically relevant covariates for application in precision dosing. *Br J Clin Pharmacol*. 2022; Aug 23. doi: 10.1111/bcp.15506.

Buddington RK, Buddington KK, Howard SC. Multiple Asparaginase Infusions Cause Increasingly Severe Acute Hyperammonemia. *Med Sci (Basel)*. 2022; Aug 12;10(3):43. doi: 10.3390/medsci10030043.

Peixoto-Neves D, Kanthakumar P, Afolabi JM, Soni H, **Buddington RK**, Adebisi A. KV7.1 channel blockade inhibits neonatal renal autoregulation triggered by a step decrease in arterial pressure. *Am J Physiol Renal Physiol*. 2022; 322(2): F197-F207. doi: 10.1152/ajprenal.00568.2020. Epub 2022 Jan 10.

Krishnan R, Arrindell EL Jr, Frank C, Jie Z, **Buddington RK**. Intratracheal Keratinocyte Growth Factor Enhances Surfactant Protein B Expression in Mechanically Ventilated Preterm Pigs. *Front Pediatr*. 2021 Sep 28; 9:722497. doi: 10.3389/fped.2021.722497.

Matthews AT, Soni H, Robinson-Freeman KE, John TA, **Buddington RK**, Adebisi A. Doxorubicin-Induced Fetal Mesangial Cell Death Occurs Independently of TRPC6 Channel Upregulation but Involves Mitochondrial Generation of Reactive Oxygen Species. *Int J Mol Sci*. 2021 Jul 15;22(14):7589. doi: 10.3390/ijms22147589.

Buddington RK, Yakimkova T, Adebisi A, et al. Organ Growth and Intestinal Functions of Preterm Pigs Fed Low and High Protein Formulas with or Without Supplemental Leucine or Hydroxymethylbutyrate as Growth Promoters. *Front Nutr*. 2021 Jun 4; 8:687703. doi: 10.3389/fnut.2021.687703.

Buddington RK, Wong T, Howard SC. Paracellular Filtration Secretion Driven by Mechanical Force Contributes to Small Intestinal Fluid Dynamics. *Med Sci (Basel)*. 2021 Feb 9;9(1):9. doi: 10.3390/medsci9010009.

Iskusnykh IY, Fattakhov N, **Buddington RK**, Chizhikov VV. Intrauterine growth restriction compromises cerebellar development by affecting radial migration of granule cells via the JamC/Pard3a molecular pathway. *Exp Neurol*. 2021 Feb; 336:113537. doi: 10.1016/j.expneurol.2020.113537.

Chizhikov D, **Buddington RK**, Iskusnykh IY. Effects of Phosphatidylserine Source of Docosahexaenoic Acid on Cerebellar Development in Preterm Pigs. *Brain Sci*. 2020 Jul 23;10(8):475. doi: 10.3390/brainsci10080475.

Joined LSUHS - 2021

EDUCATION/TRAINING

BS – University of California, Riverside

MS – Arizona State University, Tempe

PhD – University of California, Davis

Post-Doctoral – UCLA

SERVICE/HONORS

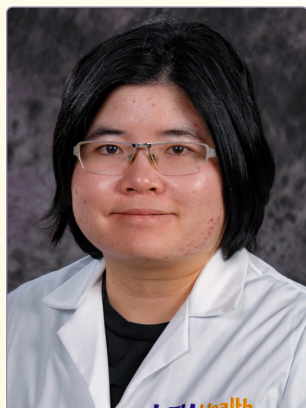
Excellence in Teaching, College of Education and Health Sciences, University of Memphis

Excellence in Research, College of Education, University of Memphis

Velux visiting professor, The Royal Veterinary and Agricultural University, Copenhagen, Denmark

Editorial Board, Frontiers Nutrition

Associate Member, Aquaculture Protein Center, Ås, Norway



Joined LSUHS - 2020

EDUCATION/TRAINING

MD – Siriraj Hospital, Mahidol University, Thailand

MPH – Harvard T.H. Chan School of Public Health

Internal Medicine Residency – Advocate Illinois Masonic Medical Center

Pulmonary and Critical Care Fellowship - SUNY Downstate Medical Center

Heart-Lung and Lung Transplant Fellowship – Stanford University Medical Center

Prangthip Charoenpong, MD, MPH

Assistant Professor, Department of Internal Medicine

Division of Pulmonary and Critical Care Medicine

prangthip.charoenpong@lsuhs.edu

CURRENT RESEARCH

My clinical focus is on pulmonary hypertension, interstitial lung disease, and lung transplant. I am interested in clinical outcomes and risk factors for mortality of pulmonary arterial hypertension in systemic sclerosis patients, modified by ethnicity/sex as there is limited data suggesting different outcomes and different responses to targeted therapy of PAH. My current research project focuses on mechanism of estrogen paradox in methamphetamine associated pulmonary arterial hypertension (PAH) in binge and crash animal model and to study the effect and mechanism of methamphetamine on pulmonary circulation and right ventricle, modified by sex.

SELECTED PUBLICATIONS

Taweedsed P, Lertjitbanjong P, Eksombatchai D, **Charoenpong P**, Moua T, Thongprayoon C, Tangpanithandee S, Petnak T. Impact of Antifibrotic Treatment on Postoperative Complications in Patients with Interstitial Lung Diseases Undergoing Lung Transplantation: A Systematic Review and Meta-Analysis. *J Clin Med*. 2023 Jan 13;12(2):655. doi: 10.3390/jcm12020655. PMID: 36675583; PMCID: PMC9865259.

Siddiqui NA, **Charoenpong P**. Pulmonary Veno-Occlusive Disease. 2023 Jul 31. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2023 Jan–. PMID: 36256776.

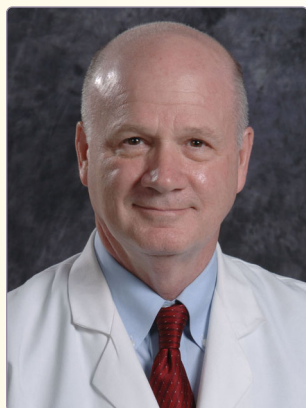
Mudigonda GR, Holladay R, **Charoenpong P**. Disparities in the Pre-Lung Transplantation Process for Rural Patients at a Nontransplantation Center. *Chest*. 2023 Jul 19: S0012-3692(23)01033-4. doi: 10.1016/j.chest.2023.07.010. Epub ahead of print. PMID: 37473859.

Ungprasert P, **Charoenpong P**, Ratanasrimetha P, Thongprayoon C, Cheungpasitporn W, Suksaranjit P. Risk of coronary artery disease in patients with systemic sclerosis: a systematic review and meta-analysis. *Clin Rheumatol*. 2014 Aug;33(8):1099-104. doi: 10.1007/s10067-014-2681-4. Epub 2014 May 25. PMID: 24859783.

Ungprasert P, Srivalli N, Wijarnpreecha K, **Charoenpong P**, Knight EL. Non-steroidal anti-inflammatory drugs and risk of venous thromboembolism: a systematic review and meta-analysis. *Rheumatology (Oxford)*. 2015 Apr;54(4):736-42. doi: 10.1093/rheumatology/keu408. Epub 2014 Sep 24. PMID: 25252703.

Mahatanan R, Tantisattamo E, **Charoenpong P**, Ferrey A. Outcomes of C difficile infection in solid-organ transplant recipients: The National Inpatient Sample (NIS) 2015-2016. *Transpl Infect Dis*. 2021 Feb;23(1): e13459. doi: 10.1111/tid.13459. Epub 2020 Sep 18. PMID: 32894617.

Martínez-Lapiscina EH, Mahatanan R, Lee CH, **Charoenpong P**, Hong JP. Associations of serum 25(OH) vitamin D levels with clinical and radiological outcomes in multiple sclerosis, a systematic review and meta-analysis. *J Neurol Sci*. 2020 Apr 15; 411:116668. doi: 10.1016/j.jns.2020.116668. Epub 2020 Jan 25. PMID: 32004798.



Steven A. Conrad, MD PhD

Professor, Departments of Medicine, Emergency Medicine, Pediatrics, Surgery, and Biochemistry and Molecular Biology
Ike Muslow, MD Endowed Chair in Healthcare Informatics
Vice Chair for Research, Department of Medicine
Director, Division of Clinical Informatics, Department of Medicine
steven.conrad@lsuhs.edu

Joined LSUHS - 1986

EDUCATION/TRAINING

BS – University of Louisiana, Lafayette
 MD – LSU Health Shreveport
 MS – Case Western Reserve University
 MSE – Louisiana Tech University
 PhD – Case Western Reserve University
 MSST – Louisiana State University
 MBA – Louisiana State University
 MSc – University of Manchester
 Residency – LSU Health Shreveport
 Fellowship – Mayo Graduate School

SERVICE/HONORS

Master of Critical Care Medicine, American College of Critical Care Medicine
 Life Senior Member, Institute of Electrical and Electronics Engineers
 Excellence in Translational Research Award, LSUHS
 Section Editor, Clinical Critical Care, American Society of Artificial Internal Organs
 Distinguished Alumnus, Dept. of Biomedical Engineering, Louisiana Tech University
 Fellow, American Medical Informatics Association
 MD/PhD Supervisory Committee, LSUHS

CURRENT RESEARCH

Dr. Conrad's research is multidisciplinary. One area targets mass and momentum transport in artificial organs, with publications on oxygen transport in during cerebral vasospasm and blood recirculation during extracorporeal membrane oxygenation, with a current focus on finite element analysis of transport mechanisms during hemofiltration and hemodialysis. These research findings assist in operationalizing patient care procedures. The second area targets machine learning and predictive analytics, with a current focus on risk prediction of pulmonary embolism in patients presenting to the emergency department. The aims of this research are the identification of high-risk patients using artificial intelligence approaches. The third area is focused on the use of extracorporeal circulation for the treatment of sepsis, including plasma-based therapies, adsorption of infectious organisms, and adsorption of endotoxin during endotoxic shock.

SELECTED PUBLICATIONS

Conrad SA, Wang D: Evaluation of recirculation during venovenous extracorporeal membrane oxygenation using computational fluid dynamics incorporating fluid-structure interaction. *ASAIO J*, 2020.

Conrad SA, Broman LM, Taccone FS, Lorusso R, Malfertheiner MV, Pappalardo F, et al. The Extracorporeal Life Support Organization Maastricht Treaty for Nomenclature in Extracorporeal Life Support. A Position Paper of the Extracorporeal Life Support Organization. *Am J Respir Crit Care Med*, 2018;198(4):447-451.

Conrad SA, Rycus PT: Extracorporeal membrane oxygenation for refractory cardiac arrest. *Ann Card Anaesth* 2017;20, Suppl S1:4-10.

Conrad SA, Grier LR, Scott LK, Green R, Jordan M: Percutaneous cannulation for extracorporeal membrane oxygenation by intensivists. *Crit Care Med* 2015;43(5):1010-1015.

Vaira S, Friday E, Scott K, **Conrad S**, Turturro F: Wnt/ β -catenin signaling pathway and thioredoxin-interacting protein (TXNIP) mediate the "glucose sensor" mechanism in metastatic breast cancer derived cells MDA-MB-231. *J Cell Physiol*. 2012;227(2):578-86.

Chittiboina P, Guthikonda B, Wollblad C, **Conrad SA**: A computational simulation of the effect of hemodilution on oxygen transport in middle cerebral artery vasospasm. *J Cereb Blood Flow Metab* 2011;31(11):2209-17.

Ptitsyn A, Zvonik S, **Conrad SA**, Scott L, Mynatt R, Gimble J: Circadian Clocks are Resounding in Peripheral Tissues. *PLoS Computational Biology* 2006;2(3): e16

Conrad SA, Bidani A: Finite element mathematical model of fluid and solute transport in hemofiltration membranes. Proceedings of the *IEEE Engineering in Medicine and Biology Society*, Vol 1, pp. 423-426, 2003



Diana Cruz-Topete, PhD

Associate Professor, Department of Molecular and Cellular Physiology

diana.cruz@lsuhs.edu

CURRENT RESEARCH

Our current research is focused on understand the association between gender/sex, stress, and heart disease risk and outcomes during the aging process. Our long-term goal is to elucidate if mental stress is a major risk factor for cardiac disease and failure, in particular in women.

CARDIOVASCULAR PROJECTS

- Effects of mental stress on the severity of myocardial infarction in females (stress hormones inhibition of estrogen's cardioprotection)
- Long-term Effects of acute and chronic mental stress on pathological cardiac gene expression and function

OTHER PROJECTS

- Stress hormone receptors regulation of adipose tissue inflammation and its implications in metabolism
- Finding diagnostic and therapeutic targets for Adult and Pediatric NAFLD/ NASH

SELECTED PUBLICATIONS

Amatya S, Tietje-Mckinney D, Mueller S, Petrillo MG, Woolard MD, Bharrhan S, Orr AW, Kevil CG, Cidlowski JA, **Cruz-Topete D**. Adipocyte Glucocorticoid Receptor Inhibits Immune Regulatory Genes to Maintain Immune Cell Homeostasis in Adipose Tissue. *Endocrinology*. 2023 Sep 23;164(11): bqad143. doi: 10.1210/endocr/bqad143. PMID: 37738419; PMCID: PMC10558062.

Dhaibar HA, Kamberov L, Carroll NG, Amatya S, Cosic D, Gomez-Torres O, Vital S, Sivandzade F, Bhalerao A, Mancuso S, Shen X, Nam H, Orr AW, Dudenbostel T, Bailey SR, Kevil CG, Cucullo L, **Cruz-Topete D**. Exposure to Stress Alters Cardiac Gene Expression and Exacerbates Myocardial Ischemic Injury in the Female Murine Heart. *Int J Mol Sci*. 2023 Jul 1;24(13):10994. doi: 10.3390/ijms241310994. PMID: 37446174; PMCID: PMC10341935.

Gomez-Torres O, Amatya S, Kamberov L, Dhaibar HA, Khanna P, Rom O, Yurdagül A Jr, Orr AW, Nunez K, Thevenot P, Cohen A, Samant H, Alexander JS, Burgos-Ramos E, Chapa-Rodriguez A, **Cruz-Topete D**. SLAMF1 is expressed and secreted by hepatocytes and the liver in nonalcoholic fatty liver disease. *Am J Physiol Gastrointest Liver Physiol*. 2022 Sep 1;323(3):G177-G187. doi: 10.1152/ajpgi.00289.2021. Epub 2022 Jul 19. PMID: 35853010; PMCID: PMC9377786.

Dhaibar HA, Carroll NG, Amatya S, Kamberov L, Khanna P, Orr AW, Bailey SR, Oakley RH, Cidlowski JA, **Cruz-Topete D**. Glucocorticoid Inhibition of Estrogen Regulation of the Serotonin Receptor 2B in Cardiomyocytes Exacerbates Cell Death in Hypoxia/Reoxygenation Injury. *J Am Heart Assoc*. 2021 Sep 7;10(17):e015868. doi: 10.1161/JAHA.120.015868. Epub 2021 Sep 2. PMID: 34472367; PMCID: PMC8649237

Joined LSUHS - 2016

EDUCATION/TRAINING

BS – University of Las Americas-Puebla

PhD – University of Notre Dame

Post-Doctoral – Ohio University and National Institute of Environmental Health Sciences

HONORS/AWARDS

Member, Trainee and Career Development Core Committee - Endocrine Society.

Grant Review, American Heart Association, Graduate Women in Science

Editorial board, Biomedicine & Pharmacotherapy

HONORS/AWARDS TRAINEES

Diana Cruz-Topete, selected to participate in the NASA STAR Program 2023-2024



Terry Davis, PhD

Professor, Departments of Medicine, Pediatrics and
Feist-Weiller Cancer Center
Co-chair, Section of Health Disparities

terry.davis@lsuhs.edu

Joined LSUHS - 1980

EDUCATION/TRAINING

BA – Emory University
MA – LSU - New Orleans
PhD – The Fielding Institute

NATIONAL LEADERSHIP

National Academy of Medicine, Health Literacy
Roundtable
Healthy People 2020, Health Literacy/Health
Communication Section
US Pharmacopeial Convention, Expert Panel
on Health Literacy
Health Literacy Advisory Boards, AMA
and American College of Physicians FDA, Drug
Safety and Risk management Committee

HONORS/AWARDS

NINR Strategic Plan Working Group
Excellence in Extramural Research, LSUHS
Doak Health Literacy Champion Award
Allen A. Copping Excellence in Teaching Award
Significant Achievement in Public Health
Research, LA Public Health Assoc.
W.H.O. Innovative Practice Award for
Childhood Vaccine Communication Package
Pfizer Visiting Professor in Health Literacy

- University of New Mexico
- Cincinnati Children's Hospital
- Baylor School of Medicine

REVIEW PANELS

NIH Stage 1 Reviewer, Challenge Grants in
Health Science Research
NIH Study Section, Scientific Review Panel
National Research Council, Reviewer
Office of Women's Health, Scientific Review
Panel

CURRENT RESEARCH

My research focuses on the impact of Health Literacy on health and healthcare. Seminal achievements include the development of the Rapid Estimate of Adult Literacy in Medicine (REALM) and creation of user-friendly patient education and provider training materials that are used nationally. Along with Dr. Connie Arnold, I have a productive record of federally funded research to reduce disparities and improve health outcomes of vulnerable populations. Our wide-ranging work focuses on improving cancer screening in rural Federally Qualified Health Centers, self-management of diabetes in safety net settings and use of health coaches to facilitate weight loss in community clinics, as well as developing strategies to improve medication adherence. We are the Health Literacy Principal Investigators for the NIH funded Louisiana Clinical and Translational Science Center (LACaTS), where we provide training statewide in communicating understandable and useful information to patients and the public. We founded the N Louisiana /LSUHS Research Community Advisory Board and were appointed to serve on the Governor's COVID-19 Health Equity Task Force. Our current research includes assessing low-income patients' concerns and acceptance of COVID-19 and Influenza vaccines.

SELECTED PUBLICATIONS

Craig L, Sarpong D, Peacock E, Theall K, Williams L, Al-Dahir S, **Davis TC**, Arnold C, Williams A, Fields T, Wilson M, Krousel-Wood M. Using community feedback to inform strategies for inclusive participation in research: Lessons learned from the Louisiana Community Engagement Alliance (LA-CEAL). *Am J Public Health*. 2023. <https://ajph.aphapublications.org/doi/abs/10.2105/AJPH.2023.307457>

Peacock E, Craig LS, Wilson M, Williams L, Dhair SA, Tang W, Cyprian A, Dery MA, Gilliam D, Nguyen D, Smith K, Valliere M, Williams S, Wiltz G, Winfrey K, **Davis TC**, Arnold C, Theall K, Sarpong D, Krousel-Wood M. COVID-19 vaccination likelihood among federally qualified health center patients: Lessons learned for future health crises. *Am J Med Sci*. 2023, In Press. <https://doi.org/10.1016/j.amjms.2023.07.013>

Höchsmann C, Martin CK, Apolzan JW, Dorling JL, Newton R Jr., Denstel KD, Mire EF, Johnson WD, Zhang D, Arnold CL, **Davis TC**, Fonesca V, Thethi TK, Lavie CJ, Springgate B, Katzmarzyk PT. Initial weight loss and adherence as predictors of long-term weight loss during the 2-year PROPEL lifestyle intervention. *J Obes*. 2023; 31: 2272-2282. <https://doi.org/10.1002/oby.23854>

Craig L, Sarpong D, Peacock E, Theall K, Williams L, Al-Dahir S, **Davis TC**, Arnold C, Williams A, Fields T, Wilson M, Krousel-Wood M. Clinical trial participation among underserved communities: Insights from the Louisiana Community Engagement Alliance. *Am J Med Sci*. 2023, In Press. <https://doi.org/10.1016/j.amjms.2023.07.011>. PMID: 37517691

Apolzan JW, Martin CK, Netwon Jr RL, Myers CA, Arnold CL, **Davis TC**, Johnson WD, Zhang D, Höchsmann C, Fonseca VA, Denstel KD, Mire EF, Springgate BF, Lavie CJ, Katzmarzyk PT, PROPEL Research Group. Dietary intake and weight loss during a pragmatic weight loss trial in an underserved population in primary care. *Nutr J*. 2023; 22(38). <https://doi.org/10.1186/s12937-023-00864-7>. PMID: 37528391

Price-Haywood EG, Arnold C, Harden-Barrios J, **Davis TC**. Stop the divide: Facilitators and barriers to uptake of digital health interventions among socially disadvantaged populations. *Ochsner J*. 2023; 23(1):34-42. <https://doi.org/10.31486%2Ftoj.22.0101>. PMID: 36936477; PMCID: PMC10016217.

Baldwin WM, Dayton RD, Bivins AW, Scott RS, Yurochko AD, Vanchiere JA, **Davis TC**, Arnold CL, Asuncion JET, Bhuiyan MAN, Snead B, Daniel W, Smith DG, Goeders NE, Kevil CG, Carroll J, Murnane KS. Highly socially vulnerable communities exhibit disproportionately increased viral loads as measured in community wastewater. *Environ Res*. 2023; 222:115351. <https://doi.org/10.1016/j.envres.2023.115351>. PMID: 36709030; PMCID: PMC9877155.

Bhuiyan MAN, **Davis TC**, Arnold CL, Motayar N, Bhuiyan MS, Smith DG, Murnane KS, Densmore K, van Diest M, Bailey SR, Kevil CG. Using the social vulnerability index to assess COVID-19 vaccine uptake in Louisiana. *GeoJournal*. 2022; 88(3):3239–3248. <https://doi.org/10.1007/s10708-022-10802-5>. PMID: 36531533; PMCID: PMC9734623

Davis TC, Vanchiere JA, Sewell MR, Davis AB, Wolf MS, Arnold CL. Influenza and COVID-19 vaccine concerns and uptake among patients cared for in a safety-net health system. *J Prim Care Community Health*. 2022; 13:1-6 <https://doi.org/10.1177%2F21501319221136361>. PMID: 36448443; PMCID: PMC9716187.



Nirav Dhanesha, PhD

Assistant Professor, Department of Pathology and Translational Pathobiology

nirav.dhanesha@lsuhs.edu

CURRENT RESEARCH

I am a pharmacologist with long-term research goals to elucidate the mechanistic basis for thrombo-inflammation and to develop safe and effective therapeutic strategies for the treatment of acute ischemic stroke and venous thromboembolism. I am engaged in active research for the past 14 years to develop expertise in the areas of cardiovascular and cerebrovascular disorders. My lab applies a multidisciplinary approach in stroke and thrombosis research, combining data from human samples, in vitro assay and preclinical models of stroke, venous and arterial thrombosis. Current focus of the lab includes understanding of the mechanistic role of neutrophil integrin $\alpha 9\beta 1$ in the pathogenesis of venous thrombosis in the setting of stroke and obesity.

SELECTED PUBLICATIONS

Dhanesha N, Patel RK, Jain M, Kumskova M, Thedens D, Olalde H, Doddapattar P, Leira EC and Chauhan AK. Pyruvate kinase M2 regulates Neutrophil Hyperactivation and promotes Cerebral Thrombo-inflammation: Therapeutic Implications for Acute Ischemic Stroke. *Blood*. 2022 Feb 24;139(8):1234-1245

Dhanesha N, Jain M, Doddapattar P, Undas A, Chauhan AK. Cellular fibronectin promotes deep vein thrombosis in diet-induced obese mice. *J Thromb Haemost*. 2021 Mar;19(3):814-821.

Dhanesha N, Jain M, Tripathi AK, Doddapattar P, Chorawala M, Bathla G, Nayak MK, Ghatge M, Lentz SR, Kon S, Chauhan AK. Targeting Myeloid-Specific Integrin $\alpha 9\beta 1$ Improves Short- and Long- Term Stroke Outcomes in Murine Models with Preexisting Comorbidities by Limiting Thrombosis and Inflammation. *Circ Res*. 2020 Jun 5;126(12):1779-1794.

Dhanesha N, Schnell T, Rahmatalla S, DeShaw J, Thedens D, Parker BM, Zimmerman MB, Pieper AA, Chauhan AK, Leira EC. Low-Frequency Vibrations Enhance Thrombolytic Therapy and Improve Stroke Outcomes. *Stroke*. 2020 Jun;51(6):1855-1861.

Dhanesha N, Nayak MK, Doddapattar P, Jain M, Flora GD, Kon S, Chauhan AK. Targeting myeloid-cell specific integrin $\alpha 9\beta 1$ inhibits arterial thrombosis in mice. *Blood*. 2020 Mar 12;135(11):857- 861.

Dhanesha N, Chorawala MR, Jain M, Bhalla A, Thedens D, Nayak M, Doddapattar P, Chauhan AK. Fn-EDA (Fibronectin Containing Extra Domain A) in the Plasma, but Not Endothelial Cells, Exacerbates Stroke Outcome by Promoting Thrombo-Inflammation. *Stroke*. 2019 May;50(5):1201-1209.

Dhanesha N, Ahmad A, Prakash P, Doddapattar P, Lentz SR, Chauhan AK. Genetic Ablation of Extra Domain A of Fibronectin in Hypercholesterolemic Mice Improves Stroke Outcome by Reducing Thrombo-Inflammation. *Circulation*. 2015 Dec 8;132(23):2237-47.

Dhanesha N, Prakash P, Doddapattar P, Khanna I, Pollpeter MJ, Nayak MK, Staber JM, Chauhan AK. Endothelial Cell-Derived von Willebrand Factor Is the Major Determinant That Mediates von Willebrand Factor-Dependent Acute Ischemic Stroke by Promoting Postischemic Thrombo- Inflammation. *Arterioscler Thromb Vasc Biol*. 2016 Sep;36(9):1829-37.

Joined LSUHS - 2022

EDUCATION/TRAINING

B.Pharm – North Gujarat University, India

M.Pharm – Gujarat University, India.

PhD – KSV University and Zydus Research Center, India

Post-Doctoral – University of Iowa

HONORS/AWARDS

AHA Postdoctoral Fellowship, 2016-2018

ASH Scholar Award, 2019-2022

AHA Career Development Award, 2021-2024

Junior Investigator Award, Int. Stroke Conference, 2017

Kenneth M. Brinkhous Young Investigator Prize in Thrombosis from ATVB: Finalist, 2020.

ASH Abstract Achievement Award, 2015

Best Student of the Year, 2005

SERVICE

Editorial Board, Thrombosis Update

Review Editor, Frontiers in Cardiovascular Medicine, Frontiers in Endocrinology, and Frontiers in Public Health

Member: American Heart Association, American Society of Hematology



Elizabeth Disbrow, PhD
Professor, Department of Neurology
Director, Center for Brain Health
elizabeth.disbrow@lsuhs.edu

Joined LSUHS - 2013

EDUCATION/TRAINING

BS – University of California Davis

MS – California State University Sacramento

PhD – University of California, Davis

Postdoctoral Fellow – University of California, San Francisco

HONORS/AWARDS

President, Society for Neuroscience

HONORS/AWARDS TRAINEES

Brianna Callicoatte, a student in the Cardiovascular Undergraduate Research Initiative for Underrepresented Students (CURIOUS) program, won 2nd place and became a national conference qualifier with her project titled “Vascular contributions to processing speed deficits in Alzheimer’s and Parkinson’s disease.”

CURRENT RESEARCH

My work focuses on cognitive deficits in human age-related neurodegenerative disease. In Alzheimer’s disease, we recently reported that cognitive deficits were strongly correlated with disturbances in redox biology, specifically dysregulated sulfide metabolism. We are currently evaluating the efficacy of plasma sulfides as biomarkers of the vascular contribution to Alzheimer’s disease. In the community we have launched our new dementia resource center called “The Bridge.” It is a “one-stop shop” for patients and families struggling with dementia. In collaboration with a local non-profit call the Alzheimer’s and Dementia Resource Center, we provide support groups, education, social events, care navigation and access to research trials.

SELECTED PUBLICATIONS

Disbrow EA, Stokes KY, Ledbetter C, Patterson J, Kelley R, Reekes T, Larmeu L., Batra V, Cvek U, Trutschl M, Kilgore P, Alexander JS, Kevil CG. (2021). Plasma Hydrogen Sulfide Bioavailability is a biomarker of Cognitive Function in Alzheimer’s disease and Related Dementias. *Alzheimer’s & Dementia*. doi.org/10.1002/alz.12305

Pereira C, LaRoche A, Arredondo B, Pugh E, **Disbrow E**, Reekes T, Brickell E, Boettcher A, Sawyer RJ. (2022). Evaluating racial disparities in healthcare system utilization and caregiver burden among older adults with dementia. The Clinical Neuropsychologist - Black Lives Matter special issue. *Clin Neuropsychol*. Feb;36(2):353-366. doi: 10.1080/13854046.2021.1951844

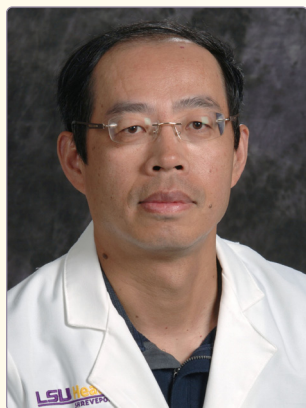
Disbrow EA, Glassy N, Dressler EM, Franz EA, Turner R, Ventura MI, Hinkley L, Sigvardt KA. (2022). Cortical Oscillatory Dysfunction in Early Parkinson Disease During Movement Activation and Inhibition. *PLoS One*. 2022; 17(3): e0257711. Published online 2022 Mar 4. doi: 10.1371/journal.pone.0257711

Skidmore FM, Monroe WS, Hurt CP, Nicholas AP, Gerstenecker A, Anthony T, Jololian L, Cutter G, Bashir A, Denny T, Standaert D, **Disbrow EA** (2022). *NPJ Parkinsons Dis*. 2022; 8: 28. Published online 2022 Mar 18. doi: 10.1038/s41531-022-00287-x

ABSTRACTS

Reekes, T., Ledbetter, C., Stokes, K., Alexander, J., Bhuiyan, M., Pardue, S., Kevil, C., **Disbrow, E**. “Plasma sulfide dysregulation is associated with decreased white matter integrity.” Poster presented at International Society for Neurovascular Disease, New York, NY. 2022

Reekes, T., Ledbetter, C., Stokes, K., Alexander, J., Pardue, S., Kevil, C., **Disbrow, E**. “Elevated acid labile sulfide is associated with reduced general cognitive function.” Poster presented at Society for Neuroscience annual meeting, San Diego, CA. 2022



Yufeng Dong, MD, PhD

Associate Professor, Director of Translational Research,
Department of Orthopaedic Surgery

yufeng.dong@lsuhs.edu

CURRENT RESEARCH

My research interests include:

1. The molecular and cellular events underlying stem cell differentiation that leads to skeletal tissue regeneration, including Notch, Wnt and TGF beta signaling.
2. The molecular mechanism underlying human osteoarthritis.
3. An emphasis on challenging clinical problems and translational solutions, including stem cell-based cartilage, bone defect and fracture repair. Work from my group have identified a critical role for the Notch signaling in the regulation of angiogenesis and stem cell osteogenic differentiation during skeletal tissue development and regeneration.

SELECTED PUBLICATIONS

Sheppard AJ, Barfield AM, Barton S, **Dong Y**. Understanding Reactive Oxygen Species in Bone Regeneration: A Glance at Potential Therapeutics and Bioengineering Applications. *Front Bioeng Biotechnol*. 2022; 10:836764. doi: 10.3389/fbioe.2022.836764. eCollection 2022. Review. PubMed PMID: 35198545; PubMed Central PMCID: PMC8859442.

Wang G, Yan J, Zhang H, Massey P, Alexander JS, Kevil CG, Barton S, **Dong Y**. Transient activation of notch signaling enhances endogenous stromal cell expansion and subsequent bone defect repair. *J Orthop Translat*. 2021 Nov; 31:26-32. doi: 10.1016/j.jot.2021.09.007. eCollection 2021 Nov. PubMed PMID: 34760622; PubMed Central PMCID: PMC8554104.

Xu Y, Tian Y, Tong D, Zhang H, Luo Z, Shang X and **Dong Y**. (2020) Wnt Signaling Inhibits High-Density Cell Sheet Culture Induced Mesenchymal Stromal Cell Aging by Targeting Cell Cycle Inhibitor p27. *Front. Bioeng. Biotechnol*. 8:946. doi: 10.3389/fbioe.2020.00946

Luo Z, Shang X, Wang G, Zhang H, Massey P, Barton S, Kevil CG, **Dong Y**. (2019) Notch signaling in osteogenesis, osteoclastogenesis, and angiogenesis. *American Journal of Pathology*. 189(8):1495-1500. PubMed PMID: 31345466; PubMed Central PMCID: PMC6699068.

Sun J, Luo Z, Wang G, Wang Y, Wang Y, Olmedo M, Morandi MM, Barton S, Kevil CG, Shu B, Shang X, **Dong Y**. (2018) Notch ligand Jagged1 promotes mesenchymal stromal cell-based cartilage repair. *Experimental & Molecular Medicine*. 50 (9): 126. PMID: 30242147

Tian Y, Xu Y, Xue T, Chen L, Shi B, Shu B, Xie C, Max Morandi M, Jaebon T, Marymont JV, **Dong Y**. (2017) Notch activation enhances mesenchymal stem cell sheet osteogenic potential by inhibition of cellular senescence. *Cell death & disease*. PMID: 28151468

Dong Y, Long T, Wang C, Miranda AJ, Chen J, O'Keefe RJ, Hilton MJ. (2014) NOTCH-Mediated Maintenance and Expansion of Human Bone Marrow Stromal/Stem Cells: A Technology Designed for Orthopedic Regenerative Medicine. *Stem Cells Transl Med*. PMID: 25368376

Long T, Zhu Z, Awad H, Schwarz E, Hilton M, **Dong Y**. (2014) Mesenchymal stem cell sheets enhance structural allograft healing of critical-sized femoral defects in mice. *Biomaterials*. 35(9):2752-9. PMID: 24393269

Dong Y, Jesse A, Kohn A, Gunnell L, Honjo T, Zuscik M, O'Keefe R, Hilton M. (2010) RBPJK-dependent Notch signaling maintains and expends mesenchymal stem/progenitor cells during skeletal development. *Development*. 137(9):1461-71

Joined LSUHS - 2014

EDUCATION/TRAINING

BS – Weifang University

PhD – Shanghai Jiaotong University

Post-Doctoral – University of Rochester

HONORS/AWARDS

2011 Airlift Research Foundation Award

2013 Lonza Stem Cell Challenge Award

2016, 2021 Review Panel Member, Medical Research Councils UK

2014-2020 Review Panel Member, Department of Defense Congressionally Directed Medical Research Programs (CDMRP)

2016 Orthopedic Research and education Foundation Award

2019 Review Panel Member, NIH small business grant, ZRG1 MOSS D10

2019 Review Panel Member, NIH R15 grant, ZRG1 MOSS D82

2020 COVID-19 Intramural Award



Monica C. Gestal, PhD

Assistant Professor, Department of Microbiology and Immunology

monica.cartellegestal@lsuhs.edu

CURRENT RESEARCH

We are now investigating the role of two drivers of cardiovascular diseases. 1) Lipin-1, in collaboration with Dr. Woolard we have discovered that lipin-1 contributes to increase nasal cavity colonization. Now we are investigating the inflammatory environment that lipin-1 drives during infection and the role of infections in cardiovascular episodes. 2) Eosinophils, eosinophils significantly contribute to fibrosis. Interestingly, patients with eosinophilic esophagitis have been shown to present heart failure and with our mouse models we have observed that excess of eosinophils in blood lead to fibrotic tissue including heart. We are now utilizing Fulton index to evaluate the role of eosinophils in pulmonary hypertension in the presence and absence of inflammatory responses triggered by infection.

SELECTED PUBLICATIONS

Nicholas J. First, Katelyn M. Parrish, Amparo Martínez, África González-Fernández, Sushma Bharrham, Matthew Woolard, James B. McLachlan, Rona Scott, Jian Wang, and **Monica C. Gestal**. "Bordetella spp. block eosinophil recruitment to suppress the generation of early strong mucosal protection." *Cell Reports*. 2023 Oct 25;42(11):113294. PMID: 37883230. <http://doi:10.1016/j.celrep.2023.113294>.

-osé E. Villacís, Hugo G. Castelán-Sánchez, Jorge Rojas-Vargas, Ulises E. Rodríguez-Cruz, Viviana Albán, Jorge A. Reyes, Pablo M. Meza-Rodríguez, Sonia Dávila-Ramos, Fernando Villavicencio, Margarita Galarza and **Monica C. Gestal**. "Emergence of Raoultella ornithinolytica in human infections from different hospitals in Ecuador with OXA-48-producing resistance". *Front. Microbiol.* 14:1216008. PMID: 37692398. <http://doi:10.3389/fmicb.2023.1216008>

Keila Belhart, Federico Sisti, **Mónica C. Gestal**, Fernández Julieta# "Bordetella bronchiseptica diguanylate cyclase BdcB inhibits the type three secretion system and impacts the immune response". *Scientific Reports*. PMID: 37130958. <http://doi.org/10.1038/s41598-023-34106-x>

Antonio Guerrero Espejo, Sofia Tomas Dolls, **Monica C. Gestal**. "21 years of Wiskott-Aldrich syndrome in Spain: incidence, mortality, and gender bias" *Revista Clinica Espanola*. 25, March,2023. PMID: 36972730. <https://doi.org/10.1016/j.rceng.2023.03.004>.

Nicholas First, Jose Pedreira-Lopez, Manuel RFS Silvestre, Katie Parrish, Xiao-Hong Lu, **Monica C. Gestal**. "Bordetella spp. Utilize the Type 3 Secretion System to Manipulate the VIP/VPAC2 Signaling and Promote Colonization and Persistence of the three classical Bordetella in the Lower Respiratory Tract". *Frontiers in Cellular and Infection Microbiology* 13, 1111502. PMID: 33212993 <http://doi:10.3389/fcimb.2023.1111502>

Joined LSUHS - 2020

EDUCATION/TRAINING

MS – Universidade da Coruna

PhD – Universidade da Coruna

HONORS/AWARDS

2023 Awarded the Community Science Grant of the ASM to help an individual (or group) organize a microbiology-themed activity in the local community.

2022 Awarded the Peggy Cotter Award for early career to assist to the American Society for Microbiology Conference, Microbe 2022. June 9-13 Washington D.C., USA.

2023 Nominated and elected as Sigma xi member

2023 Nominated and elected to contribute to the Infection and Immunity's (IAI) annual special Minireview edition

2023 Member of the Nominating Committee American Society for Microbiology

2023 Community Leader, Host-microbe Biology Section of the Council on Microbial Sciences (HMB-COMS)

2023 Scientific Committee of the XIV Bordetella international Symposium. Prague, Czech Republic

2023 Planning committee of the online 2023 HMB-COMS ASM retreat

2023 Invited speaker Microbe 2023. Invited as a speaker for an in-depth symposium in the ASM 2023 conference – Microbe 2023

2023 Mentor in the "Programa de mentoring científico" Escuela de Mentoring. Spain



Nicholas E. Goeders, PhD

Professor and Chair, Department of Pharmacology, Toxicology & Neuroscience

Executive Director, Louisiana Addiction Research Center

nicholas.goeders@lsuhs.edu

CURRENT RESEARCH

Dr. Goeders' research involves investigations of the neurobiology of drug reinforcement using intravenous and intracranial drug self-administration, neurotoxin lesions, receptor analysis, and pharmacological, behavioral, and environmental interventions. His laboratory is also collaborating with several clinical and basic science laboratories within the CCDS to identify potential mechanisms involved in the effects of methamphetamine on the cardiovascular system. A better understanding of these effects may lead to better treatments for methamphetamine-induced CVD and may also help in the prevention of this life-threatening disease. Some of his other research involves the effects of environmental stress on the acquisition and maintenance of drug taking and seeking as well as the effects of stress on drug-induced changes in drug self-administration. This research has been translated into Phase 2 clinical trials by Embera NeuroTherapeutics, Inc. (founder and scientific board: N.E. Goeders; www.emberaneuro.com). Finally, selected physio-sexual sexual effects of methamphetamine in female rats are also under investigation.

SELECTED PUBLICATIONS

Kevil, C.G., **Goeders, N.E.**, Woolard, M.D., Bhuiyan, M.S., Dominic, P., Kolluru, G.K., Arnold, C.L., Traylor, J.G., and Orr, A.W. Methamphetamine Use and Cardiovascular Disease. *Arterioscler Thromb Vasc Biol.* 39(9):1739-1746, 2019. PMID: 31433698.

Keller, C.M. and **Goeders, N.E.** Lack of effect of the combination of metyrapone and oxazepam on brain dopamine. *Brain Res.* 1724:146435. 2019, in press, PMID: 31491421.

Tian, X., Richard, A., El-Saadi, M.W., Bhandari, A., Latimer, B., Van Savage, I., Holmes, K., Klein, R.L., Dwyer, D., **Goeders, N.E.**, Yang, X.W., Lu, X.H.. Dosage sensitivity intolerance of VIPR2 microduplication is disease causative to manifest schizophrenia-like phenotypes in a novel BAC transgenic mouse model. *Mol Psychiatry* 24(12):1884-1901, 2019. PMID: 31444475.

Keller, C.M., Spence, A.L., Stevens, M.W., Owens, S.M., Guerin, G.F., and **Goeders, N.E.** Effects of a methamphetamine vaccine, IXT-v100, on methamphetamine-related behaviors. *Psychopharmacology (Berl)*. 237(3):655-667, 2020. PMID: 31758209.

Abdullah, C.S., Aishwarya, R., Alam, S., Morshed, M., Remex, N.S., Nitu, S., Kolluru, G.K., Traylor, J., Miriyala, S., Panchatcharam, M., Hartman, B., King, J., Bhuiyan, M.A.N., Chandran, S., Woolard, M.D., Yu, X., **Goeders, N.E.**, Dominic, P., Arnold, C.L., Stokes, K., Kevil, C.G., Orr, A.W., and Bhuiyan, M.S. Methamphetamine induces cardiomyopathy by Sigmar1 inhibition-dependent impairment of mitochondrial dynamics and function. *Commun. Biol.* 3(1):682. 2020. PMID: 33203971

Joined LSUHS - 1985

EDUCATION/TRAINING

BS – Louisiana State University

PhD – Louisiana State University Medical Center

Post-Doctoral – The Johns Hopkins University School of Medicine

Staff Fellow – National Institute on Drug Abuse

HONORS/SERVICE

Recipient of 2021 Excellence in Innovation award from the Office of Research, LSU Health Shreveport, 2021.

Board of Directors, Council on Alcoholism and Drug Abuse of Northwest Louisiana (CADA)

Recipient of 2020 Wayne Drewry Award for outstanding and distinguished contributions to the field of addictions.

Panel member – Let's Talk About Meth – 2018

Panel member – Let's Talk About the Opioid Crisis – 2018

Invited Speaker – NIDA Clinical Trials Network (CTN) Stimulant Task Force – 2020



Bharat Guthikonda, MD, MBA, FAANS, FACS

Professor and Chair, Department of Neurosurgery

bharat.guthikonda@lsuhs.edu

CURRENT RESEARCH

My research focuses on the complexities of the clinical diagnosis, pre-operative assessment, intraoperative participation, and postoperative management of patients with skull base lesions including complex tumors at the base of the skull, complex aneurysms located at the cranial base, and other such conditions as they relate to the skull base. My most recent research project examined the history of the condition penduncular hallucinosis and potential neurological causes of this condition including the possibility of it being a presenting symptom of brain tumors and resolving or improving the condition with neurosurgical resection. Although anatomic skull base research has always been my primary research interest, I am also interested in the socioeconomics and medical-legal aspect of neurosurgery.

SELECTED PUBLICATIONS

Peterson R, Kandregula S, Jee E, **Guthikonda B**. Utility of Hospital Frailty Risk Score for Predicting Postoperative Outcomes in Craniopharyngioma. *J. Neurooncol.* 2022. doi: 10.1007/s11060-022-04056-x.

Buchhanolla P, Bir S, Angelette A, Lewis A, Kandregula S, **Guthikonda B**, Javalkar V, Chernyshev O, Kelley R. Determination of Prevalence of Posterior Reversible Encephalopathy Syndrome (PRES) and Its Association with Cerebral Infarction, and Outcome in the Nationwide Inpatient Sample, 2016–2018 (P16-10.002). *Neurology* 2022, 98 (18 Supplement).

Buchhanolla P, Bir S, Lewis A, Angelette A, Kandregula S, **Guthikonda B**, Javalkar V, Chernyshev O, Kelley R. Identification of Thrombophilia in Cerebral Infarction, and Potential Effect of Antithrombotic Therapy on Outcome of Cerebral Infarction in Association with Hypercoagulability in the Nationwide Inpatient Sample, 2016–2018 (P7-10.010). *Neurology* 2022, 98 (18 Supplement).

Kandregula S, **Guthikonda B**. The Straight Road to Meckel's Cave: Endoscopic Excision Through Trans Pterygoid Approach. *Neurol. India* 2022, 70 (3), 841. doi: 10.4103/0028-3886.349724.

Kosty J, Peterson R, Miriyala S, Banks T, Kandregula S, Dossani R, **Guthikonda B**. An Anatomic Assessment of the Intercavernous Sinuses and Review of Literature. *J. Neurol. Surg. Part B Skull Base* 2022. doi: 10.1055/a-1819-0144.

Peterson R, Kandregula S, **Guthikonda B**. Frailty Is Associated with In-Hospital Complications in Patients Undergoing Surgery for Craniopharyngioma. *Journal of Neurological Surgery Part B: Skull Base*; 2022; 83: A103. doi: 10.1055/s-0042-1743695.

Kandregula S, Birk HS, Savardekar A, Newman WC, Beyl R, Trosclair K, **Guthikonda B**, Sin A. Spinal Fractures in Ankylosing Spondylitis: Patterns, Management, and Complications in the United States - Analysis of Latest Nationwide Inpatient Sample Data. *Neurospine*. 2021 Dec;18(4):786-797. doi: 10.14245/ns.2142712.356. Epub 2021 Dec 31. PMID: 35000333; PMCID: PMC8752689.

Joined LSUHS - 2007

EDUCATION/TRAINING

BS – Cornell University

MD – SUNY Upstate Medical University

Residency – Baylor College of Medicine

Fellowship – The Mayfield Clinic

MBA – The Heller School for Social Policy and Management, Brandeis University

HONORS/AWARDS

Scientific Program Committee Hot Topics Co-Chair, North American Skull Base Society (2023)

Scientific Program Committee Primer Course Chair, North American Skull Base Society (2022)

Communication & Education Committee Chair, Council of State Neurosurgical Societies (2021-23)

Executive Committee, Southwest Quadrant Chair, Council of State Neurosurgical Societies (2020-23)

Scientific Program Committees, American Association of Neurological Surgeons (2022-2025); Congress of Neurological Surgeons (2020-2022); North American Skull Base Society (2020-2023)

Research Committee, North American Skull Base Society (2020-23)

Mentor, North American Skull Base Society (2022)

Mentor, LSUHS Skull Base Fellow, Nimer Adeeb, MD, MBA (2021-2022)



Joined LSUHS - 1991
Rejoined LSUHS - 2004

EDUCATION/TRAINING

BS – Tennessee Tech University

PhD – Vanderbilt University

Post-Doctoral – LSU Health Shreveport

GRANT AWARDS/REVIEW BOARDS

PI on grants from the National Institutes of Health (7 awards), the American Heart Association, NASA, the Juvenile Diabetes Research Foundation, the Crohn's and Colitis Foundation, the Whitaker Foundation, and the National Science Foundation

NIH Study Sections: AICS (2007); HM (2008-2016); DPVS ad-hoc (2016-2020)

Special Emphasis Panels (2009-2023); PED2 ad-hoc (2022); Mentored Scientist Awards (2020-2023)

HONORS/AWARDS TRAINEES

Gaganpreet Kaur

2022 LSUHS Chancellor's Award for the Top Graduate Student

Zweifach Student Travel Award, Microcirculatory Society, 2022

D. Neil Granger, PhD Award for Outstanding Predoctoral Trainee 2022

Outstanding ePoster at Vascular Biology 2021

Norman R. Harris, PhD

Professor & Chair, Department of Molecular and Cellular Physiology

norman.harris@lsuhs.edu

CURRENT RESEARCH

My research career has focused on the physiology and pathophysiology of microcirculation, and in recent years, much of our work has been an investigation of the retinal microvascular complications of diabetes and hypertension. Our lab is currently funded with an NIH R01 entitled "Retinal vasculature in hypertension", and we also have ongoing projects related to other retinal pathologies. Techniques that we use in the laboratory include intravital microscopy, measurement of microvascular flow, computerized video analysis of microscope images, immunostaining of tissue sections, culturing of retinal microvascular endothelial cells, and various molecular biology techniques.

SELECTED PUBLICATIONS

Eshaq RS, Lee M, Leskova W and **Harris NR**. Decreased retinal and choroidal endothelial surface molecules in spontaneously hypertensive rats. *Experimental Eye Research*, Aug 17; 234:109617, 2023.

Kaur G and **Harris NR**. Endothelial glycocalyx in health, hyperglycemia, and diabetic retinopathy. *Am J Physiol-Cell*, May 1; 324(5): C1061-C1077, 2023. (Review)

Kaur G, Leskova W and Harris NR. The endothelial glycocalyx and retinal hemodynamics. *Pathophysiology* 29: 663-677, 2022.

Kaur G, Song Y, Xia K, McCarthy K, Zhang F, Linhardt RJ and **Harris NR**. Effect of high glucose on glycosaminoglycans in cultured retinal endothelial cells and rat retina. *Glycobiology*, Jul 13; 32(8): 720-734, 2022.

Kaur G, Rogers J, Rashdan NA, Cruz-Topete D, Pattillo CB, Hartson SD and **Harris NR**. Hyperglycemia-induced effects on glycocalyx components in the retina. *Experimental Eye Research*. Dec; 213:108846, 2021.

Eshaq RS and **Harris NR**. The role of tumor necrosis factor- α and interferon- γ in the hyperglycemia-induced ubiquitination and loss of platelet endothelial cell adhesion molecule-1 in rat retinal endothelial cells. *Microcirculation*. Oct; e12717, 2021.

Lee M, Leskova W, Eshaq RS and **Harris NR**. Retinal hypoxia and angiogenesis with methamphetamine. *Experimental Eye Research*. May; 206:108540, 2021.

Eshaq RS, Watts MN, Carter PR, Leskova W, Aw TY, Alexander JS, and Harris NR. Candesartan normalizes changes in retinal blood flow and p22phox in the diabetic rat retina. *Pathophysiology* Mar 2; 28:86-97, 2021.

Leskova W, Warar R, and **Harris NR**. Altered retinal hemodynamics and mean circulation time in spontaneously hypertensive rats. *IOVS*. Aug 3; 61(10):12, 2020.

-Wright WS*, Eshaq RS*, Lee M, Kaur G, and **Harris NR**. Retinal physiology and circulation: effect of diabetes. *Comprehensive Physiology* 10:933-974, 2020. Published online July 8, 2020. (Review). *Co-first authors.

-Lee M, Leskova W, Carter PR, Eshaq RS, and **Harris NR**. Acute changes in the retina and central retinal artery with methamphetamine. *Exp Eye Res* 193:107964, 2020.

-Eshaq RS and **Harris NR**. Hyperglycemia-induced ubiquitination and degradation of b-catenin with the loss of platelet endothelial cell adhesion molecule-1 in retinal endothelial cells. *Microcirculation* 27: e12596, 2020.



Joined LSUHS - 2020

EDUCATION/TRAINING

MD – University of Texas Medical Branch
Clinical Internship – Cairo University, Egypt

HONORS/AWARDS

Board of Trustees of the Society of Coronary Angiography and Intervention
Top Doctors, St. Louis
Top Doctors, Cincinnati
Master of SCAI
Vice chair of ACC middle east conference 2022
Co-Chair of ACC middle east conference 2023

Tarek Helmy, MD, FACC, FSCAI

Holoubek Endowed Professor of Medicine

Chief of Division of Cardiology

Co-Director of the Heart and Vascular Institute

Assistant Director, CCDS, Clinical and Translational Research

tarek.helmy@lsuhs.edu

CURRENT RESEARCH

My clinical focus is in interventional cardiology, coronary disease, cardiogenic shock and structural heart disease. I am involved in clinical studies with coronary devices, as well as analysis of large databases investigating cardiac outcomes. I am also interested in strategies targeting ischemia reperfusion injury. I am focused on promoting translational research by getting clinical faculty and trainees involved in ongoing projects in the basic arena.

SELECTED PUBLICATIONS

Abo-Salem E, Chaitman B, **Helmy T**, Boakye EA, Alkhawam H, Lim M. Patent foramen ovale closure versus medical therapy in cases with cryptogenic stroke, meta-analysis of randomized controlled trials. *J Neurol*. 2018 Mar;265(3):578-585. doi: 10.1007/s00415-018-8750-x. Epub 2018 Jan 22

Alkhawam H, Abo-Salem E, Zaiem F, Ampadu J, Rahman A, Sulaiman S, Zaitoun A, **Helmy T**, et al. Effect of digitalis level on readmission and mortality rate among heart failure reduced ejection fraction patients. *Heart Lung* 2018 Aug 29 (epub ahead of print). PMID: 30172414

Ampadu J, Alkhawam H, **Helmy T**, Abo-Salem E. A comparison of digitalis uses on mortality and morbidity among special populations with heart failure reduced ejection fractions. *J Card Fail* 2018;24(8): S29-S30. August

Hattubadi, A., Ahmad, J., Sultan, A., Bhuiyan, M., **Helmy, T.**, Gopinathannair, R., Olshansky, B. Bailey, S. (2023)

Mustafa, U., Mina, G., Priyanka, G., Sheth, A., **Helmy, T.** (2023) Impact of Gender on outcome of Transcatheter edge to edge mitral valve repair: A Meta-analysis. *Medical Research Archives* 11(7.2)

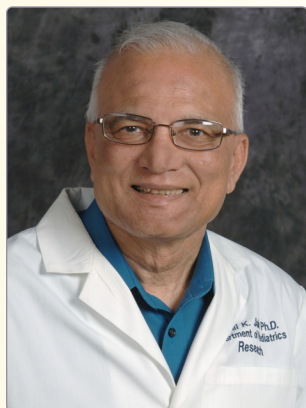
Helmy, T., Kumar, S., Khan, A. A., Raza, A., Smart, S., Bailey, S. R. (2022). Review of Prosthetic Paravalvular Leaks: Diagnosis and Management. *Current cardiology reports*, 24(10), 1287-1297.

Helmy, T., Mina, G. (2022). Single access TAVR. How "minimalist" do we need to be? Catheterization and cardiovascular interventions: *official journal of the Society for Cardiac Angiography & Interventions*, 100(2), 233-234.

Mughal, M. S., Akbar, H., Kaur, I. P., Ghani, A. R., Mirza, H., Xia, W., Usman, M. H., Alam, M. J., **Helmy, T.** (2022). Contemporary trends in the incidence of spontaneous coronary artery dissection (SCAD) - ethnic and household income disparities. *Expert review of cardiovascular therapy*, 20(6), 485-489.

Ijioma, N. N., Don, C., Arora, V., Edgar, L., Hawkins, B., Monteleone, P., Tcheng, J. E., **Helmy, T.** (2022). ACGME Interventional Cardiology Milestones 2.0-an overview: Endorsed by the Accreditation Council for Graduate Medical Education. Catheterization and cardiovascular interventions: *official journal of the Society for Cardiac Angiography & Interventions*, 99(3), 777-785.

Helmy, T., Mina, G. (2022). *CHIP Score: Do We Really Need One?* (1st ed., vol. 15, pp. 50-51).



Sushil K. Jain, PhD, FACN, FICN

Professor, Departments of Pediatrics, Molecular & Cellular Physiology, and Biochemistry & Molecular Biology
Malcolm Feist Endowed Chair in Diabetes

sushil.jain@lsuhs.edu

CURRENT RESEARCH

Our research interests focus on investigating the role of oxidative stress and micronutrition in the pathophysiology of obesity, insulin resistance, and diabetes. We are studying how micronutrients (L-cysteine and Vitamin D) and hydrogen sulfide regulate insulin signaling pathways of glucose metabolism and insulin resistance in type 2 diabetes. We have characterized that the widespread glucose-6-phosphate dehydrogenase-deficiency could play a critical role in the higher incidence and severity of CVD in the African American population. Our team has recently discovered that the deficiency of 25(OH)VD is linked with deficiency of major antioxidant glutathione, and that combined supplementation of vitamin D and glutathione precursor is a novel and successful approach to treat VD deficiency in the minority populations. Our research publications have over 16400 citations with an H index of 67.

SELECTED PUBLICATIONS

Parsanathan R, **Jain SK**. (2021) G6PD deficiency shifts polarization of monocytes/macrophages towards a proinflammatory and profibrotic phenotype. *Cell Mol Immunol*. 18:770-772.

Jain SK, Parsanathan R. (2020) Can Vitamin D and L-Cysteine Co-Supplementation Reduce 25(OH)-Vitamin D Deficiency and the Mortality Associated with COVID-19 in African Americans? *J Am Coll Nutr*.39:694-699.

Parsanathan R, Achari AE, Manna P, **Jain SK**. (2020) L-Cysteine and Vitamin D Co-Supplementation Alleviates Markers of Musculoskeletal Disorders in Vitamin D-Deficient High-Fat Diet-Fed Mice. *Nutrients*. 6:3406.

Jain SK, Parsanathan R, Levine SN, Bocchini JA, Holick MF, Vanchiere JA. (2020) The potential link between inherited G6PD deficiency, oxidative stress, and vitamin D deficiency and the racial inequities in mortality associated with COVID-19. *Free Radic Biol Med*. 161:84-91.

Parsanathan R, **Jain SK**. (2020) Glucose-6-phosphate dehydrogenase (G6PD) deficiency is linked with cardiovascular disease. *Hypertens Res*. PMID: 31974484. Parsanathan R, Jain SK. (2020) Novel Invasive and Noninvasive Cardiac-Specific Biomarkers in Obesity and Cardiovascular Diseases. *Metab Syndr Relat Disord*.;18:10-30.

Parsanathan R, **Jain SK**. (2019) Glutathione deficiency induces epigenetic alterations of vitamin D metabolism genes in the livers of high-fat diet-fed obese mice. *Sci Rep*. 9:14784.

Parsanathan R, **Jain SK**. (2019) Hydrogen sulfide regulates circadian-clock genes in C(2)C(12) myotubes and the muscle of high-fat-diet-fed mice. *Arch Biochem Biophys*.672:108054.

Parsanathan R, **Jain SK**. (2019) Glutathione deficiency alters the vitamin D-metabolizing enzymes CYP27B1 and CYP24A1 in human renal proximal tubule epithelial cells and kidney of HFD-fed mice. *Free Radic Biol Med*. 131:376-381..

Jain SK, Parsanathan R, Achari AE, Kanikarla-Marie P, Bocchini JA Jr. (2018) Glutathione Stimulates Vitamin D Regulatory and Glucose-Metabolism Genes, Lowers Oxidative Stress and Inflammation, and Increases 25-Hydroxy-Vitamin D Levels in Blood: A Novel Approach to Treat 25-Hydroxyvitamin D Deficiency. *Antioxid Redox Signal*. 29:1792-1807.

Achari AE, **Jain SK**. (2017) Adiponectin, a Therapeutic Target for Obesity, Diabetes, and Endothelial Dysfunction. *Int J Mol Sci*.18. E1321.

Joined LSUHS - 1981

EDUCATION/TRAINING

BS – Punjab University, Chandigarh, India

PhD Post-graduate – Medical Institute, Chandigarh, India

Post-doctoral – USC in Los Angeles and Univ Calif. in San Francisco

HONORS/AWARDS

Outstanding Investigator Award (2013) – Amer. Soc. Nutr.

Founders Award (1992), Becham Award from SSPR (1988), Rosss Award (1988) - South. Soc. Ped. Res

Charter Member (2013-17), VA Merit Review

Chair (2014-15), American Society Nutrition Assoc. Editor (2015-), J Amer Coll of Nutr

Editorial Board Member: FRBM (1998-2013), Diabetes (2001-03), Diabetes Care (2009-11), Antioxidant Redox Signal (1999-)

2020-23: PI of clinical trial on vitamin D in African Americans funded by the NCCIH/NIH

HONORS/AWARDS TRAINEES

Rajesh Parsanathan, PhD

Young Investigator Award (2016) - Annual Meeting of SfRBM, San Francisco

Travel Award (2018) - Annual Meeting of SfRBM, Chicago



Jeremy Kamil, PhD

Associate Professor, Department of Microbiology and Immunology

jeremy.kamil@lsuhs.edu

CURRENT RESEARCH

We are broadly interested in how viruses infect cells and cause disease. Our focus is mainly on human cytomegalovirus (aka, CMV or HCMV), which is a widespread herpesvirus pathogen that infects most people worldwide. The virus causes life threatening infections in immunocompromised patients and is a serious threat to the unborn fetus. A major goal of our laboratory is to help develop a better understanding of this complex viral pathogen to enable new therapies and vaccines to limit CMV disease. Major ongoing research projects in the laboratory focus on: (i) how CMV and other viruses exploit glyco-immune checkpoints, (ii) CMV interplay with host cell signaling pathways, and (iii) on deciphering the function of a novel CMV envelope glycoprotein complex. Despite that HCMV is a top priority for vaccine development, the virus has thus far proven an intractable target. A major goal of our laboratory is to contribute to the advances that overcome this challenge.

SELECTED PUBLICATIONS

Domma AJ, Henderson LA, Goodrum FD, Moorman NJ, **Kamil JP**. 2023 Human cytomegalovirus attenuates AKT activity by destabilizing insulin receptor substrate proteins. *J Virol*. Sep 27;97(10): e0056323.

Zhang H, Domma AJ, Goodrum FD, Moorman NJ, **Kamil JP**. (2022) The Akt Forkhead Box O Transcription Factor Axis Regulates Human Cytomegalovirus Replication, *mBio*. Aug 10: e0104222

Wolf KA, Kwan JC, **Kamil JP**. Structural Dynamics and Molecular Evolution of the SARS-CoV-2 Spike Protein. *mBio*. 2022 Apr 26;13(2): e0203021

Siddiquey MNA, Schultz EP, Merola M, **Kamil JP**. (2021) The human cytomegalovirus protein UL116 interacts with the viral endoplasmic-reticulum-resident glycoprotein UL148 and promotes the incorporation of gH/gL complexes into virions. *J. Virol*. 95, e0220720

Hodcroft EB, Domman DB, ...Cooper VS, **Kamil JP**. (2021) Emergence in late 2020 of multiple lineages of SARS-CoV-2 Spike protein variants affecting amino acid position 677. *medRxiv*.

Ikegame S, Siddiquey MNA, ...Perandones C, **Kamil JP**, Lee B, (2021) Neutralizing activity of Sputnik V vaccine sera against SARS-CoV-2 variants. *Nat. Commun*. 12, 1–11.

Zeller M, Gangavarapu K, ... **Kamil JP**, Garry RF, Suchard MA, Andersen KG. (2021) Emergence of an early SARS-CoV-2 epidemic in the United States. *Cell*. 184, 4939–4952.e15.

Nguyen CC, Domma AJ, Zhang H, **Kamil JP**. (2020) Endoplasmic Reticulum Reorganization and Intracellular Retention of CD58 Are Functionally Independent Properties of the Human Cytomegalovirus ER-Resident Glycoprotein UL148. *J Virol*. e01435-19

Zhang H, Read C, Nguyen CC, Siddiquey MNA, Shang C, ...**Kamil JP**. (2019) The human cytomegalovirus nonstructural glycoprotein UL148 reorganizes the endoplasmic reticulum. *mBio* 10: e02110-19.

Joined LSUHS - 2010

EDUCATION/TRAINING

BA – Cornell University

PhD – University of California, Davis

Post-Doctoral – Cornell University, Harvard Medical School

HONORS/AWARDS

Editorial Board, *Journal of Virology*

Guest Editor, *PLoS Pathogens*, *mBio*

Ad hoc, NIH VIRB, F30/31/32, NIAID

P01 reviewer

Ad hoc, NIH COVID-19 reviewer

Ad hoc, DoD reviewer (Viral Diseases)

DoD CDMRP COVID-19 reviewer Charles C.

Randall Lectureship (ASM-SCB)

Priscilla A. Schaffer Lectureship (IHW)

Jamie McNew Lectureship (UMN)

Expert Panel on SARS-CoV-2 Variants (BioNTech)

Scientific Impact Award (LSUHS)

Louisiana State Legislative Honoree

HONORS/AWARDS TRAINEES

Christopher Nguyen

Malcolm Feist Fellowship

Lauren Henderson

NIH T32 MTCP Fellowship

ASM-SCB Poster Prize (2016)

IHW Travel Award, Belgium (2017)

Anthony Domma

ASV 2022 Travel Award

Graduate Student of the Month (2022)



Chris Kevil, PhD

Vice Chancellor of Research
Dean, School of Graduate Studies

chris.kevil@lsuhs.edu

CURRENT RESEARCH

Research in my laboratory centers around gasotransmitter regulation of endothelial function during arteriogenesis, angiogenesis, and atherogenesis. Studies are focused on chemical biology regulation of hydrogen sulfide and nitric oxide, and their associated enzymes during vascular and inflammatory cell function during cardiovascular disease. We employ novel approaches for tissue protection against chronic tissue ischemia through stimulation of arteriogenesis and angiogenesis involving these gasotransmitter molecules. The lab has discovered that nitrite anion serves a critical role as an NO prodrug to attenuate tissue ischemia invoking signaling and transcriptional responses, that hydrogen sulfide generation is required for subsequent NO formation, and that sulfide metabolites are critical biomarkers of cardiovascular disease. These discoveries have led to numerous patents and new therapeutic approaches.

SELECTED PUBLICATIONS

Kolluru GK, Shackelford RE, Shen X, Dominic P, **Kevil CG**. Sulfide regulation of cardiovascular function in health and disease. *Nat Rev Cardiol*. 2022 Aug 5:1–17. doi: 10.1038/s41569-022-00741-6. Epub ahead of print. PMID: 35931887; PMCID: PMC9362470.

Islam MZ, Shen X, Pardue S, **Kevil CG**, Shackelford RE. The ataxia-telangiectasia mutated gene product regulates the cellular acid-labile sulfide fraction. *DNA Repair (Amst)*. 2022 Aug; 116:103344. doi: 10.1016/j.dnarep.2022.103344. Epub 2022 May 14. PMID: 35696854.

Shackelford RE, Li Y, Ghali GE, **Kevil CG**. Bad Smells and Broken DNA: A Tale of Sulfur-Nucleic Acid Cooperation. *Antioxidants (Basel)*. 2021 Nov 17;10(11):1820. doi: 10.3390/antiox10111820. PMID: 34829691; PMCID: PMC8614844.

Takata T, Jung M, Matsunaga T, Ida T, Morita M, Motohashi H, Shen X, **Kevil CG**, Fukuto JM, Akaike T. Methods in sulfide and persulfide research. *Nitric Oxide*. 2021 Nov 1; 116:47-64. doi: 10.1016/j.niox.2021.09.002. Epub 2021 Sep 14. PMID: 34534626; PMCID: PMC8486624.

Shackelford RE, Mohammad IZ, Meram AT, Kim D, Alotaibi F, Patel S, Ghali GE, **Kevil CG**. Molecular Functions of Hydrogen Sulfide in Cancer. *Pathophysiology*. 2021 Sep 20;28(3):437-456. doi: 10.3390/pathophysiology28030028. PMID: 35366284; PMCID: PMC8830448

Joined LSUHS - 2002

EDUCATION/TRAINING

BS – Northwestern State University

PhD – LSU Health Shreveport

Post-Doctoral – University of Alabama at Birmingham

HONORS/AWARDS

Malcolm Feist Endowed Chair for Cardiovascular Disease

Fellow of the Society, Society for Redox Biology and Medicine

Fellow, American Physiology Society- Heart and Circulatory Section

Past Chairman, Society for Redox Biology and Medicine

Board of Directors, Nitric Oxide Society

Vice President of Research and Scientific Excellence, Society for Redox Biology and Medicine

President of General Faculty, LSUHS

NHLBI Mentored Transition to Independence Study Section

NIH Atherosclerosis, Inflammation and Cardiovascular Sciences Study Section

FUNDING

NIH GM121307

Center for Redox Biology and Cardiovascular Disease

NIH HL149264

CSE regulation of vascular remodeling



Alok Khandelwal, PhD

Research Assistant Professor, Department of Otolaryngology,
Head and Neck Surgery

alok.khandelwal@lsuhs.edu

CURRENT RESEARCH

Dr. Khandelwal's research focuses on elucidating the role of and mechanism for CXCL17 (C-X-C Motif Chemokine Ligand 17)-induced effects in atherosclerotic plaque formation, a major cause of cardiovascular disease worldwide. His research seeks to understand how CXCL17 affects vascular cell signaling during pathological processes such as atherosclerosis, angiogenesis and ischemia-reperfusion injury.

SELECTED PUBLICATIONS

Xiaoyong Tong, **Alok R Khandelwal**, Xiaojuan Wu, Zaicheng Xu, Weimin Yu, Caiyu Chen, Wanzhou Zhao, Jian Yang, Zhexue Qin, Robert M Weisbrod, Francesca Seta, Tetsuro Ago, Kin Sing Stephen Lee, Bruce D Hammock, Junichi Sadoshima, Richard A Cohen, Chunyu Zeng. Pro-atherogenic role of smooth muscle Nox4-based NADPH oxidase. *J Mol Cell Cardiol.* 2016 Mar; 92:30-40

Pingping Hu*, Xiaojuan Wu*, **Alok R Khandelwal***, Weimin Yu, Zaicheng Xu, Lili Chen, Jian Yang, Robert M Weisbrod, Kin Sing Stephen Lee, Francesca Seta, Bruce D Hammock, Richard A Cohen, Chunyu Zeng, Xiaoyong Tong. Endothelial Nox4-based NADPH oxidase regulates atherosclerosis via soluble epoxide hydrolase. *Biochim Biophys Acta Mol Basis Dis.* 2017

Xiaoyong Tong*, **Alok R Khandelwal***, Zhexue Qin, Xiaojuan Wu, Lili Chen, Tetsuro Ago, Junichi Sadoshima, Richard A Cohen. Role of smooth muscle Nox4-based NADPH oxidase in neointimal hyperplasia. *J Mol Cell Cardiol.* 2015 Dec;89(Pt B):185-94.

Yurdagul A Jr, Kleinedler JJ, McInnis MC, **Khandelwal AR**, Spence AL, Orr AW, Dugas TR. Resveratrol promotes endothelial cell wound healing under laminar shear stress through an estrogen receptor- α -dependent pathway. Yurdagul A Jr, Kleinedler JJ, McInnis MC, Khandelwal AR, Spence AL, Orr AW, Dugas TR. *Am J Physiol Heart Circ Physiol.* 2014 Mar;306(6):H797-806.

Khandelwal AR., Y. Hebert, James J. Kleinedler, Lynette K. Rogers, Sara L. Ullevig, Reto Asmis, and Tammy R. Dugas. Resveratrol and quercetin interact to reduce neointimal hyperplasia in mice with carotid injury. *J Nutr.* 2012 Aug;142(8):1487-94. Epub 2012 Jun 20.

Jiang B, **Khandelwal AR**, Rogers LK, Hebert VY, Kleinedler JJ, Zavecz JH, Shi W, Orr AW, Dugas TR. Antiretrovirals induce endothelial dysfunction via an oxidant-dependent pathway and promote neointimal hyperplasia. *Toxicol Sci.* 2010 Oct;117(2):524-36. doi: 10.1093/toxsci/kfq213. Epub 2010 Jul 9. PMID: 20621964; PMCID: PMC2940409.

Joined LSUHS - 2016

EDUCATION/TRAINING

BPharm – Pune University, India

PhD – LSU Health Shreveport

Post-Doctoral – Boston University Medical Center

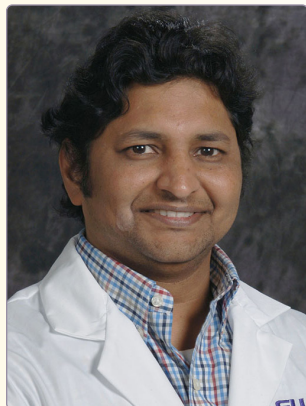
HONORS/AWARDS TRAINEES

Rema Anisha Kandula

Best Poster Award, CCDS Annual Conference, 2022

Janmaris Marin Fermin

AHNS Outstanding poster award, 2021



Gopi Kolluru, PhD

Research Assistant Professor, Department of Pathology

gopi.kolluru@lsuhs.edu

CURRENT RESEARCH

My research is focused on identifying the molecular signaling mechanisms involved in oxidative stress, and vascular growth and remodeling during cardiovascular pathology. I have been working towards bridging basic and clinical research for therapeutic revascularization in vascular diseases more than 15 years. I have examined the role of gasotransmitters NO and H₂S, including the role of cystathionine gamma-lyase (CSE) in regulation of ischemic vascular remodeling. I aim to identify the regulation of gasotransmitters (NO and H₂S) and associated signaling involved in vascular and metabolic functions in aging cardiovascular system, diabetes and pregnancy complications including preeclampsia. I approach this with the aid of diseased/transgenic mouse models, advanced analytical and non-invasive imaging techniques.

SELECTED PUBLICATIONS

Kolluru GK, Shackelford RE, Shen X, Dominic P, Kevil CG. Sulfide regulation of cardiovascular function in health and disease. *Nat Rev Cardiol*. 2022 Aug 5:1-17.

Dominic P, Ahmad J, Bhandari R, Pardue S, Solorzano J, Jaisingh K, Watts M, Bailey SR, Orr AW, Kevil CG, **Kolluru GK**. Decreased Availability of Nitric Oxide and Hydrogen Sulfide is a Hallmark of COVID-19. *Redox Biol*. 2021 Jul; 43:101982.

Watts M, **Kolluru GK**, Dherange P, Pardue S, Si M, Shen X, Trosclair K, Glawe J, Al-Yafeai Z, Iqbal M, Pearson BH, Hamilton KA, Orr AW, Glasscock E, Kevil CG, Dominic P. Decreased bioavailability of hydrogen sulfide links vascular endothelium and atrial remodeling in atrial fibrillation. *Redox Biol*. 2020 Dec 3; 38:101817.

Abdullah CS, Aishwarya R, Alam S, Morshed M, Remex NS, Nitu S, **Kolluru GK**, Traylor J, Miriyala S, Panchatcharam M, Hartman B, King J, Bhuiyan MAN, Chandran S, Woolard MD, Yu X, Goeders NE, Dominic P, Arnold CL, Stokes K, Kevil CG, Orr AW, Bhuiyan MS. Methamphetamine induces cardiomyopathy by Sigmar1 inhibition-dependent impairment of mitochondrial dynamics and function. *Commun Biol*. 2020 Nov 17;3(1):682.

Kolluru GK, Pardue S, Shen X, Lewis SE, Saffle CB, Kelley EE, Kevil CG. Hydrogen sulfide stimulates xanthine oxidoreductase conversion to nitrite reductase and formation of NO. *Redox Biol*. 2020 Jan 30:101447.

Kolluru GK, Shen X, Kevil CG. Reactive Sulfur Species: A New Redox Player in Cardiovascular Pathophysiology. *Arterioscler Thromb Vasc Biol*. 2020 Apr;40(4):874-884.

Rajpal S, Katikaneni P, Deshotels M, Pardue S, Glawe J, Shen X, Akkus N, Modi K, Bhandari R, Dominic P, Reddy P, **Kolluru GK**, Kevil CG. (2018) Total sulfane sulfur bioavailability reflects ethnic and gender disparities in cardiovascular disease. *Redox Biol*. 15:480-489.

Kolluru GK, Bir SC, Yuan S, Wang R, Kevil CG. (2015) Cystathionine γ -lyase regulates arteriogenesis through NO dependent monocyte recruitment. *Cardiovasc. Res*. 107(4):590-600.

Joined LSUHS - 2017

EDUCATION/TRAINING

BS – Andhra University

MS – Andhra University

PhD – Anna University

Post-Doctoral – LSUHS

HONORS/AWARDS

IUBMB Wood Whelan Fellowship Award

Society for Free Radical Biology and Medicine (SFRBM) Mini Fellowship

Award Second Best Poster Award, LSU – Shreveport, USA

PVD Council Travel Award 2014, American Heart Association

Malcolm-Feist Cardiovascular Disease Fellowship, LSU Health Shreveport, USA

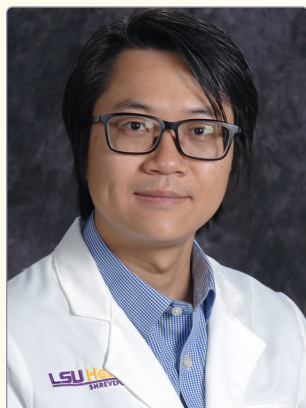
NIA-Butler Williams Research Program

EDITORIAL BOARD

Pharmaceutics Journal

International Journal of Diabetology

Frontiers in Aging



Hui-Chao (Reggie) Lee, PhD

Assistant Professor, Department of Neurology

huichao.lee@lsuhs.edu

Website: reggielab.com

Joined LSUHS - 2016

EDUCATION/TRAINING

PhD – Tzu Chi University College of Medicine, Hualien, Taiwan

Post-Doctoral – University of Miami, LSU Health Shreveport

HONORS/AWARDS

R01 Award, NIH

Career Development Award, AHA

Grant-in-Aid, Center for Brain Health, Louisiana State University

Grant-in-Aid, Louisiana State University Research Council

Postdoctoral Research Fellowship, AHA

Postdoctoral Research Fellowship, The Malcolm Feist Cardiovascular Research Endowment

CURRENT RESEARCH

The overall research goal in my laboratory is to study potential therapeutics against cerebral ischemia. The major research focus in my laboratory is to investigate the pathophysiological role of serum/glucocorticoid-inducible kinase 1 (SGK1) in the context of cardiac arrest. We found that upregulation of SGK1 following cardiac arrest is responsible for cerebral blood flow derangements, neuronal cell death, and neurological deficits. We are currently investigating 1) the therapeutic potential of SGK1 inhibitor against cardiac arrest and 2) mechanisms underlying SGK1-mediated brain injury and neurological deficits after cardiac arrest.

SELECTED PUBLICATIONS

Lee RH, Wu CY, Citadin CT, Couto E Silva A, Possoit HE, Clemons GA, Acosta CH, de la Llama VA, Neumann JT, Lin HW. Activation of Neuropeptide Y2 Receptor Can Inhibit Global Cerebral Ischemia-Induced Brain Injury. *Neuromolecular Med.* 2021 May 21; PMID: 34019239.

Lee RH (Corresponding author), Grames MS, Wu CY, Lien CF, Couto E Silva A, Possoit HE, Clemons GA, Citadin CT, Neumann JT, Pastore D, Lauro D, Della-Morte D, Lin HW. (2020) Upregulation of serum and glucocorticoid-regulated kinase 1 exacerbates brain injury and neurological deficits after cardiac arrest. *Am J Physiol Heart Circ Physiol* 2020 Nov 1;319(5):H1044-H1050. PMID: 32946263.

Wu CY, Couto E Silva A, Citadin CT, Clemons GA, Acosta CH, Knox BA, Grames MS, Rodgers KM, **Lee RH**, Lin HW. Palmitic acid methyl ester inhibits cardiac arrest-induced neuroinflammation and mitochondrial dysfunction. *Prostaglandins Leukot Essent Fatty Acids.* 2021 Feb; 165:102227. PMID: 33445063.

Wu CY, Clemons GA, Lopez-Toledano MA, Citadin CT, **Lee RH**, Lin HW. (2020) SC411 enhances cerebral blood flow after ischemia in the Townes mouse model of sickle cell disease. *Prostaglandins, leukotrienes, and essential fatty acids.* 2020 Jul; 158:102110. PMID: 32447175.

Couto E Silva A, Wu CY, Citadin CT, Clemons GA, Possoit HE, Grames MS, Lien CF, Minagar A, **Lee RH**, Frankel A, Lin HW. (2019) Protein Arginine Methyltransferases in Cardiovascular and Neuronal Function. *Molecular Neurobiology.* Dec 10. doi: 10.1007/s12035-019-01850-z. PMID: 31823198.

Wu CY, Lerner FM, Couto E Silva A, Possoit HE, Hsieh TH, Neumann JT, Minagar A, Lin HW, and **Lee RH**. (2018) Utilizing the modified T-maze to assess functional memory outcomes after cardiac arrest. *J. Vis. Exp.* (131), e56694, doi:10.3791/56694. PMID: 29364254.

Lee RH, Lee MH, Wu CY, Couto E Silva A, Possoit HE, Hsieh TH, Minagar A, Lin HW. (2018) Cerebral ischemia and neuroregeneration. *Neural Regen Res.* Mar; 13(3): 373–385. PMID: 29623912.

Lee RH, Couto E Silva A, Possoit HE, Lerner FM, Azizbayeva R, Citadin CT, Wu CY, Neumann JT, Lin HW. (2018) Palmitic acid methyl ester is a novel neuroprotective agent against cardiac arrest. *Prostaglandins, leukotrienes, and essential fatty acids (PLEFA).* Nov 23. pii: S0952-3278(18)30212-6. PMID: 30514597.

Lee RH, Couto E Silva A, Lerner FM, Wilkins CS, Valido SE, Klein DD, Wu CY, Neumann JT, Della-Morte D, Koslow SH, Minagar A, and Lin HW. (2017) Interruption of Perivascular Sympathetic Nerves of Cerebral Arteries Offers Neuroprotection Against Ischemia. *Am J Physiol Heart Circ Physiol* 312(1): H182-188. PMID: 27864234.



Kevin Lin, PhD

Associate Professor, Departments of Neurology and Cellular Biology & Anatomy

hungwen.lin@lsuhs.edu

CURRENT RESEARCH

As the Director of the Stroke Center for Research at LSU, my expertise is in the field of sympathetic modulation in cerebral circulation as it relates to stroke and global ischemia. The goals of my research focus are to further investigate sympathetic function as it relates to ischemia in hopes to develop novel therapies. I have dedicated over 15 years to investigate the cerebral vasculature with the focus on stroke, brain ischemia, and fatty acid metabolism.

SELECTED PUBLICATIONS

Clemons GA, Couto e Silva A, Acosta CH, Sayuri Berto Udo M, Tesic V, Rodgers KM, Wu CYC, Citadin CT, Lee RHC, Neumann JT, Allani S, Prentice H, Zhang Q, **Lin HW**. Protein Arginine Methyltransferase 4 Modulates Nitric Oxide Synthase Uncoupling and Cerebral Blood Flow in Alzheimer's Disease. *J Cell Physiology*. 2022; Aug 29.

Couto e Silva A, Wu CYC, Clemons GA, Acosta CH, Chen CT, Possoit HE, Citadin CT, Lee RHC, Brown, JI, Frankel A, **Lin HW**. Protein arginine methyltransferase 8 modulates mitochondrial bioenergetics and neuroinflammation after hypoxic stress. *Journal of Neurochemistry*. 2021; Jul 3.

Lee RH, Wu CY, Citadin CT, Couto e Silva A, Possoit HE, Clemons GA, Acosta CH, de la Llama VA, Neumann JT, **Lin HW**. Activation of Neuropeptide Y2 receptor can inhibit global cerebral ischemia-induced brain injury. *Neuromolecular Medicine*. 2021; May 21.

Wu CYC, Couto e Silva A, Citadin CT, Clemons, GA, Acosta CH, Knox BA, Grames MS, Rodgers KM, Lee RHC, **Lin HW**. Palmitic acid methyl ester inhibits cardiac arrest-induced neuroinflammation and mitochondrial dysfunction. *Prostaglandins Leukot Essent Fatty Acids*. 2021; Feb;165.

Joined LSUHS - 2016

EDUCATION/TRAINING

BS – Biochemistry, University of Wisconsin-Madison, Madison, WI

PhD – Pharmacology, Southern Illinois University School of Medicine, Springfield, IL

Post-Doc – Neurology, University of Miami Miller School of Medicine, Miami, FL

HONORS/AWARDS

Joanna G. Magale Endowed Professorship
4th Annual AHA – Philips Resuscitation Fellowship Award

GRANT PEER REVIEW

AHA Peer Review Committee:

Basic Cell Genetics and Epigenetics 2 Brain 1

Allen Initiative in Brain Health and Cognitive Impairment

Career Development Award Organ Basic Sciences 1 and 2 (Chairman 2).

Vascular Endothelial Biology Basic Sciences

Transformational Project Award (Brain, Lung, Cardioresenal or Cardiac Arrest Sciences Global Brain Disorders II

Alzheimer's Association Peer Review Committee



Xiao-Hong Lu, PhD

Associate Professor, Department of Pharmacology, Toxicology and Neuroscience

xiaohong.lu@lsuhs.edu

Joined LSUHS - 2015

EDUCATION/TRAINING

MD – Central South University, Xiangya School of Medicine

PhD – LSU Health Shreveport

Post-Doctoral – University of California, Los Angeles (UCLA)

Assistant Researcher – UCLA

HONORS/AWARDS

2022 Interviewed and featured by Scientist Magazine

2022 Selected as paper of the month by NIEHS

2020 NASA Space Biology Award

2020 Interviewed and featured in a Louisiana Public Broadcasting TV series (Interview funded by PBS Ken Burns' documentary, "Gene: An Intimate Portrait")

2019 News report by SPECTUM NEWS about novel brain genome editing

2019 Chair of symposium, 3rd Molecular Psychiatry Association meeting at San Francisco

2019 Selected Hot Topic and press release at Society for Neuroscience meeting, Chicago

2015 Research highlighted by Nature Review Drug Discovery

2015 Most influential paper of the year 2014 NARSAD young investigator

EDITORIAL/REVIEW BOARD

NWO, the Dutch Research Council VA Special Emphasis Panel/Scientific Review Group 2018/08 ZRD1 NURA-F (01)

Executive government agency of National Science Centre (Narodowe Centrum Nauki – NCN), Poland, Editorial Board: BMC Neuroscience, PLoS ONE, International Review of Neurobiology, Frontier in Neuroscience

CURRENT RESEARCH

Lu lab's research focuses on molecular genetics and genetic engineering. The overarching goal of Lu lab's research is to combine genetics and pharmacology to develop genetically targeted drug/gene therapy for neuropsychiatric disorders, cerebrovascular disorders, and cardiovascular disorders related to Methamphetamine use. Dr. Lu developed the first BAC transgenic mouse model of Parkinson's disease (PD). His translational study of Huntington's disease (HD) identified a novel therapeutic strategy (Sci. Transl. Med., 2015; Highlighted in Nat Rev Drug Discov. and was selected as the most influential paper of 2015 by HD insight). Dr. Lu co-invented a single-cell transgenic technology (MORF, Mosaicism with Repeat Frameshift) that received support from the first round of the Brain Initiative award. Funded by a NARSAD Young Investigator Award, Lu lab generated the next-generation mouse model for schizophrenia (Mol Psychiatry, 2019). Lu lab has an ongoing collaboration with the National Center for Advancing Translational Sciences (NCATS) to develop the small molecule VPAC2 antagonists. Lu lab recently invented a robust method for efficient and precise CRISPR/Cas9 mediated therapeutic genome editing in the adult mammalian brain. Lu lab is funded by NIEHS, NASA, NIGMS, and LSUHS.

SELECTED PUBLICATIONS

El-Saadi MW, Tian X, Ren M, Huang, S, **Lu XH**. Tracing environment-driven brain somatic mosaicism in Parkinson's disease with a novel single-cell probe of DNA surveillance and repair errors in post-mitotic neurons. *Science Advances*, 2022 Apr 15;8(15). (Impact factor 14.1)

Tian X, Richard A, El-Saadi MW, Bhandari A, Latimer B, Van Savage I, Holmes K, Klein RL, Dwyer D, Goeders NE, Yang XW, **Lu XH**. (2019) Dosage sensitivity intolerance of VIPR2 microduplication is disease causative to manifest schizophrenia-like phenotypes in a novel BAC transgenic mouse model. *Molecular Psychiatry-Nature*. PMID: 31444475. (Impact factor 15.9)

Richard AD, Tian XL, El-Saadi MW, **Lu XH**. (2018) Erasure of striatal chondroitin sulfate proteoglycan-associated extracellular matrix rescues aging-dependent decline of motor learning. *Neurobiology of Aging*. PMID: 30099347.

Lu XH, Yang XW. (2017) Genetically directed Sparse Neuronal Labeling in BAC Transgenic Mice through Mononucleotide Repeat Frameshift. *Scientific Report-Nature*. PMID: 28272512 (Brain Initiative award, featured in NIH director's blog).

Lu XH, Mattis VB, Wang N, Al-Ramahi I, van den Berg N, et al. (2015) Targeting ATM ameliorates mutant Huntingtin toxicity in cell and animal models of Huntington's disease. *Science Translational Medicine*. 24;6(268):268ra178. PMID: 25540325. (Impact factor; 17.1) (Most influential paper of the year)

Wang N, Gray M, **Lu XH**, Cattle JP, Holley SM, Greiner E, Gu X, Shirasaki D, Cepeda C, Li Y, Dong H, Levine MS, Yang XW. (2014) Neuronal targets for reducing mutant huntingtin expression to ameliorate disease in a mouse model of Huntington's disease. *Nature Medicine*, (Impact factor: 49.2)

Lu XH, Yang XW. (2013) "Huntingtin holiday": Progress toward an antisense therapy for Huntington's disease. *Neuron*. 1;74(6):964-6. PMID: PMC3513277 (Impact factor: 14.4).

Lu XH, Fleming SM, Meurers B, Ackerson LC, Mortazavi F, Lo V, Hernandez D, Sulzer D, Jackson GR, Maidment NT, Chesselet MF, Yang XW. BAC transgenic mice expressing a truncated mutant parkin exhibit age-dependent hypokinetic motor deficits, dopaminergic neuron degeneration, and accumulation of proteinase K-resistant alpha-synuclein. *J. Neuroscience*, 29: 1962–1976, 2009.



Kevin McCarthy, PhD

Professor and Chair, Department of Cellular Biology and Anatomy

kevin.mccarthy@lsuhs.edu

Joined LSUHS - 1997

EDUCATION/TRAINING

BS – Duquesne University

PhD – Albany Medical College

Post-Doctoral – University of Alabama

HONORS/AWARDS

Chairman and Grant Reviewer, NIDDK

Special Emphasis Panel for the George O'Brien Renal Research Centers

Chairman, Grant Reviewer Department of Defense

Grant Reviewer ADA

Grant Reviewer, NIH

CURRENT RESEARCH

The normal function of the nephron is both key and critical in maintaining homeostasis in most higher organisms. In terms of vascular biology, the nephron regulates both vascular tone and blood pressure. Our work focuses on discerning mechanisms by which the nephron fails as a result of long-term, poorly controlled diabetes mellitus. One aspect of our research is to gain a better understanding of the mechanisms by which the glomerulus, a capillary bed in the nephron, maintains its integrity under homeostasis and how the pathophysiology of diabetes mellitus causes failure of this capillary bed.

SELECTED PUBLICATIONS

Sharma S, Bhattarai S, Ara H, Sun G, St. Clair DK, Kevil CG, Watts MN, Dominic P, Shimizu T, Bhuiyan MS, **McCarthy KJ**, Sun H, Panchatcharam, Miriyala S* (2020) SOD2 deficiency in cardiomyocytes defines defective mitochondrial bioenergetics as a cause of lethal dilated cardiomyopathy. *Redox Biology* 37: 101740

KJ McCarthy (2020) Syndecan-4: major player or innocent bystander of the endothelial glycocalyx? *Kidney International* 97: 858-860.

Chandra, M., D Escalante-Alcalde, MS Bhuiyan, AW Orr, C Kevil, AJ Morris, H Nam, P Dominic, **KJ McCarthy**, S Miriyala, M. Panchatcharam (2018). Cardiac-specific inactivation of LPP3 in mice leads to myocardial dysfunction and heart failure. *Redox Biology* 14: 261-271.

Jackson, KL, Lin, W, M Panchatcharam, S Miriyala, **KJ McCarthy**, R Klein. (2017) Pathology model in the rat substantia nigra with filamentous inclusions and progressive neurodegeneration. *PLOS one* 12: e0169291.

Sugar T, DJ Wassenhove-McCarthy, J. Green, AW Orr, T van Kuppevelt, and **KJ McCarthy**. (2016) N-sulfation of heparan sulfate glycosaminoglycans is a key, critical component in podocyte cell-matrix interactions. *American Journal of Physiology-Renal Physiology*, 310: F1123-F1135.

Sugar T, DJ Wassenhove-McCarthy, JD Esko, T van Kuppevelt, L Holzman, and **KJ McCarthy**. (2014) Podocyte-specific deletion of NDST1, a key enzyme in the sulfation of heparan sulfate glycosaminoglycans, leads to abnormalities in podocyte organization in vivo. *Kidney International* 85: 307-318

Chen, S, Wassenhove-McCarthy, A Woods, L Holzman, Y Yamaguchi, T van Kuppevelt, and **KJ McCarthy**. (2010) Cell surface heparan sulfate glycosaminoglycans are important in mediating cell-matrix adhesion in podocytes. *Kidney International* 78: 1088-1099.

KJ McCarthy and DJ Wassenhove-McCarthy. (2012) The glomerular basement membrane as a model system to study the bioactivity of heparan sulfate glycosaminoglycans. *Microscopy and Microanalysis* 18:3-21.

Chen, S, Wassenhove-McCarthy, A Woods, L Holzman, Y Yamaguchi, T van Kuppevelt, and **KJ McCarthy**. (2010) Cell surface heparan sulfate glycosaminoglycans are important in mediating cell-matrix adhesion in podocytes. *Kidney International* 78: 1088-1099

Chen, S, Y Yamaguchi, A Woods, L Holzman, DJ Wassenhove-McCarthy, T Van Kuppevelt, G Jenniskens, T Winjhoven and **McCarthy KJ**, (2008) Loss of heparan sulfate glycosaminoglycan assembly in glomerular podocytes does not lead to rapidly developing proteinuria. *Kidney International* 74 (3): 289-299.



Kalgi Modi, MD, FACC, FSCAI, FASE

Professor, Department of Medicine

Director, Cardiology and Interventional Cardiology Fellowship Programs

Director, Echocardiography Laboratory

kalgi.modi@lsuhs.edu

CURRENT RESEARCH

Dr. Modi's research interests include cardiovascular disease in pregnancy and risk factors associated with premature cardiovascular disease in young adults. She has published more than 70 peer reviewed articles. She is a Fellow of American College of Cardiology, Fellow of Society of Coronary Angiography and Intervention, and Fellow of American Society of Echocardiography. She serves as a reviewer for Echocardiography, Open Cardiovascular Imaging, Journal at Neurology Imaging, Pathophysiology, Macedonian Journal of Medical Sciences, American Journal of Case Reports, and Yonsei Medical Journal, Transplant Infectious Disease, American Journal of Cardiology, and Journal of Critical Care Research.

SELECTED PUBLICATIONS

Flow-Driven Right-to-Left Cardiac Shunting in a Patient with Carcinoid Heart Disease and Patent Foramen Ovale without elevated Right Atrial Pressure: A Case Report and Literature Review, 00378R5 European Heart Journal, Accepted

Ischemic and bleeding outcomes of triple therapy in patients on chronic anticoagulation undergoing percutaneous coronary intervention: A meta-analysis of randomized trials, Khagendra Dahal, Usman Mustafa, Sharan P Sharma, Nachiket Apte, Hari Bogabathina, Magdy Hanna, Hussam Watti, Michael Azrin, Juyong Lee, Goerge Mina, Pavan Katikaneni, and **Kalgi Modi**, *JRSM Cardiovascular Disease*, November 2019 (peer)

Renal Denervation in the Management of Hypertension: A Meta-Analysis of Sham-Controlled Trials, June 2019, Cardiovascular Revascularization Medicine, DOI: 10.1016/j.carrev.2019.07.012, Khagendra B Dahal, Maria Khan, Najam Siddiqui, Juyong Lee, **Kalgi Modi**, *CRM*, July 2019 (peer)

Acute De Novo Multivessel Spontaneous Coronary Artery Dissection, May 2019 DOI: 10.1016/j.jaccas.2019.05.001, Lina Ya'qoub, **Kalgi Modi**, *JACC Case Reports*, May 2019 (peer)

Who benefits from percutaneous closure of patent foramen ovale vs medical therapy for stroke prevention? In-depth and updated meta-analysis of randomized trials, April 2019, World Journal of Cardiology (WJC) 11(4):126-136, Khagendra B Dahal, Adil Yousuf, Hussam Watti, **Kalgi Modi** (peer)

Mineralocorticoid Receptor Antagonism Treatment for All Patients with ST-Segment Myocardial Infarction? —Reply, October 2018, *JAMA Internal Medicine* 178(11):1567, *JAMA internmed*.2018.5964 Khagendra B Dahal, **Kalgi Modi** (peer)

Patent Foramen Ovale Closure for Recurrent Stroke Prevention: A Network Meta-Analysis of Randomized Controlled Trials, *Journal of Structural Heart*, October 2018, Volume 4, Issue 5:222-227 George Mina, Demiana Soliman, **Kalgi Modi** (peer)

Gender Based Differences in Outcomes of Percutaneous Coronary Intervention versus Coronary Artery Bypass Grafting for Multivessel Disease. A Meta-Analysis of Randomized Controlled Trials. August 2018, *Journal of the American College of Cardiology* 72(13): B241, George Mina, Khagendra B Dahal, Pavan Katikaneni, **Kalgi Modi**

Aldosterone Antagonist Therapy and Mortality in Patients with ST-Segment Elevation Myocardial Infarction without Heart Failure: A Systematic Review and Meta-analysis, May 2018, *JAMA Internal Medicine* 178(7), Khagendra B Dahal, Aditya Hendrani, Sharan P. Sharma, **Kalgi Modi** (peer)

Poor outcome of indigent patients with Peripartum Cardiomyopathy in the United States. **Kalgi A Modi**, Sandra Illum, Karim Jariatul, Gloria Caldito, Pratap C Reddy: *American journal of obstetrics and gynecology* 07/2009; 201(2): 171.e1-5/j.ajog.2009.04.037 (peer)

Joined LSUHS - 2002

EDUCATION/TRAINING

Cardiology – LSU Health Shreveport

Interventional Cardiology– University of Alabama

HONORS/SERVICE

Fellow, American College of Cardiology

Fellow, Society of Coronary Angiography and Intervention

Fellow, American Society of Echocardiography

Director, Cardiology Fellowship Program

Director, Interventional Cardiology Fellowship Program

Member, Women in Cardiology, ACC

Council Member, Women in Innovation Grant
Reviewer, Council Member, LAACC



Tarek Magdy Mohamed, PharmB, PhD

Assistant Professor, Department of Pathology, Feist Weiller Cancer Center, Center for Cardiovascular Diseases and Sciences

tarek.mohamed@lsuhs.edu

Joined LSUHS - 2022

EDUCATION/TRAINING

PharmB – Alexandria University

MSc – Stockholm University

PhD – University of Tübingen

Post-Doctoral – Northwestern University

HONORS/AWARDS

Career Development Award, American Heart Association, 2020

Northwestern Clinical and Translational Sciences Institute grant, Northwestern University, 2018

Predoctoral Fellowship, Marie Skłodowska-Curie, 2011-2014

SERVICE

Member of Genomic and Precision Medicine Council of American Heart Association (AHA)

Editorial Board, Frontiers in Pharmacogenetics and Pharmacogenomics

CURRENT RESEARCH

Dr. Magdy's research focuses on understanding the role of the genome in patient-specific drug response and disease predisposition. He has particularly developed an interest in the pharmacogenomics of cardio-oncology and cardiovascular diseases using human-induced pluripotent stem cells-derived cardiomyocytes (hiPSC-CMs). His laboratory performs comprehensive genetic studies on chemotherapy-induced toxicity with a focus on cardiotoxicity, including identification and validation of novel pharmacogenetic determinants, providing mechanistic explanations for drug-induced toxicity, and developing a genome-informed drug discovery pipeline. Another interest of his laboratory is to investigate the genetic causes of heart conduction disease including long QT syndrome and arrhythmias using patient-specific hiPSC-CMs.

SELECTED PUBLICATIONS

Magdy T, Jouni M, Kuo HH, Weddle CJ, Lyra-Leite D, Fonoudi H, Romero-Tejeda M, Gharib M, Javed H, Fajardo G, Ross CJD, Carleton BC, Bernstein D, Burrridge PW. Identification of Drug Transporter Genomic Variants and Inhibitors That Protect Against Doxorubicin-Induced Cardiotoxicity. *Circulation*. 2022. PMID: 34874743.

Magdy T, Jiang Z, Jouni M, Fonoudi H, Lyra-Leite D, Jung G, Romero-Tejeda M, Kuo HH, Fetterman KA, Gharib M, Burmeister BT, Zhao M, Sapkota Y, Ross CJ, Carleton BC, Bernstein D, Burrridge PW. RARG variant predictive of doxorubicin-induced cardiotoxicity identifies a cardioprotective therapy. *Cell Stem Cell*. 2021. PMID: 34525346.

Huang KM, Zavorka Thomas M, **Magdy T**, Eisenmann ED, Uddin ME, DiGiacomo DF, Pan A, Keiser M, Otter M, Xia SH, Li Y, Jin Y, Fu Q, Gibson AA, Bonilla IM, Carnes CA, Corps KN, Coppola V, Smith SA, Addison D, Nies AT, Bundschuh R, Chen T, Lustberg MB, Wang J, Oswald S, Campbell MJ, Yan PS, Baker SD, Hu S, Burrridge PW, Sparreboom A. Targeting OCT3 attenuates doxorubicin-induced cardiac injury. *Proc Natl Acad Sci USA*. 2021. PMID: 33495337.

Magdy T, Kuo HH, Burrridge PW. Precise and Cost-Effective Nanopore Sequencing for Post-GWAS Fine Mapping and Causal Variant Identification. *iScience*. 2020. PMID: 32203907.

Castellino SM, Dreyer ZE, Hudson MM, Robison LL, **Magdy T**, Blanco JG, Relling MV, Burrridge P, Bhatia S. Association of GSTM1 null variant with anthracycline-related cardiomyopathy after childhood cancer-A Children's Oncology Group ALTE03N1 report. *Cancer*. 2020. PMID: 32413235.



Kevin Murnane, PhD

*Associate Professor, Departments of Pharmacology, Toxicology & Neuroscience and Psychiatry
Director, Basic Sciences Research, Louisiana Addiction Research Center (LARC)*

kevin.murnane@lsuhs.edu

CURRENT RESEARCH

Dr. Murnane's research is focused on the etiology, pathophysiology, pharmacology, neurobiology, and treatment of substance use disorders. Areas of special emphasis include novel pharmacotherapeutics for substance use disorders, mood changes and cognitive impairments comorbid to addiction, neurodegenerative decline following exposure to abused substances, and the cardiovascular insults induced by substance abuse and addiction. Recent studies have focused on how new drug targets modulate inflammation, oxidative stress, and monoamine systems to affect mood, motivation, and cognition. Our long-term ambition is that the knowledge gained in these studies will allow for the development of new therapeutics with first-in-class disease modifying effects for substance use disorders.

SELECTED PUBLICATIONS

Batra V, **Murnane KS**, Knox B, Edinoff A, Ghaffar Y, Nussdorf L, Petersen M, Kaufman S, Jiwani S, Casey C, Terhoeve S, Dominic P, and Patterson JC (Accepted) Early onset cardiovascular disease related to methamphetamine use is the most striking in individuals who are under 30 or African American: A retrospective chart review. *Addictive Behaviors Reports* PMID: 35620216

McClary-Gutierrez JS, Aanderud ZT, Al-faliti M, Duvallet C, Gonzalez R, Guzman J, Holm RH, Jahne MA, Kantor RS, Katsivelis P, Kuhn KG, Langan LM, Mansfeldt C, McLellan SL, Mendoza Grijalva LM, **Murnane KS**, Naughton CC, Packman AI, Paraskevopoulos S, Radniecki TS, Roman FA, Shrestha A, Stadler LB, Steele JA, Swalla BM, Vikesland P, Wartell B, Wilusz CJ, Ching Wong JC, Boehm AB, Halden RU, Bibby K, and Vela JD (In Press) Standardizing data reporting in the research community to enhance the utility of open data for SARS-CoV-2 wastewater surveillance. *Environmental Science: Water Research & Technology* PMID: 34567579

Joshi DJ, Chitre NM, Bansal A, **Murnane KS**, D'Souza MJ. (In Press) Formulation and Characterization of Microcapsules Encapsulating PC12 Cells as a Prospective Treatment Approach for Parkinson's Disease. *AAPS PharmSciTech* May 7;22(4):149 PMID: 33961149.

Wong JC, Shapiro L, Thelin JT, Heaton E, Zaman RU, D'Souza MJ, **Murnane KS**, and Escayg A (In Press) Nanoparticle encapsulated oxytocin increases resistance to induced seizures and restores social behavior in Scn1a-derived epilepsy. *Neurobiology of Disease* PMID: 33189882

Kumar A, Krishnamachary B, Mahajan A, Chen L, Goeders NE, Walter RE, **Murnane KS**, and Dhillon NK (Accepted) Chapter 64: Chronic Exposure to Methamphetamine Induces Pulmonary Arterial Hypertension in Male Rats. *Lung Vascular Biology and Mechanisms of Pulmonary Arterial Hypertension*. American Thoracic Society

Sagrera CE, Alderman L, Goeders NE, and **Murnane KS** (In Press) Elucidating the Role of Trauma and Significant Life Stress in the Disease of Addiction may Provide New Targets for Medication Development. *CNS & Neurological Disorders - Drug Targets* PMID: 35546748

Edinoff AN, Nix CA, McNeil SE, Wagner SE, Johnson CA, Williams BC, Cornett EM, **Murnane KS**, Kaye AM, Kaye AD (In Press) Prescription stimulants in individuals with and without attention deficit hyperactivity disorder: misuse, cognitive impact, and adverse effects. *Psychiatry International*

Dominic P, Ahmad J, Awwab H, Bhuiyan S, Kevil CG, Goeders NE, **Murnane KS**, Patterson JC, Sandau KE, Gopinathannair R, and Olshansky B (Accepted) Stimulant Drugs of Abuse and Cardiac Arrhythmias. *Circulation: Arrhythmia and Electrophysiology* PMID: 34961335

Oppong-Damoah A, Gannon BM, and **Murnane KS** (2022) The endocannabinoid system and alcohol dependence: Will cannabinoid receptor 2 agonism be more fruitful than cannabinoid receptor 1 antagonism? *CNS & Neurological Disorders - Drug Targets* 21(1):3-13 PMID: 33573565

Edinoff AN, Fort JM, Singh C, Wagner SE, Rodriguez JR, Johnson CA, Cornett EM, **Murnane KS**, Kaye AM, Kaye AD (2022) Alternative Options for Complex, Recurrent Pain States Using Cannabinoids, Psilocybin, and Ketamine: A Narrative Review of Clinical Evidence. *Neurology International* PMID: 35645354

Edinoff AN, Thompson E, Merriman CE, Alvarez MR, Alpaugh ES, Cornett EM, **Murnane KS**, Kozinn RL, Shah-Bruce M, Kaye AM, Kaye AD (2022) Oxytocin, a Novel Treatment for Methamphetamine Use Disorder. *Neurology International* PMID: 35225885

Joined LSUHS - 2020

EDUCATION/TRAINING

BS – University of Georgia

PhD – Emory University

Post-Doctoral – Yerkes National Primate Research Center

HONORS/SERVICE

2022-Invited Chair, NIH Study Section ZDA1 GXM-A (02) R, Advancing Validated Drug Targets for Substance Use Disorders

2022-Invited Reviewer, NIH Study Section ZDA1 IXR-Q, NIDA HEAL Initiative: Novel Targets for Opioid Use Disorders and Opioid Overdose

2021-Invited Reviewer, NIH Standing Study Section – Neurobiology of Motivated Behavior (NMB)

Treasurer and Executive Committee, International Society for Research on Psychedelics

Executive Committee and Internal Advisory Committee, Program of Multidisciplinary Training in Cardiovascular Pathophysiology (T32), LSU Health Sciences Center

HONORS/AWARDS TRAINEES

Nicole Hall

Travel Award to present at Curious 2022 Future Insight Conference in Darmstadt, Germany



Joined LSUHS - 2020

EDUCATION/TRAINING

BS – University of Georgia

DPT – Emory University

Sarah Murnane, PT, DPT, CWS

*Clinical Assistant Professor, Department of Physical Therapy
Director, Center of Academic Excellence in Patient Centered
Rehabilitation*

*Director, Wound Management Residency
Certified Wound Specialist (CWS)*

sarah.murnane@lsuhs.edu

CURRENT RESEARCH

Dr. Murnane's research focuses on the use of blood flow restriction therapy to improve function in patients with peripheral vascular disease and diabetes. She has a robust clinical practice within the Faculty Practice Clinic in the School of Allied Health treating a wide variety of patients with wounds due to compromised blood flow and inflammation.

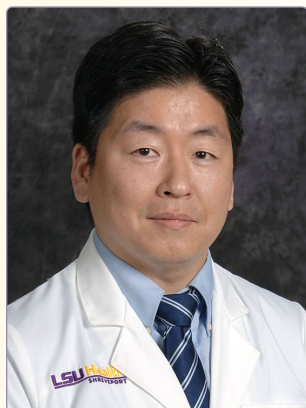
Dr. Murnane is the director of the country's only post professional wound management residency in physical therapy where we treat hundreds of patients with wounds that are directly related to an impaired cardiovascular system.

As a clinical professor specializing in wound care for almost 20 years, Dr. Murnane has the platform to draw a large patient population from the Ark-La-Tex area who suffer from diabetes, many with associated cardiovascular disease. Translational research that can be conducted at the Faculty Practice Clinic in Allied Health in conjunction with basic science researchers on campus has the ability to change patient practice and improve health outcomes.

SELECTED PUBLICATIONS

Edinoff, A; Fitz-Gerald, J; **Murnane, S**; Holland, KA; Reed, JG; Minter, SG; Kaye, AJ;; Kaye, AM; Cornett, EM; Kaye, AD; Viswanath, O; Urits, I. Adjuvant drugs for peripheral nerve blocks: the role of NMDA Antagonists, neostigmine, epinephrine, and sodium bicarbonate. *Anesthesia and Pain Medicine*. Vol 11 (3). 2021

Natural Products in the Treatment of Unremitting Wounds Secondary to Diabetes or Peripheral Vascular Disease (Accepted 2021). Taylor and Francis Books



Hugh Nam, PhD

Associate Professor, Department of Pharmacology, Toxicology and Neuroscience

hyung.nam@lsuhs.edu

CURRENT RESEARCH

We are studying that endothelial nitric oxide synthetase (NOS) mechanism using calcium-dependent neurogranin (Ng) signaling. Our study has been focusing on how Ng-eNOS pathway regulates endothelial activation and cardiovascular disease. Ng expression in the brain attenuates Ca²⁺-CaM complex formation and plays a critical role in regulating neuronal nitric oxide synthase (nNOS) activation. Interestingly, our new results indicate that Ng expression is significantly decreased in the left anterior descending artery of coronary artery disease patients. Ng knockdown in human aortic endothelial cells (HAEC) and that it also suppresses both endothelial nitric oxide synthase (eNOS) expression and AKT-mediated eNOS activity during shear stress. We therefore hypothesize that Ng expression in the endothelium regulates both eNOS activity and expression. Dysfunction in Ng expression decreases NO production, resulting in endothelial activation and inflammation. We have used both in vitro and in vivo model systems using a combination of cutting-edge techniques including CRISPR/Cas9, flow-mediated dilation, partial carotid ligation, and label-free proteomics. Overall, our studies will have a broad impact on the field by dissecting the crucial roles of Ng-mediated eNOS regulation in regulating endothelial activation and atherosclerosis. In the long term, these studies may reveal novel NO therapeutic targets in the treatment of cardiovascular disease.

SELECTED PUBLICATIONS

Reker AN, Oliveros A, Hinton DJ, Kim T, Bruner RC, Sullivan JM, Choi DS, Goeders NE, **Nam HW**. (2018) Neurogranin in the nucleus accumbens regulates NMDA receptor tolerance and motivation for ethanol seeking. *Neuropharmacology*. 131: 58-67.

Sullivan JM, Grant C, Reker AN, Nahar L, Goeders NE, **Nam HW**. (2019) Neurogranin regulates sensory motor gating through cortico-striatal circuitry, *Neuropharmacology*. 150:91-99

Nam HW, Grant CA, Jorgensen AN, Holtz-Heppelmann CJ, Trutschl M, Cvek U, (2020) Neurogranin regulates alcohol sensitivity through AKT pathway in the nucleus accumbens. *Proteomics*. 20(1): e1900266.

Cheriyian V, Alfaidi M, Jorgensen AN, Alam MA, Abdullah CS, Kolluru GK, Bhuiyan MD, Kevil CG, Orr AW, **Nam HW**. (2020) Neurogranin regulates eNOS function and endothelial activation. *Redox Biology*, 34: 101487, 2020

Nahar L, Grant CA, Hewett C, Cortes D, Reker AN, Kang S, Choi DS, **Nam HW**. (2020) Regulation of Pv-Specific Interneurons in the Medial Prefrontal Cortex and Reward-Seeking Behaviors, *J Neurochem*, 156(2):212-224, 2021

Nahar L, Delacroix BM, **Nam HW**. (2021) The Role of Parvalbumin Interneurons in Neurotransmitter Balance and Neurological Disease. *Front Psychiatry*.;12:679960

Nahar L, Kaufman SE, Davis PG, Saunders SL, Disbrow EA, Patterson J, **Nam HW**. (2022) Blood Glutamine Synthetase Signaling in Alcohol Use Disorder and Racial Disparity, *Transl Psychiatry*, 12: 71

Jorgensen AN, Abdullah CS, Bhuiyan MS, Watt M, Dominic P, Kevil CG, **Nam HW**. (2022) Neurogranin regulates calcium-dependent cardiac hypertrophy, *Experimental and Molecular Pathology*, 127, 104815

Joined LSUHS - 2014

EDUCATION/TRAINING

BS– Yonsei University, South Korea

MS– Yonsei University, South Korea

PhD – Yonsei University, Korea

Post-Doctoral – Mayo Clinic College of Medicine, Rochester, MN

HONORS/AWARDS

2008 Post Doctoral Research Award, Korea Research Foundation.

2009 Travel Award, Behavior, Biology, and Chemistry (BBC) Conference.

2012 Finalist for Ziskind-Somerfeld

Research Award, Society of Biological Psychiatry.

2013 Travel Award, Behavior, Biology, and Chemistry (BBC) Conference.

2014 NARSAD Young Investigator Award

2017 NARSAD Young Investigator Award



A. Wayne Orr, PhD

Professor, Department of Pathology

Director, Pathology Research Division

Director, Center for Cardiovascular Diseases and Sciences

wayne.orr@lsuhs.edu

Joined LSUHS - 2007

EDUCATION/TRAINING

BS – Hendrix College

PhD – University of Alabama

Post-Doctoral – University of Virginia

HONORS/SERVICE

Member of the Irvine H. Page Award Committee, ATVB Council of American Heart Association (AHA)

Member, North American Vascular Biology Association (NAVBO) Meritorious Awards Committee

Editorial Board, Arteriosclerosis, Thrombosis and Vascular Biology (ATVB)

Associate Editor, American Journal of Pathology

Invited Speaker, Biomechanics in Vascular Biology Gordon Conference

Organizer, NAVBO Vascular Biology 2023 Conference

HONORS/AWARDS TRAINEES

Brenna Pearson

NIDDK Extramural F31 Fellowship

Matthew Scott

CCDS Postdoctoral Fellowship

CURRENT RESEARCH

Dr. Orr's research focuses on the signaling mechanisms regulating cardiometabolic disease. His research seeks to understand how the local microenvironment (biomechanics, cell-cell and cell-matrix adhesion) affects cell signaling during pathological processes. Work from his group has identified a critical role for the extracellular matrix in the regulation of vascular cell function in atherosclerosis, characterizing novel signaling mechanisms and identifying specific receptors involved in this response. His laboratory studies the mechanisms regulating atherogenic endothelial activation with a current focus on integrins and the adaptor protein Nck1 and the role of the guidance molecule EphA2 in metabolic dysfunction, inflammation, and fibrosis in atherosclerosis and metabolism-associated steatohepatitis.

SELECTED PUBLICATIONS

Finney A.C., Funk S.D., Green J.M., Yurdagul A. Jr., Rana M.A., Pistorius R., Henry M., Yurochko A.D., Pattillo C.B., Traylor J.G., Chen J., Woolard M.D., Kevil C.G., and **A.W. Orr.** (2017) EphA2 expression regulates inflammation and fibroproliferative remodeling in atherosclerosis. *Circulation*, 136: 566-582.

Yuan S.*, Yurdagul Jr. A.*, Peretik J.M., Alfaidi M., Al Yafeai Z., Pardue S., Kevil C.G., and **A.W. Orr.** (2018) Cystathionine γ -lyase modulates flow-dependent vascular remodeling. *Arterioscler. Thromb. Vasc. Biol.*, 38: 2126-2136. *co-authors

Al-Yafeai Z.*, Yurdagul Jr. A.*, Peretik J.M., Alfaidi M., Murphy P., and **A.W. Orr.** (2018) Endothelial $\alpha 5 \beta 1$ integrins regulate fibronectin deposition, inflammation, and early atherosclerosis: a novel regulatory role for cell-derived fibronectin. *Arterioscler. Thromb. Vasc. Biol.*, 38: 2601-2614. *co-authors

Kevil C.G., Goeders N.E., Woolard M.D., Bhuiyan M.S., Dominic P., Arnold C.L., Kolluru G., Traylor J.G., and **A.W. Orr.** (2019) Methamphetamine Use and Cardiovascular Disease: in search of answers. *Arterioscler. Thromb. Vasc. Biol.*, 39: 1739-1746.

Alfaidi M., Acosta C.H., Wang D., Traylor J.G., and **A.W. Orr.** (2020) Selective role of Nck1 in atherogenic inflammation and plaque formation. *J. Clin. Invest.*, 130: 4331-4347.

Al-Yafeai Z., Pearson B.H., Peretik J.M., Cockerham E.D., Reeves K.A., Bhattarai U., Wang D.D., Petrich B.G., and **A.W. Orr.** (2020) Integrin affinity modulation critically regulates atherogenic endothelial activation in vitro and in vivo. *Matrix Biol.*, 96: 87-103.

Scott M.L., Murnane K.S., and **A.W. Orr.** (2021) Young at heart? Drugs of abuse cause early-onset cardiovascular disease in the young. *Heart*, 107: 604-606.

Finney A.C.*, Scott M.L.*, Reeves K.A., Wang D.D., Alfaidi A., Schwartz J.C., Chitmon C.M., Acosta C.H., Murphy J.M., Alexander J.S., Pattillo C.B., Lim S.S., and **A.W. Orr.** (2021) EphA2 signaling within integrin adhesions regulates fibrillar adhesion elongation and fibronectin deposition. *Matrix Biol.*, 103-104: 1-21. *co-first author



Manikandan Panchatcharam, PhD

Associate Professor, Department of Cellular Biology and Anatomy

manikandan.panchatcharam@lsuhs.edu

CURRENT RESEARCH

Dr. Panchatcharam's research focuses on lipids which play a major factor in blocking blood vessels leading to heart attack and stroke. Among those major lipids, Lysophosphatidic acid (LPA) has been regulated and controlled by Autotaxin (ATX) and Lipid Phosphate Phosphatases (LPPs) which plays a pivotal role. His laboratory focuses on the role of ATX-LPA-LPP axis involved in cerebro-cardiovascular functions. He is a PI and Co-Investigator on NIH R01, R21, R15 and COBRE grants at LSUHS.

SELECTED PUBLICATIONS

Bhattacharai S, Sharma S, Subedi U, Ara H, Shum A, Milena M, Bhuiyan MS, Kidambi S, Sun H, Miriyala S, **Panchatcharam M**. The ATX–LPA Axis Regulates Vascular Permeability during Cerebral Ischemic-Reperfusion. *International Journal of Molecular Sciences*. 2022; 23(8):4138. <https://doi.org/10.3390/ijms23084138>

Rotenone-Induced 4-HNE Aggresome Formation and Degradation in HL-1 Cardiomyocytes: Role of Autophagy Flux. Sharma S, Patel F, Ara H, Bess E, Shum A, Bhattacharai S, Subedi U, Bell DS, Bhuiyan MS, Sun H, Batinic-Haberle I, **Panchatcharam M**, Miriyala S *Int J Mol Sci*. 2022 Apr 23;23(9):4675. doi: 10.3390/ijms23094675. (PMID: 35563066).

Li C, Li J, Loreno EG, Miriyala S, **Panchatcharam M**, Lu X, Sun H. Chronic Low-Dose Alcohol Consumption Attenuates Post-Ischemic Inflammation via PPAR γ in Mice. *Int J Mol Sci*. 2021 May; 22(10): 5121. Published online 2021 May 12. doi: 10.3390/ijms22105121. (PMCID: PMC8150922)

Li C, Li J, Loreno EG, Miriyala S, **Panchatcharam M**, Sun H. Protective Effect of Low-Dose Alcohol Consumption against Post-Ischemic Neuronal Apoptosis: Role of L-PGDS. *Int J Mol Sci*. 2021 Dec 23;23(1):133. doi: 10.3390/ijms23010133. (PMID: 35008575)

Bhattacharai S, Sharma S, Ara H, Subedi U, Sun G, Li C, Bhuiyan MS, Kevil C, Armstrong WP, Minvielle MT, Miriyala S, **Panchatcharam M**. Disrupted Blood-Brain Barrier and Mitochondrial Impairment by Autotaxin-Lysophosphatidic Acid Axis in Postischemic Stroke. *J Am Heart Assoc*. 2021 Sep 21;10(18): e021511. doi: 10.1161/JAHA.121.021511. Epub 2021 Sep 13. (PMID: 34514847)

Sharma S, Bhattacharai S, Ara H, Sun G, St. Clair DK, Kevil CG, Watts MN, Dominic P, Shimizu T, Bhuiyan MS, McCarthy KJ, Sun H, **Panchatcharam M**, Miriyala S*. SOD2 deficiency in cardiomyocytes defines defective mitochondrial bioenergetics as a cause of lethal dilated cardiomyopathy. *Redox Biology* 2020 Sep 30; 37:101740. doi: 10.1016/j.redox.2020.101740. (PMID: 33049519)

Chandra M, Escalante-Alcalde D, Bhuiyan MS, Orr AW, Kevil CG, Morris AJ, Nam H, Dominic P, McCarthy KJ, Miriyala S, **Panchatcharam M**. Cardiac- specific inactivation of LPP3 in mice leads to myocardial dysfunction and heart failure. *Redox Biology*. 14, 261-271; 2018.

Joined LSUHS - 2013

EDUCATION/TRAINING

BS – University of Madras

MS – University of Madras

PGDCA – Loyola Institute of Business Administration

MPhil – University of Madras

PhD – University of Madras

Post-Doctoral – UNC-Chapel Hill, University of Kentucky

MBA – Louisiana State University Shreveport

MPH – Louisiana State University Shreveport

FAHA – Fellow of the American Heart Association

FCVS – Fellow of American Physiological Society-Cardiovascular Section

HONORS/AWARDS

Member, American Diabetes Association (ADA)

Member, Council and Grant Review, American Heart Association (AHA)

ATVB Young Investigator Award - American Heart Association

Member, North American Vascular Biology Association (NAVBO)

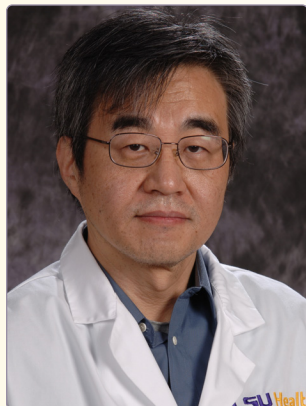
Member of The National Society of Leadership and Success (MBA Honors Selection)

Member of The Sigma Iota Epsilon (MBA Honors Selection)

The Honor Society Foundation (MPH Honor selection)

Member, International Society of Heart Research

Member of American Physiological Society



Changwon Park, PhD

Associate Professor, Department of Molecular and Cellular Physiology

changwon.park@lsuhs.edu

CURRENT RESEARCH

We previously demonstrated that unlike other ETS factors exhibiting varying degrees of redundancy, ETV2 deficient mice die early in gestation due to complete block in blood and blood vessel formation. Further, our studies have revealed that ETV2 acts as a direct upstream inducer of genes critical for generation and function of endothelial cells (ECs). In a subsequent report, we have successfully shown that the dormant ETV2 in adult ECs is reactivated to trigger the angiogenic program in response to ischemic injury. We have also reported that ETV2 alone can directly reprogram terminally differentiated somatic cells into functional ECs, inarguably supporting the idea that ETV2 is a highly specific and potent vasculo-angiogenic factor. We are currently deciphering molecular mechanisms behind ETV2-mediated vascularization by employing basic molecular biology, epigenetics and genetically modified mice coupled with several angiogenesis mouse models.

SELECTED PUBLICATIONS

Kabir, A., Subramanian, M. Lee, D.H., Wang, X., , Krchma, K., Wu, J., Naismith, T., Halabi, C.M., Kim, J.Y., Pulous, F., Petrich, B., Kim, S., Park, H-C., Hanson, P.I., Pan, H., Wickline, S.A., Fremont, D.H., ***Park, C.**, and ***Choi, K.** (2021) Dual role of endothelial *Myct1* in tumor angiogenesis and tumor immunity. *Sci. Transl. Med.* 13, eabb6731. ***Corresponding authors.** Published with cover image.

Ju, S., Lim, L., Wi, K., **Park, C.**, Ki Y-J., Choi, D-H., Song, H. (2021) LRP5 Regulates HIF-1 α Stability via Interaction with PHD2 in Ischemic Myocardium. *Int. J. Mol. Sci.* 22(12):6581.

Lee, T.J., Kang, H.K., Berry, J.C., Joo, H.G., **Park, C.**, Miller, M.J., and Choi, K. (2021) ER71/ETV2 Promotes Hair Regeneration from Chemotherapeutic Drug-Induced Hair Loss by Enhancing Angiogenesis. *Biomol. Ther.* 2021 Apr 5. doi: 10.4062/biomolther.2021.022.

Jang, A., Chang, S., **Park, C.**, Lee, C-M., Benza, R., Passineau, M., Ma, J., Archer, D., Sutliff, R., Hart, C.M., and Kang, B-Y. (2021) PPAR γ Activation Increases HUWE1 to Attenuate NF- κ B/p65 and Sickle Cell Disease with Pulmonary Hypertension. *Blood Advances* 5(2):399-413.

Wongtrakool, C., Ko, J., Jang, A.J., Grooms, K., Chang, S., Kosmider, B., Bahmed, K., Blackburn, M.R., Sutliff, R., Hart, C.M., **Park, C.**, Nyunoya, T., Lu, Q., and Kang, B-Y. (2020) MicroRNA-98 reduces nerve growth factor expression in nicotine-induced airway remodeling. *J. Biol. Chem.* 295(52):18051-18064.

Kim, J.Y., Lee, D., Kim, J.K., Choi, H., Dwivedi, B., Rupji, M., Kowalski, J., Green, J.S., Park, W., Chang, C., Song, H., Kim, T-M., and **Park, C.** (2019) ETV2/ER71 regulates the generation of FLK1 $^{+}$ cells from mouse embryonic stem cells through miR-126-MAPK signaling. *Stem Cell Res. Ther.* 10(1):328.

-Lee, D.H., Kim, T.M., Kim, J.K., and **Park, C.** (2019) ETV2/ER71 transcription factor as a therapeutic vehicle for cardiovascular disease. *Theranostics* 9:5694- 5705.

Joined LSUHS - 2020

EDUCATION/TRAINING

BS – Korea University, Republic of Korea

MS – Seoul National University, Republic of Korea

PhD – Washington University, St. Louis, MO

Post-Doctoral – Washington University

SERVICE/HONORS

Grant Review, American Heart Association (AHA), NIH



Chris Pattillo, PhD

Associate Professor, Department of Molecular and Cellular Physiology

christopher.pattillo@lsuhs.edu

CURRENT RESEARCH

Arteriogenesis is the process that occurs when small caliber arterioles become larger and capable of carrying much more blood flow. This process usually occurs due to increased shear rates in the arterial tree. Our R01 is focused on the effect that glutathione plays on proteins involved in the process of arteriogenesis. Preliminary data suggest that protein glutathionylation may play a role in both the inflammatory and the cellular signaling cascades responsible for artery remodeling.

SELECTED PUBLICATIONS

Rashdan NA, Shrestha B, **Pattillo CB**. (2020) S-glutathionylation, friend or foe in cardiovascular health and disease. *Redox Biol.* Oct; 37:101693. doi: 10.1016. PubMed PMID: 32912836.

Rashdan NA, **Pattillo CB**. (2020) Hydrogen peroxide in the ER: A tale of triage. *Redox Biol.* Jan; 28:101358. doi: 10.1016. PubMed PMID: 31685402; PubMed Central PMCID: PMC6920092.

Abdullah CS, Alam S, Aishwarya R, Miriyala S, Bhuiyan MAN, Panchatcharam M, **Pattillo CB**, Orr AW, Sadoshima J, Hill JA, Bhuiyan MS. (2019) Doxorubicin-induced cardiomyopathy associated with inhibition of autophagic degradation process and defects in mitochondrial respiration. *Sci Rep.* doi: 10.1038/s41598-018-37862-3. PubMed PMID: 30765730; PubMed Central PMCID: PMC6376057.

Gopalakrishnan P, Shrestha B, Kaskas AM, Green J, Alexander JS, **Pattillo CB**. (2019) Hydrogen sulfide: Therapeutic or injurious in ischemic stroke? *Pathophysiology.* (1):1-10. doi: 10.1016. 10.005. Review. PubMed PMID:30528175.

Leskova W, Pickett H, Eshaq RS, Shrestha B, **Pattillo CB**, Harris NR. (2019) Effect of diabetes and hyaluronidase on the retinal endothelial glycocalyx in mice. *Exp Eye Res.* 179:125-131. doi: 10.1016/j.exer.2018.11.012. PubMed PMID: 30445048; PubMed Central PMCID: PMC6360107.

Prasai PK, Shrestha B, Orr AW, **Pattillo CB**. (2018) Decreases in GSH: GSSG activate vascular endothelial growth factor receptor 2 (VEGFR2) in human aortic endothelial cells. *Redox Biol.* 19:22-27. doi: 10.1016. PubMed PMID: 30096614; PubMed Central PMCID: PMC6086407.

Shrestha B, Prasai PK, Kaskas AM, Khanna A, Letchuman V, Letchuman S, Alexander JS, Orr AW, Woolard MD, **Pattillo CB**. (2018) Differential arterial and venous endothelial redox responses to oxidative stress. *Microcirculation.* (7): e12486. doi: 10.1111/micc.12486. PubMed PMID: 29923664; PubMed Central PMCID: PMC6226026.

Joined LSUHS - 2012

EDUCATION/TRAINING

BS – Centenary College of Louisiana

MS – University of Tennessee Health Science Center

PhD – Temple University

Post-Doctoral – LSU Health Shreveport

HONORS/SERVICE

Grant Review:

AHA CDA Vascular 2 (ad hoc)

NIH BBHV (ad hoc)

VA CARB (ad hoc)

NIH IVPP (ad hoc)

NIH AVI (ad hoc)

Member, APS

Member, American Heart Association (AHA)

Member, SFRBM

Member, Microcirculation



Krista Rodgers, PhD

Assistant Professor, Department of Cellular Biology and Anatomy

krista.rodgers@lsuhs.edu

Joined LSUHS - 2020

EDUCATION/TRAINING

BS – University of Central Oklahoma

MA – University of Central Oklahoma

PhD – University of Colorado Boulder

Post-Doctoral – University of Colorado, Anschutz Medical Campus

Research Assistant Professor – UC Anschutz Medical

HONORS/AWARDS

NIH R01, National Institute of Neurological Disorders and Stroke

Pilot Project Award, Center for Applied Immunology and Pathological Processes

Grant-In-Aid-Award, Center for Cardiovascular Diseases and Sciences

Editorial Board, Frontiers in Neurology

Review Editor, Frontiers in Neurology - Stroke

CURRENT RESEARCH

My research aims to improve our understanding of the processes underlying brain repair and regeneration following cerebral ischemia, which is critical given the lack of reparative treatments and high rates of stroke-related disabilities among survivors. Neurogenesis is a process involving the generation of new neurons from neural progenitor cells and may hold promise as a therapeutic target for neuronal regeneration. Our laboratory has found marked newborn neuron survival in the ischemic core at long-term time points following stroke, along with improved functional outcomes. Investigation of the mechanisms that underlie this inherent capacity for neuronal replacement and subsequent functional recovery is essential to the development of novel therapies for the treatment of stroke.

SELECTED PUBLICATIONS

Marquez-Ortiz R.A., Tesic V., Hernandez D.R., Akhter, B., Aich, N., Boudreaux P.B., Clemons G.A., Wu C.Y., Lin H.W., and **Rodgers, K.M.** (2023) Neuroimmune support of neuronal regeneration and neuroplasticity following cerebral ischemia in juvenile mice. *Brain Science*, 13(9):1337. doi: 10.3390/brainsci13091337.

Acosta C.H., Clemons G.A., Citadin C.T., Carr W.C., Udo M.S.B., Tesic V., Sanicola H.W., Freelin A.H., Toms J.B., Jordan J.D., Guthikoda B., **Rodgers K.M.**, Wu C.Y., Lee R.H., Lin H.W. (2023) PRMT7 can prevent neurovascular uncoupling, blood-brain barrier permeability, and mitochondrial dysfunction in repetitive and mild traumatic brain injury. *Experimental Neurology*, 366:114445. doi: 10.1016/j.expneurol.

Clemons G.A., Silva A.C.E., Acosta C.H., Udo M.S.B., Tesic V., **Rodgers K.M.**, Wu C.Y., Citadin C.T., Lee R.H., Neumann J.T., Allani S., Prentice H., Zhang Q., Lin H.W. (2022) Protein arginine methyltransferase 4 modulates nitric oxide synthase uncoupling and cerebral blood flow in Alzheimer's disease. *Journal Cellular Physiology*. doi: 10.1002/jcp.30858.

Wu C.Y., Couto E Silva A., Citadin C.T., Clemons G.A., Acosta C.H., Knox B.A., Grames, M.S., **Rodgers K.M.**, Lee R.H., Lin H.W. (2021) Palmitic acid methyl ester inhibits cardiac arrest induced neuroinflammation and mitochondrial dysfunction. *Prostaglandins Leukot Essent Fatty Acids*, 165:102227.

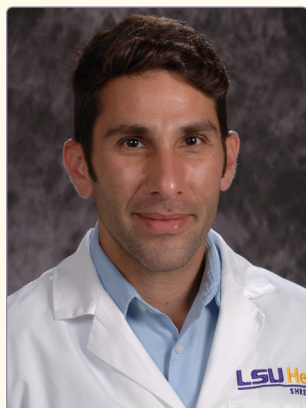
Orfila JE, Dietz RM, **Rodgers KM**, Dingman A, Patsos O, Cruz-Torres, Grewal H, Strnad F, Schroeder C, Herson PS. (2020) Experimental pediatric stroke shows age-specific recovery of cognition and role of hippocampal Nogo-A receptor signaling. *Journal of Cerebral Blood Flow & Metabolism*, 40(3): 588-599.

Orfila J.E., Grewal H., Dietz R.M., Strnad F., Shimizu T., Moreno M., Schroeder C., Yonchek J., **Rodgers K.M.**, Dingman A., Bernard T.J., Quillinan N., Macklin W.B., Traystman R.J., Herson P.S. (2019) Delayed inhibition of tonic inhibition enhances functional recovery following experimental ischemic stroke. *Journal of Cerebral Blood Flow & Metabolism*, 39(6): 1005-1014.

Dingman A.L., **Rodgers K.M.**, Dietz R.M., Hickey S.P., Frazier A.P., Clevenger A.C., Yonchek J.C., Traystman R.J., Macklin W.B., Herson P.S. (2019) Oligodendrocyte Progenitor Cell Proliferation and Fate after White Matter Stroke in Juvenile and Adult Mice. *Developmental Neuroscience*, 12:1-16.

Rodgers K.M., Ahrendsen J.T., Patsos O.P., Strnad F.A., Yonchek J.C., Traystman R.J., Macklin W.B., Herson P.S. (2018) Endogenous Neuronal Replacement in the Juvenile Brain Following Cerebral Ischemia. *Neuroscience*, 9(380): 1-13.

Dietz R.M., Orfila J.E., **Rodgers K.M.**, Patsos O.P., Deng G., Chalmers N., Quillinan N., Traystman R.J., Herson P.S. (2018) Juvenile cerebral ischemia reveals age-dependent BDNF-TrkB signaling changes: Novel mechanism of recovery and therapeutic intervention. *Journal of Cerebral Blood Flow & Metabolism*, 38(12): 2223-2235.



Oren Rom, PhD, RD

Assistant Professor, Department of Pathology and Translational Pathobiology

oren.rom@lsuhs.edu

CURRENT RESEARCH

The long-term goal of my research is to elucidate metabolic and molecular mechanisms of cardiometabolic and liver diseases to identify novel therapeutic targets. The focus of my laboratory is to shed light on yet undefined metabolic pathways linking cardiovascular disease with metabolic dysfunction-associated steatotic liver disease (MASLD), a disease that affects one third of the world population with no pharmacological therapy available. We utilize a multidisciplinary approach involving newly generated animal models, samples from patients with cardiometabolic diseases and genome-wide association studies combined with a variety of research tools including transcriptomics, metabolomics, animal pathophysiology as well as cellular and molecular biology. This approach highlighted newly identified metabolic pathways linking amino acid, oxalate and lipid metabolism in MASLD, the more severe metabolic dysfunction-associated steatohepatitis (MASH), and atherosclerosis as potential therapeutic targets, resulting in high-impact publications, patent applications, and evaluation through preclinical and clinical trials.

SELECTED PUBLICATIONS

Qu P, **Rom O**, Li K, Jia L, Gao X, Liu Z, et al. DT-109 ameliorates nonalcoholic steatohepatitis in nonhuman primates. *Cell Metab*. 2023 May 2;35(5):742-757.e10.

Zhao Y, Liu Y, Zhao G, Lu H, Liu Y, Xue C, Chang Z, Liu H, Deng Y, Liang W, Wang H, **Rom O**, Garcia-Barrio MT, Zhu T, Guo Y, Chang L, Lin J, Chen YE, Zhang J. Myeloid BAF60a deficiency alters metabolic homeostasis and exacerbates atherosclerosis. *Cell Rep*. 2023 Oct 31;42(10):113171.

Seeley EH, Liu Z, Yuan S, Stroope C, Cockerham E, Rashdan NA, Delgadillo LF, Finney AC, Kumar D, Das S, Razani B, Liu W, Traylor J, Orr AW, **Rom O**, Pattillo CB, Yurdagul A Jr. Spatially Resolved Metabolites in Stable and Unstable Human Atherosclerotic Plaques Identified by Mass Spectrometry Imaging. *Arterioscler Thromb Vasc Biol*. 2023 Sep;43(9):1626-1635.

Zhang X, Evans TD, Chen S, Sergin I, Stitham J, Jeong SJ, Rodriguez-Velez A, Yeh YS, Park A, Jung IH, Diwan A, Schilling JD, **Rom O**, Yurdagul A, Epelman S, Cho J, Lodhi IJ, Mittendorfer B, Razani B. Loss of Macrophage mTORC2 Drives Atherosclerosis via FoxO1 and IL-1 β Signaling. *Circ Res*. 2023 Jul 21;133(3):200-219.

Rom O, Liu Y, Finney AC, Ghayeb A, Zhao Y, Shukha Y, et al. Induction of glutathione biosynthesis by glycine-based treatment mitigates atherosclerosis. *Redox Biol*. 2022 Jun; 52:102313.

Liu Y, Zhao Y, Shukha Y, Lu H, Wang L, Liu Z, Liu C, Zhao Y, Wang H, Zhao G, Liang W, Fan Y, Chang L, Yurdagul A Jr, Pattillo CB, Orr AW, Aviram M, Wen B, Garcia-Barrio MT, Zhang J, Liu W, Sun D, Hayek T, Chen YE, **Rom O**. Dysregulated oxalate metabolism is a driver and therapeutic target in atherosclerosis. *Cell Rep*. 2021 Jul 27;36(4):109420.

Rom O, Liu Y, Liu Z, Zhao Y, Wu J, Ghayeb A, et al. Glycine-based treatment ameliorates NAFLD by modulating fatty acid oxidation, glutathione synthesis, and the gut microbiome. *Sci Transl Med*. 2020 Dec 2;12(572): eaaz2841.

Nielsen JB, **Rom O**, Surakka I, Graham SE, Zhou W, Roychowdhury T, et al. Loss-of-function genomic variants with impact on liver-related blood traits highlight potential therapeutic targets for cardiovascular disease. *Nat Commun*. 2020 Dec 18;11(1):6417.

Lu H, Sun J, Liang W, Chang Z, **Rom O**, Zhao Y, et al. Cyclodextrin Prevents Abdominal Aortic Aneurysm via Activation of Vascular Smooth Muscle Cell TFEB. *Circulation*. 2020 Aug 4;142(5):483-498

Rom O, Xu G, Guo Y, Zhu Y, Wang H, Zhang J, et al. Nitro-fatty acids protect against steatosis and fibrosis during development of nonalcoholic fatty liver disease in mice. *EBioMedicine*. 2019 Mar; 41:62-72.

Joined LSUHS - 2021

EDUCATION/TRAINING

Post-Doctoral – University of Michigan

PhD – Technion – Israel Institute of Technology

RD – Ministry of Health, Israel

MSc – Technion – Israel Institute of Technology

BSc – Tel-Hai College, Israel

HONORS/AWARDS

R01-DK136685, NIH/NIDDK

R41-DK137711, NIH/NIDDK

R01-DK134011, NIH/NIDDK

K99/R00-HL150233, NIH/NHLBI

AHA Postdoctoral Fellowship

Winner of the 2022 Irvine H. Page Junior Faculty Research Award, AHA/ATVB Council

Research Rising Star Award, LSUHS

Young Researcher Award, Israeli Society of Atherosclerosis

TRAINEES HONORS/AWARDS

Alexandra Finney

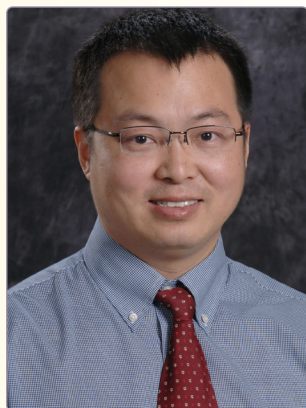
AHA Postdoctoral Fellowship

Malcolm Feist Postdoctoral Fellowship

Feist Cardiovascular Research Symposium

Sumit Anand

Feist Cardiovascular Research Symposium



Xinggui Shen, PhD

Assistant Professor of Research in Pathology and Translational Pathobiology

Director of Mass Spectrometry Core & Analytical Redox Biology

Sub-Core for Redox Biology and Cardiovascular Disease

xinggui.shen@lsuhs.edu

Joined LSUHS - 2008

EDUCATION/TRAINING

BS – Jilin University, China

PhD – Jilin University, China

Post-Doctoral – LSU Health Shreveport

HONORS/SERVICE

Grant reviewer, National Science Centre of Poland, OPUS, 2015

SFRBM's Young Investigator Award Committee, 2013

Member: Society for Free Radical Biology and Medicine (2008-), American Society for Mass Spectrometry (2014-), American Heart Association (2015-), American Diabetes Association (2016-2018)

CURRENT RESEARCH

I am a biochemist with a strong interest in elucidating the fundamental mechanism of sulfide metabolites in human disease. My lab extensively uses proteomics technologies and analytical redox biology approaches to identify sulfide-regulated proteins associated with disease progression among cardiovascular disease, diabetes, and cancer. I have published over 40 peer-reviewed original manuscripts utilizing analytical redox biology approaches, including several highly cited manuscripts describing novel methods of quantifying hydrogen sulfide bioavailability. In addition, I investigated protein tyrosine phosphatase-related signaling in hydrogen sulfide biology and perform molecular modeling and structure prediction for H₂S-modified proteins.

SELECTED PUBLICATIONS

Kolluru GK, Shackelford RE, **Shen X**, Dominic P, Kevil CG. Sulfide regulation of cardiovascular function in health and disease. *Nat Rev Cardiol*. 2022 Aug 5:1–17.

Islam MZ, **Shen X**, Pardue S, Kevil CG, Shackelford RE. The ataxia-telangiectasia mutated gene product regulates the cellular acid-labile sulfide fraction. *DNA Repair (Amst)*. 2022 Aug; 116:103344.

Takata T, Jung M, Matsunaga T, Ida T, Morita M, Motohashi H, **Shen X**, Kevil CG, Fukuto JM, Akaike T. Methods in sulfide and persulfide research. *Nitric Oxide*. 2021 Nov 1; 116:47-64.

Herrera GA, Del Pozo-Yauner L, Teng J, Zeng C, **Shen X**, Moriyama T, Ramirez Alcantara V, Liu B, Turbat-Herrera EA. Glomerulopathic Light Chain-Mesangial Cell Interactions: Sortilin-Related Receptor (SORL1) and signaling. *Kidney Int Rep*. 2021 Mar 13;6(5):1379-1396.

Marutani E, Morita M, Hirai S, Kai S, Grange RMH, Miyazaki Y, Nagashima F, Traeger L, Magliocca A, Ida T, Matsunaga T, Flicker DR, Corman B, Mori N, Yamazaki Y, Batten A, Li R, Tanaka T, Ikeda T, Nakagawa A, Atochin DN, Ihara H, Olenchok BA, **Shen X**, Nishida M, Hanaoka K, Kevil CG, Xian M, Bloch DB, Akaike T, Hindle AG, Motohashi H, Ichinose F. Sulfide catabolism ameliorates hypoxic brain injury. *Nat Commun*. 2021 May 25;12(1):3108.

Watts M, Kolluru GK, Dherange P, Pardue S, Si M, **Shen X**, Trosclair K, Glawe J, Al-Yafeai Z, Iqbal M, Pearson BH, Hamilton KA, Orr AW, Glasscock E, Kevil CG, Dominic P. Decreased bioavailability of hydrogen sulfide links vascular endothelium and atrial remodeling in atrial fibrillation. *Redox Biol*. 2021 Jan; 38:101817.



Karen Stokes, PhD

*Professor, Department of Molecular and Cellular Physiology
Assistant Director of the CCDS, Scientific Excellence*

karen.stokes@lsuhs.edu

Joined LSUHS - 1998

EDUCATION/TRAINING

BAMod – Trinity College Dublin, Ireland

PhD – Trinity College Dublin, Ireland

Post-Doctoral – LSU Health Shreveport

HONORS/AWARDS

Co-chair, Kaley Award Committee, American Physiological Society/Microcirculatory Society, Inc.

Member Awards Committee, Microcirculatory Society, Inc.

Member Mentored Clinical and Basic Sciences Study Section, NIH

CURRENT RESEARCH

My research focuses on microvascular responses to cardiovascular risk factors, most recently in the brain. Much of my current research revolves around understanding the crosstalk between blood cells and the vascular endothelium of the brain as it relates to stroke, especially in the setting of sickle cell disease (funded by the NIH). Our specific interest is in how red blood cells mediate the resulting inflammation, thrombosis and blood vessel dysfunction. We are also collaborating with Drs. Disbrow, Alexander and Kevil to better understand the role of different reactive species in mediating the vascular contributions to Alzheimer's Disease. I am committed to training the next generation of scientists, and run the training programs for the CCDS, including the new Medical Students Cardiovascular Research and Discovery Opportunities (MS CARDIO) program. In addition, I direct the Cardiovascular Undergraduate Research Initiative for Underrepresented Students (CURIOUS), funded by an NIH R25 grant, and co-direct the Multi-Disciplinary Training in Cardiovascular Pathophysiology (MTCP), funded by an NIH T32 grant.

SELECTED PUBLICATIONS

Reekes TH, Ledbetter CR, Alexander JS, **Stokes KY**, Pardue S, Bhuiyan MAN, Patterson JC, Lofton KT, Kevil CG, Disbrow EA. (2023) Elevated plasma sulfides are associated with cognitive dysfunction and brain atrophy in human Alzheimer's disease and related dementias. *Redox Biol.* 62:102633.

Dhanesha N, Ansari J, Pandey N, Kaur H, Virk C, **Stokes KY**. (2023) Post-stroke Venous Thromboembolism and Neutrophil Activation: An illustrated review. *Res Pract Thromb Haemost* 7(4):100170. Veerareddy P, Dao N, Yun JW, Stokes KY, Disbrow E, Kevil CG, Cvek U, Trutschl M, Kilgore P, Ramanathan M, Zivadinov R, Alexander JS. (2022) Dysregulated Sulfide Metabolism in Multiple Sclerosis: Serum and Vascular Endothelial Inflammatory Responses. *Pathophysiology.* 29(3):570-582.

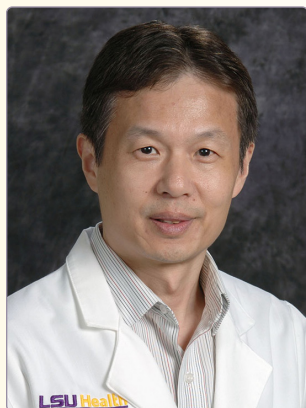
Disbrow E, **Stokes KY**, Ledbetter C, Patterson J, Kelley R, Pardue S, Reekes T, Larmeu L, Batra V, Yuan S, Cvek U, Trutschl M, Kilgore P, Alexander JS, Kevil CG. (2021) Plasma hydrogen sulfide: A biomarker of Alzheimer's disease and related dementias. *Alzheimers Dement.* 17(8):1391-1402.

Barzegar M, Vital S, **Stokes KY**, Wang Y, Yun JW, White LA, Chernyshev O, Kelley RE, Alexander JS. (2021) Human placenta mesenchymal stem cell protection in ischemic stroke is angiotensin converting enzyme-2 and masR receptor-dependent. *Stem Cells.* 39(10):1335-1348.

Cruz-Topete D., Dominic P., **Stokes K.Y.** (2020) Uncovering sex-specific mechanisms of action of testosterone and redox balance. *Redox Biol.* 31:101490.

Wang B., Aw T.Y., **Stokes K.Y.** (2018) N-acetylcysteine attenuates systemic platelet activation and cerebral vessel thrombosis in diabetes. *Redox Biol.* 4:218- 228.

Wang B., Aw T.Y., **Stokes K.Y.** (2016) The protection conferred against ischemia-reperfusion injury in the diabetic brain by N-acetylcysteine is associated with decreased dicarbonyl stress. *Free Radic Biol Med.* 96:89-98.



Hong Sun, PhD, MD

Associate Professor of Cellular Biology and Anatomy

Hong.Sun@lsuhs.edu

Joined LSUHS - 2011

EDUCATION/TRAINING

MD – Xuzhou Medical University

PhD – Mie University

Post-Doctoral – University of Nebraska Medical Center

HONORS/AWARDS

Member, Fellow, and Grant Review:
American Heart Association

Associate Editor: Frontiers in Cellular
Neuroscience

Editorial Board: Scientific Report, Med One

Postdoctoral Fellowship: American Heart
Association

Predocctoral Fellowship: Japanese
Government (Monbusho)

HONORS/AWARDS TRAINEES

Jiyu Li

Biomedical Research & Industry Day 2022 –
Best Poster Predoc Category: 2nd place

2022 CCDS Feist Symposium - Best Poster
Predoc Category: 2nd place

South Central Society of Toxicology 2019 –
Best Poster Predoc Category: 1st place

Kimberly McCarter

North Louisiana Neuroscience Conference
2017 – Best Poster Predoc Category: 1st
place

Chun Li

LSU Graduate Research Day 2017 – Best
Poster Postdoc Category: 2nd place

CURRENT RESEARCH

I have a broad medical background with specific training and expertise in cerebrovascular biology and neuroscience. Alcohol is one of humans' most commonly and regularly used chemical substances. The brain is a major target organ of alcohol actions. My research has focused on how alcohol alters cerebral microcirculation and ischemic stroke since 1999. The results of my study not only improve clinical management for ischemic stroke in alcohol users but also lead to new approaches for preventing and treating ischemic stroke and other neurodegenerative diseases in non-drinkers. My research is currently supported by the National Institute of Health.

SELECTED PUBLICATIONS

Jiyu Li, Chun Li, Pushpa Subedi, Xinli Tian, Xiaohong Lu, Sumitra Miriyala, Manikandan Panchatcharam, and **Hong Sun**. Light alcohol consumption promotes early neurogenesis following ischemic stroke in adult C57BL/6J mice. *Biomedicines* 11(4): 1074, 2023

Chun Li, Jiyu Li, Ethyn G. Loreno, Sumitra Miriyala, Manikandan Panchatcharam, and **Hong Sun**. Protective effect of low-dose alcohol consumption against post-ischemic neuronal apoptosis: role of L-PGDS. *Int J Mol Sci.* 23(1): 133, 2021

Jiyu Li, Chun Li, Ethyn G. Loreno, Sumitra Miriyala, Manikandan Panchatcharam, Xiaohong Lu, and **Hong Sun**. Low-dose alcohol consumption promotes cerebral angiogenesis in mice. *Frontiers in Cardiovascular Medicine.* 8: 681627, 2021

Chun Li, Jiyu Li, Ethyn G. Loreno, Sumitra Miriyala, Manikandan Panchatcharam, Xiaohong Lu, and ***Hong Sun**. Chronic low-dose alcohol consumption attenuates post-ischemic inflammation via PPAR γ in mice. *Int J Mol Sci.* 22: 10, 2021

Chun Li, Jiyu Li, Guodong Xu, ***Hong Sun**. (2020) Influence of chronic ethanol consumption on apoptosis and autophagy following transient focal cerebral ischemia in male mice. *Scientific Reports.* 10(1): 6164, 2020

Guodong Xu, Chun Li, Anne Parsiola, Jiyu Li, Kimberly D. McCarter, Runhua Shi, William G. Mayhan, **Hong Sun**. (2019) Dose-dependent influences of ethanol on ischemic stroke: role of inflammation. *Front. Cell. Neurosci.* 13:6

Kimberly D. McCarter, Chun Li, Jiyu Li, Guodong Xu, **Hong Sun**. (2019) Influence of low-dose alcohol consumption on post-ischemic inflammation: Role of cystathionine γ -lyase. *Alcohol.* 76(5):81-89

Chun Li, **Hong Sun**, Guodong Xu, Kimberly D. McCarter, Jiyu Li, William G. Mayhan. (2018) Mito-Tempo prevents nicotine-induced exacerbation of ischemic brain damage. *J. Appl. Physiol.* 125(1): 49-57

Kimberly D. McCarter, Chun Li, Zheng Jiang, Wei Lu, Hillary C. Smith, Guodong Xu, William G. Mayhan, **Hong Sun**. (2017) Effect of low-dose alcohol consumption on inflammation following transient focal cerebral ischemia in rats. *Scientific Reports.* 7(1): 12547

Zheng Jiang, Chun Li, Morganne L. Manuel, Shuai Yuan, Christopher G. Kevil, Kimberly D. McCarter, Wei Lu, **Hong Sun**. (2015) Role of hydrogen sulfide in early-stage blood-brain barrier disruption following transient focal cerebral ischemia. *P LoS One.* 10(2): e0117982.



Vesna Tesic, PhD

Assistant Professor, Department of Neurology

vesna.tesic@lsuhs.edu

CURRENT RESEARCH

As a scientist I have a strong personal and public health interest to understand detrimental effects of the pathological changes in the brain and search for novel drugs/regimens to mitigate these effects.

My early research interest was focused on understanding key pathways involved in cognitive deterioration with aging. As an undergraduate, I conducted research on the changes in synaptic plasticity genes with aging in cortex and hippocampus in rodents. As a predoctoral student, I continued to investigate the involvement of stress-related pathways in aging-induced pathology in the brain. During my postdoctoral fellowship, my research was focused on understanding and identifying the molecular events that are underlying neurotoxic effects of anesthetics. I worked on characterization of a novel non-neurotoxic neurosteroid compounds that can replace traditionally used anesthetics. My research efforts are pointed towards using the modulation of the mechanisms underlying detrimental processes leading to the cognitive impairment with the goal to test novel therapeutic approaches and prevent and/or ameliorate progression of neurodegeneration.

SELECTED PUBLICATIONS

Marquez-Ortiz, R.A.; **Tesic, V.**; Hernandez, D.R.; Akhter, B.; Aich, N.; Boudreaux, P.M.; Clemons, G.A.; Wu, C.Y.-C.; Lin, H.W.; Rodgers, K.M. Neuroimmune Support of Neuronal Regeneration and Neuroplasticity following Cerebral Ischemia in Juvenile Mice. *Brain Sci.* 2023, 13, 1337.

Tesic V, Ciric J, Jovanovic Macura I, Zogovic N, Milanovic D, Kanazir S, Perovic M. (2021) Corticosterone and Glucocorticoid Receptor in the Cortex of Rats during Aging—The Effects of Long-Term Food Restriction. *Nutrients*, 13 (12), 4526. PMID: 34960078; PMCID: PMC8703853.

Tesic V, Joksimovic SM, Quillinan N, Krishnan K, Covey DF, Todorovic SM, Jevtovic-Todorovic V. (2020) Neuroactive steroids alphaxalone and CDNC24 are effective hypnotics and potentiators of GABAA currents but are not neurotoxic to the developing rat brain. *British Journal of Anaesthesia*, 124(5):603-613. PMID: 32151384; PMCID: PMC7222221.

Lazic D1, **Tesic V**¹, Jovanovic M, Brkic M, Milanovic D, Zlokovic BV, Kanazir S, Perovic M. (2020) Every-other day feeding exacerbates inflammation and neuronal deficits in 5XFAD mouse model of Alzheimer's disease. *Neurobiol Dis.* 136:104745. PMID: 31931140. ¹ equal contribution

Chastain-Potts SE, **Tesic V**, Tat QL, Cabrera OH, Quillinan N, Jevtovic-Todorovic V. (2020) Sevoflurane Exposure Results in Sex-Specific Transgenerational Upregulation of Target IEGs in the Subiculum. *Mol Neurobiol.* 57(1):11-22. PMID: 31512116; PMCID: PMC6980510

Joined LSUHS - 2021

EDUCATION/TRAINING

BS – University of Belgrade, Serbia

PhD – University of Belgrade, Serbia

Postdoctoral Fellow – University of Colorado, Denver

HONORS/AWARDS

2022-2023 AHA reviewer for pre-and post-doctoral fellowships

2018 – Best scientific poster, 3rd Annual Anesthesiology Research Conference, University of Colorado

2016 – COST action MouseAge fellowship for short term research stay at the VIB Center for the Biology of Disease, Leuven, Belgium (Dr. Bart De Strooper), February 16 - March 15, 2016

2014 – DAAD project "Academic synapsing in the Balkans" fellowship for short term research stay at the Translational Centre for Regenerative Medicine (TRM), Leipzig, Germany (Dr. Mike Francke), November 9 -December 6, 2014



James Traylor, MD

Clinical Associate Professor, Department of Pathology

james.traylor@lsuhs.edu

CURRENT RESEARCH

As a board certified anatomic/forensic pathologist I have 20 years of experience in diagnostic histopathology with particular interest and expertise in cardiac pathology. Over the past decade at the LSU Health Sciences Center – Shreveport, I have provided research support for a number of collaborators for the procurement of human pathological samples and for the scoring of tissues derived from animal models of disease. As part of this work, I have contributed to the design of a histopathology score index for experimental colitis and implemented a classic system for scoring human atherosclerotic plaques (Stary scoring system) for the assessment of mouse atherosclerosis. I am currently concentrated on atherosclerosis and the effects of methamphetamine on the cardiovascular system.

SELECTED PUBLICATIONS

Suresh Govatati, Prahalathan Pichavaram, Jagadeesh Janjanam, Baolin Zhang, Nikhlesh K. Singh, Arul M. Mani, **James G. Traylor, Jr.**, A. Wayne Orr, Gadiparthi N. Rao. (2019) NFATc1-E2F1-LMCD1–Mediated IL-33 Expression by Thrombin Is Required for Injury-Induced Neointima Formation. *Arterioscler Thromb Vasc Biol.* 39:00-00. DOI: 10.1161/ATVBAHA.119.312729.

Janjanam J, Zhang B, Mani AM, Singh NK, **Traylor JG Jr**, Orr AW, Rao GN. (2018) LIM and cysteine-rich domains 1 is required for thrombin-induced smooth muscle cell proliferation and promotes atherogenesis. *J Biol Chem.* 293(9):3088-3103. doi: 10.1074/jbc.RA117.000866.

Vozenilek A, E, Vetkoetter M, Green J, M, Shen X, **Traylor J, G**, Klein R, L, Orr A, W, Woolard M, D, Krzywanski D, M. (2018) Absence of Nicotinamide Nucleotide Transhydrogenase in C57BL/6J Mice Exacerbates Experimental Atherosclerosis. *J Vasc Res.* 55:98-110

Alam S, Abdullah CS, Aishwarya R, Orr AW, **Traylor J**, Miriyala S, Panchatcharam M, Pattillo CB, Bhuiyan MS. (2017) Sigmar1 regulates endoplasmic reticulum stress-induced C/EBP-homologous protein expression in cardiomyocytes. *Biosci Rep.* 16;37(4). pii: BSR20170898. doi: 10.1042/BSR20170898.

Finney A.C., Funk S.D., Green J.M., Yurdagul A. Jr., Rana M.A., Pistorius R., Yurochko A.D., Pattillo C.B., **Traylor J.G.**, Chen J., Woolard M.D., Kevil C.G., and A.W. Orr. (2017) EphA2 expression regulates inflammation and fibroproliferative remodeling in atherosclerosis. *Circulation.* 8; 136(6):566-582. doi: 10.1161/CIRCULATIONAHA.116.02664.

Singh N, Kotla S, Dyukova E, **Traylor JG Jr**, Orr WA, Chernoff J, Marion T, Rao G. (2015) Disruption of p21-activated kinase 1 gene diminishes atherosclerosis in apolipoprotein E-deficient mice. *Nat Commun.* 6:7450. doi: 10.1038/ncomms8450

Becker F, Potepalov S, Shehzahdi R, Bernas M, Witte M, Abreo F, **Traylor JG Jr**, Orr WA, Tsunoda I, Alexander JS. (2015) Downregulation of FoxC2 Increased Susceptibility to Experimental Colitis: Influence of Lymphatic Drainage Function? *Inflamm Bowel Dis.* (6):1282-96. doi: 10.1097/MIB.0000000000000371

Cromer WE, Ganta CV, Patel M, **Traylor J**, Kevil CG, Alexander JS, Mathis JM. (2013) VEGF-A isoform modulation in a preclinical TNBS model of ulcerative colitis: protective effects of a VEGF164b therapy. *Journal of Translational Medicine.* 11(1):207. DOI:10.1186/1479-5876-11-207

Joined LSUHS - 2006

EDUCATION/TRAINING

BS – Southeastern Louisiana University

MD – Louisiana State University Medical Center, New Orleans

Forensic Pathology – Louisiana State University Medical Center, New Orleans

Board Certified via the American Board of Pathology in Anatomic Pathology and Forensic Pathology



Yuping Wang, MD, PhD

Professor, Department of Obstetrics and Gynecology

yuping.wang@lsuhs.edu

CURRENT RESEARCH

Dr. Wang's research focuses on studying 1) the mechanisms of vascular and placental dysfunction in preeclampsia. Preeclampsia is a hypertensive disorder unique to human pregnancy and it is also a recognized risk factor for cardiovascular diseases later in life in women; and 2) Effects of SARS-CoV-2 infection in women during pregnancy.

SELECTED PUBLICATIONS

Gu Y, Lin S, Morgan JA, Lewis DF, Wang Y. Aberrant endothelial expression of hnRNPC1/C2 and VDR and reduced maternal vitamin D levels in women with preeclampsia. *J Steroid Biochem Mol Biol* 2022, 222: 106155. <https://doi.org/10.1016/j.jsbmb.2022.106155>. PMID: 35868598

Wang Y, Lewis DF. Upregulation of hnRNPC1/C2 expression in preeclampsia: a potential rationale for vitamin D insensitivity. *Open Access Government*, October 2022, edition 36, 276-277. <https://doi.org/10.56367/OAG-036-8492>

Wang Y, Gu Y, Lewis DF, Gu X, Brown K, Lachute C, Hankins M, Cooper DB, Scott RS, McCathran CE, Barrilleaux P. Cell-type specific distribution and activation of type I IFN pathway molecules at the placental maternal-fetal interface in response to COVID-19 infection. *Frontiers in Endocrinology* 2023, 13:951388. <https://doi.org/10.3389/fendo.2022.951388>, PMID: 36743911; PMCID: PMC9895786

Wang Y, Gu Y, Gu X, Cooper DB, Lewis DF. Evidence of kidney injury in preeclampsia: increased maternal and urinary levels of NGAL and KIM-1 and enhanced their expression in proximal tubule epithelial cells. *Frontiers in Medicine* 2023, Apr 5;10:1130112. <https://doi.org/10.3389/fmed.2023.1130112>. PMID: 37089603; PMCID: PMC10116870

Joined LSUHS - 1997

EDUCATION/TRAINING

MS – Harbin Medical University, China

MD – Harbin Medical University, China

PhD – Medical College of Virginia

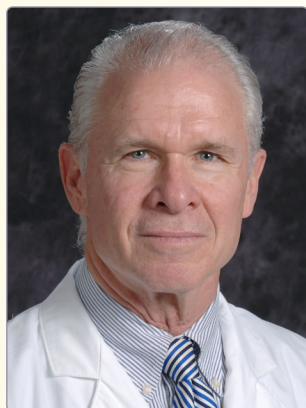
HONORS/SERVICE

Grant review for March of Dimes, Cardiovascular Health Panel, Dec. 2022 AIBS Discovery Research Grant Award Project Review Panel

Ad hoc reviewer NIH, Pregnancy and Neonatology Study Section (PN), 2023

Vision Grant Review Panel: Preeclampsia Foundation, 2023

Yuping Wang P.I. NIH, R21 AI169392-01 “Spatiotemporal transcriptomics at the maternal-fetal interface in COVID placenta”, 2022-2024



R. Keith White, MD, FACS

*Chairman and Professor, Department of Surgery
John C. McDonald, MD Endowed Chair of Surgery
Director, Division of Cardiothoracic and Vascular Surgery*

keith.white@lsuhs.edu

CURRENT RESEARCH

I have obtained an educational grant for surgical robotic simulation and would like to develop effective methods of mitigating stress induced errors in real-time operative settings.

SELECTED PUBLICATIONS

White RK, Olsen DB. Total artificial heart development at the University of Utah. *Lekar A. Technika* (USSR), 1;22, 1-5, 19911111.

White RK, Bliss RS, Everett SD, Pantalos G, Marks JD, Kinoshita M, Olsen DB. Comparison of microsphere and intraoperative quantitation of bronchial blood flow. *Trans Am Soc Artif Inter Organs* 37;3: M507-509, 1991.

Pantalos GM, Burns GL, Mohammad F, Dew P, Kinoshita M, Long J, **White RK**, Olsen DB. Current experience with reinforced PTFE vascular prosthesis as artificial heart outflow grafts. *Am Soc Artif Inter Organs* 21:13, 1992.

White RK, Pantalos GM, Olsen DB: Total Artificial Heart Development at the University of Utah: The Utah-100 and Electrohydraulic Cardiac Replacement Devices. In: *Cardiac Mechanical Assistance Beyond Balloon Pumps*. Quaal SJ (ed). Mosby Yearbook Incorporated, St. Louis, Missouri, pp181-193, 1993.

Olsen DB, Khanwilkar PS, Hansen CA, **White RK**. Development of a biventricular replacement device, NIH Grant #No1-HV-88106, Report #4, September 1991.

Joined LSUHS - 2018

EDUCATION/TRAINING

BS – LSU, Baton Rouge, LA

MD – LSU Medical Center, Shreveport, LA

Gen Surg – Univ of Missouri, LSUHSC, Shreveport

Cardiothoracic Surgery – University of Utah Research Associate – Artificial Heart Laboratory

HONORS/AWARDS

First Surgical Team in Louisiana to Implant Mitral Valve with Minimally Invasive Heartport Mitral Valve

HealthGrades #1 Cardiovascular Surgical Hospital in Louisiana

Director, Glenwood Regional Medical Center

Alpha Omega Alpha Honor Med Soc Gold Humanism Honor Soc

Society of Thoracic Surgeons

Southern Thoracic Surgical Association Surgical Quality Council

Ochsner/LSU Medical Executive Council

Chairman, Physicians Compensation Committee

Fellow, American College of Surgeons

Member, Society of Surgical Chairs



Matthew Woolard, PhD

Professor, Department of Microbiology and Immunology
O'Callaghan Family Endowed Professor in Microbiology

matthew.woolard@lsuhs.edu

Joined LSUHS - 2009

EDUCATION/TRAINING

BS – Austin College

PhD – University of North Texas Health
Sciences Center in Fort Worth

Post-Doctoral – University of North Carolina

HONORS/AWARDS

Member and Grant Review American Heart
Association (AHA0)

Member American Association of
Immunologists

Ad Hoc Member AICS NIH

HONORS/AWARDS TRAINEES

Cassidy Blackburn

LSU Graduate Student Research Day – 2nd
Place Best Poster Junior

Graduate Student Malcolm Feist Fellow

CURRENT RESEARCH

My research focuses on the mechanisms of macrophage activity within disease pathogenesis. Currently my laboratory investigates the contribution of lipid metabolism towards macrophage inflammatory responses during atherosclerosis. Specifically, we are examining how the lipid metabolic and transcriptional coregulatory protein Lipin-1 regulates macrophage pro- inflammatory and pro-resolving function. Currently my research is funded by a National Institute of Health R01 grant.

SELECTED PUBLICATIONS

Chandran S, Shilke R.M., Blackburn, C.M.R., Yurochko A., Mirza R., Scott R.S., Finck B.N., **Woolard M.D.** (2020) Lipin-1 Contributes to IL-4 Mediated Macrophage Polarization. *Front Immunology*. 2020 May 5; 11:787.

Shrestha B., Prasai P.K., Kaskas A.M., Khanna A., Letchuman V., Letchuman S., Alexander J.S., Orr A.W., **Woolard M.D.**, and C.B. Pattillo. (2018) Differential arterial and venous endothelial redox responses to oxidative stress. *Microcirculation*. E12486

Grames M.S., Dayton R.D., Lu X.H., Schilke R., Alexander J.S., Orr A.W., Barmada S.J., **Woolard M.D.**, and R.L. Klein. (2018) Large increase in cholesterol levels via mutant PCSK9 gene transfer to amyloid mice is concomitant to a small increase in amyloid plaques in the hippocampus. *J. Alzheimer's Disease*, 65: 1079-1086.

Kevil CG, Goeders NE, **Woolard MD**, Bhuiyan MS, Dominic P, Kolluru GK, Arnold CL, Traylor JG, Orr AW. (2019) Methamphetamine Use and Cardiovascular Disease.

Orr AW, **Woolard MD**. (2019) cardiovascular disease is obNOXious: New insights into NoxA1 in smooth muscle phenotype. *Redox Biol.* 101081. doi:10.1016 101081. PMID: 30594486

Al-Kofahi M, Omura S, Tsunoda I, Sato F, Becker F, Gavins FNE, **Woolard MD**, Pattillo C, Zawieja D, Muthuchamy M, Gashev A, Shihab I, Ghoweba M, Von der Weid PY, Wang Y, Alexander JS. (2018) IL-1 β reduces cardiac lymphatic muscle contraction via COX-2 and PGE induction: Potential role in myocarditis. *Biomed Pharmacother.* 107:1591-1600. doi: 10.1016 PMID: 30257377

Vozenilek AE, Blackburn CMR, Schilke RM, Chandran S, Castore R, Klein RL, **Woolard MD**. (2018) AAV8-mediated overexpression of mPCSK9 in liver differs between male and female mice. *Atherosclerosis*. 278:66-72. doi: 10.1016 PMID: 30253291



Yin-Chieh (Celeste) Wu, Ph.D.

Assistant Professor, Department of Neurology

yinchieh.wu@lsuhs.edu

CURRENT RESEARCH

My current research focus is to explore the physiological role of fatty acid synthase in the aged brain. We are investigating if fatty acid synthase is an important aged-related regulatory element to delay neuronal senescence in vascular dementia. This study can lead to novel therapies/targets against Alzheimer's disease brain progression.

SELECTED PUBLICATIONS

Clemons GA, Couto e Silva A, Acosta CH, Udo MSB, Tesic V, Rogers KM, **Wu CY**, Citadin CT, Lee RH, Neumann JT, Allani S, Prentice H, Zhang QG, Lin H. Protein arginine methyltransferase 4 modulates nitric oxide synthase uncoupling and cerebral blood flow in Alzheimer's disease after hypoxic stress. *Journal of Cellular Physiology*. 2022; PMID: 36036549

Yang L, **Wu C**, Li Y, Dong Y, Wu CY, Lee RH, Brann DW, Lin H, Zhang QG. Long-term exercise pre-training attenuates Alzheimer's disease-related pathology in a transgenic rat model of Alzheimer's disease. *Geroscience*. 2022; PMID: 35229257

Lee RH, **Wu CY** (Co-first author), Citadin CT, Couto E Silva A, Possoit HE, Clemons GA, Acosta CH, de la Llama VA, Neumann JT, Lin HW. Activation of Neuropeptide Y2 Receptor Can Inhibit Global Cerebral Ischemia-Induced Brain Injury. *Neuromolecular Med*. 2021 May 21; PMID: 34019239.

Couto e Silva A, **Wu CY**, Clemons GA, Acosta CH, Chen CT, Possoit E, Citadin CT, Lee RH, Frankel A, Lin H. Protein arginine methyltransferase 8 can modulate mitochondrial bioenergetics and neuroinflammation after hypoxic stress. *Journal of Neurochemistry*. 2021; PMID: 34216036

Wu CY (Corresponding author), Couto e Silva A, Citadin CT, Clemons GA, Acosta CH, Knox BA, Grames MS, Rodgers KM, Lee RH, Lin HW. Palmitic acid methyl ester inhibits cardiac arrest-induced neuroinflammation and mitochondrial dysfunction. *Prostaglandins Leukot Essent Fatty Acids*. 2021. PMID: 33445063.

Lee RH, Grames MS, **Wu CY**, Lien CF, Couto E Silva A, Possoit HE, Clemons GA, Citadin CT, Neumann JT, Pastore D, Lauro D, Della-Morte D, Lin HW. (2020) Upregulation of serum and glucocorticoid-regulated kinase 1 exacerbates brain injury and neurological deficits after cardiac arrest. *Am J Physiol Heart Circ Physiol* 2020 Nov 1;319(5):H1044-H1050. PMID: 32946263.

Wu CY, Clemons GA, Lopez-Toledano MA, Citadin CT, Lee RH, Lin HW. (2020) SC411 enhances cerebral blood flow after ischemia in the Townes mouse model of sickle cell disease. *Prostaglandins, leukotrienes, and essential fatty acids*. 2020 Jul; 158:102110. PMID: 32447175.

Couto E Silva A, **Wu CY**, Citadin CT, Clemons GA, Possoit HE, Grames MS, Lien CF, Minagar A, Lee RH, Frankel A, Lin HW. (2019) Protein Arginine Methyltransferases in Cardiovascular and Neuronal Function. *Molecular Neurobiology*. Dec 10. doi: 10.1007/s12035-019-01850-z. PMID: 31823198.

Wu CY, Lerner FM, Couto E Silva A, Possoit HE, Hsieh TH, Neumann JT, Minagar A, Lin HW, and Lee RH. (2018) Utilizing the modified T-maze to assess functional memory outcomes after cardiac arrest. *J. Vis. Exp.* (131), e56694, doi:10.3791/56694. PMID: 29364254.

Lee RH, Lee MH, **Wu CY**, Couto E Silva A, Possoit HE, Hsieh TH, Minagar A, Lin HW. (2018) Cerebral ischemia and neuroregeneration. *Neural Regen Res*. Mar; 13(3): 373–385. PMID: 29623912.

Lee RH, Couto E Silva A, Possoit HE, Lerner FM, Azizbayeva R, Citadin CT, **Wu CY**, Neumann JT, Lin HW. (2018) Palmitic acid methyl ester is a novel neuroprotective agent against cardiac arrest. *Prostaglandins, leukotrienes, and essential fatty acids*. Nov 23. pii: S0952-3278(18)30212-6. PMID: 30514597.

Joined LSUHS - 2022

EDUCATION/TRAINING

PhD – Tzu Chi University College of Medicine, Hualien, Taiwan

Post-Doctoral – LSU Health Shreveport

HONORS/AWARDS TRAINEES

Career Development Award, AHA

Postdoctoral Research Fellowship, AHA

New Investigator Award, The 13th Congress of the International Society for the Study of Fatty Acids and Lipids (ISSFAL), Las Vegas, USA



Arif Yurdagul, PhD

Assistant Professor, Department of Molecular and Cellular Physiology

arif.yurdagul@lsuhs.edu

CURRENT RESEARCH

Despite advances in surgical intervention and cholesterol-lowering drugs over the last few decades, atherosclerotic cardiovascular disease remains the leading cause of death worldwide. Atherosclerosis forms when modified low-density lipoproteins (LDL) accumulate in the subendothelial matrix of medium-sized arteries in areas of branch points, curvatures, and bifurcations, which generate a sustained inflammatory response in endothelial cells and drive leukocyte recruitment. Many of these infiltrating leukocytes become apoptotic, and while these dead cells are efficiently cleared by macrophages (termed “efferocytosis”) early in lesion formation, efferocytosis begins to fail as atherosclerosis progresses, resulting in an overabundance of post-apoptotic dead cells in an area of the atheroma called the necrotic core. In humans, plaques with large necrotic cores and thin fibrous caps are vulnerable to rupture, leading to myocardial infarction and stroke. Therefore, revealing the mechanisms by which efferocytosis fails as atherosclerosis progresses and how efferocytosis is restored during atherosclerosis regression are important objectives in the Yurdagul lab. With these goals in mind, we hope to identify new therapeutic approaches to curb atherosclerotic cardiovascular disease.

SELECTED PUBLICATIONS

Seeley EH, Liu Z, Yuan S, Stroope C, et..., Rom O*, Pattillo CB*, **Yurdagul A Jr.*** (2023). Spatially Resolved Metabolites in Stable and Unstable Human Atherosclerotic Plaques Identified by Mass Spectrometry Imaging. *Arterioscler. Thromb. Vasc. Biol.* PMID: 37381983. *Co-Senior Authors.

Kumar D, Pandit R, **Yurdagul A Jr.** (2023). Mechanisms of Continual Efferocytosis by Macrophages and its Role in Mitigating Atherosclerosis. *Immunometabolism.* PMID: 36710920.

Yurdagul A Jr*, Kong N, Gerlach BD, Wang X, Ampomah P, Kuriakose G, Tao W, Shi J, Tabas I (2021). ODC-Dependent Putrescine Synthesis Maintains MerTK Expression to Drive Resolution. *Arterioscler. Thromb. Vasc. Biol.* PMID: 33406854. *Co-Corresponding Author. **Selected as the cover of the journal issue.

Tao Wei*, **Yurdagul A Jr***, Kong N, Li W, Wang X, Doran AC, Feng C, Wang J, Islam MA, Farokhzad OC, Tabas I, Shi J (2020). siRNA Nanoparticles Targeting CaMKII γ in Lesional Macrophages Improve Atherosclerotic Plaque Stability in Mice. *Science Translational Medicine.* PMID: 32718990.

Yurdagul A Jr*, Subramanian M, Wang X, Crown SB, Ilkayeva O, Darville L, Kolluru G, Rymond CC, Gerlach BD, Zheng Z, Kuriakose G, Kevil CG, Koomen JM, Cleveland JL, Muoio DM, Tabas I. (2020) Macrophage Metabolism of Apoptotic Cell-Derived Arginine Promotes Continual Efferocytosis and Resolution of Injury. *Cell Metabolism.* PMID: 32004476. *Selected by Faculty Opinions.

Back M, **Yurdagul A Jr**, Tabas I, Oorni K, Kovanen PT. (2019) Inflammation and its Resolution in Atherosclerosis: Mediators and Therapeutic Opportunities. *Nature Reviews Cardiology.* doi: 10.138/s41569-019-0169-2. *Selected by Faculty of 1000

Wang Y.*, Subramanian M.*, **Yurdagul A Jr***, Maxfield FR., Nomura M., Tabas IA. (2017) Mitochondrial Fission Promotes the Continued Clearance of Apoptotic Cells by Macrophages. *Cell.* 171(2): 331-345. *Co-first author. *Selected by Faculty of 1000

Joined LSUHS - 2021

EDUCATION/TRAINING

BS – Louisiana Tech University

PhD – LSU Health Shreveport

Post-Doc – Columbia University

HONORS/SERVICE

R01 (PI), Dysregulations in Polyamine Metabolism During Atherosclerosis, NIH-NHLBI

R00 (PI), Pathway to Independence, NIH-NHLBI

Early Career Editorial Board, Arteriosclerosis, Thrombosis and Vascular Biology (ATVB)

Member, North American Vascular Biology Association (NAVBO) Online Programming Committee

Associate Editor, Frontiers of Cardiovascular Medicine-Atherosclerosis and Cardiovascular Medicine

Member, Arteriosclerosis, Thrombosis and Vascular Biology (ATVB) Communications Committee

Finalist for the Irvine H. Page Junior Faculty Research Award from the ATVB Council of the AHA



Joined LSUHS - 1999

EDUCATION/TRAINING

BS, Biochemistry – Virginia Tech

BS, Biology – Virginia Tech

PhD, Immunology – Virginia Tech

Postdoctoral Fellowship: Lineberger Comprehensive Cancer Center, UNC at Chapel Hill

HONORS/SERVICE

Director and PI, CoBRE Center for Applied Immunology and Pathological Processes (CAIPP)

Charles C. Randall Outstanding Young Scientist Award: South Central Branch – American Society of Microbiology (SCB-ASM)

Invited Guest Professor: University of Ulm, Germany; International Graduate School in Molecular Medicine

Treasurer and Past President, SCB-ASM

Director, Center of Excellence in Emerging Viral Threats (CEVT)

Assistant Director, Dir. Research, Center of Excellence for Arthritis and Rheumatology

Fundraising Chair, International Herpesvirus Workshop

Editorial Board, Journal of Virology

HONORS/AWARDS TRAINEES

Heather Fulkerson

Invited Talk, 17th International CMV Workshop

McCleskey Award Winner, top presentation by a PhD student, 2019 SCB-ASM

Andrew Yurochko, PhD

Professor and Vice Chair, Department of Microbiology and Immunology

Professor and Carroll Feist Endowed Chair, Viral Oncology

Associate Director of Research, Feist-Weiller Cancer Center

Director, Center of Excellence for Emerging and Pathological Processes

andrew.yurochko@lsuhs.edu

CURRENT RESEARCH

My current research focuses on the investigation of how human cytomegalovirus infects and utilizes bone marrow progenitor cells, and monocytes and macrophages to promote life-long viral persistence and how infection of these critical in vivo targets contributes to the serious acute and chronic viral-mediated diseases observed in infected people. HCMV is the leading infectious cause of birth defects in the United States and a leading cause of morbidity and mortality in solid organ and bone marrow transplant recipients. HCMV infection is also associated with the development and severity of cardiovascular diseases, atherosclerosis and restenosis.

SELECTED PUBLICATIONS

Mosher, B.S., H.L. Fulkerson, T. Boyle, L.S. Chesnokova, S.J. Cieply, and **A.D. Yurochko**. (2022) Human Cytomegalovirus Manipulates Syntaxin 6 for Successful Trafficking and Subsequent Infection of Monocytes. *J. Virol.* 96: e0081922.

Lee B.-J., C.-K. Min, M. Hancock, D.N. Streblow, P. Caposio, F.D. Goodrum, and **A.D. Yurochko**. (2021) Human cytomegalovirus and host interactions: EGFR as a point of convergence between infected cell signaling and changes in function. *Frontiers in Microbiology, Section Microbial Immunology*. 12:660901.

Fulkerson, H.L., L. Chesnokova, J.H. Kim, J. Mahmud, L.E. Frazier, G.C. Chan, and **A.D. Yurochko**. 2020. Human cytomegalovirus-induced signaling through gB- EGFR engagement is required for viral trafficking and nuclear translocation in primary human monocytes. *Proc. Natl. Acad. Sci. U.S.A.* 202003549. doi:10.1073/pnas.2003549117.

Min, C.-K., A.K. Shakya, B.J. Lee, D.N. Streblow, P. Caposio and **A.D. Yurochko**. 2020. The differentiation of human cytomegalovirus infected monocytes is required for viral replication. *Frontiers in Cellular and Infection Microbiology, Virus and Host*, 10:368.

Crawford, L.B., R. Tempel, D.N. Streblow, A.D. Yurochko, F.D. Goodrum, J.A. Nelson and P. Caposio. 2020. Human cytomegalovirus infection suppresses CD34+ progenitor cell engraftment in humanized mice. *Microorganisms* 8, 525.

-Hancock, M.H., L.B.Crawford, A.H. Pham, J. Mitchell, H.M. Struthers, A.D. Yurochko, P. Caposio, and J.A. Nelson. (2019) Human cytomegalovirus miRNAs regulate TGF- β to mediate myelosuppression while maintaining viral latency in CD34+ hematopoietic progenitor cells. *C ell Host & Microbe* 104-114.e4.

Crawford, L.B. P. Caposio, C. Kreklywich, A. Pham, M.H. Hancock, T. Jones, P.P. Smith, **A.D. Yurochko**, J.A. Nelson D.N. Streblow. (2019) Human cytomegalovirus US28 ligand binding activity is required for latency in CD34+ hematopoietic progenitor cells and humanized NSG mice. *mBio*. 10: e01889-19.

E, X., P. Meraner, P. Lu, J.M. Perreira, A.M. Aker, W.M. McDougall, R. Zhuge, G.C. Chan, R. Gerstein, P. Caposio, **A.D. Yurochko**, A.L. Brass, T.F. Kowalik. (2019) Identification of a new human cytomegalovirus receptor that binds the pentameric complex and defines epithelial tropism. *Proc. Natl. Acad. Sci. U.S.A.* 116:7043-7052.

Crawford, L.B., J.H. Kim, D. Collins-McMillen, B.-J. Lee, I. Landais, C. Held, J.A. Nelson, **A.D. Yurochko**, and P. Caposio. (2018) HCMV encodes a novel FLT3 receptor ligand necessary for hematopoietic cell differentiation and viral reactivation. *mBio*. 9: e00682-18.



Quanguang Zhang, PhD
Professor, Department of Neurology

quanguang.zhang@lsuhs.edu

CURRENT RESEARCH

Dr. Zhang studies non-invasive “early/preventive and “late/therapeutic” strategies for brain protection and repair against neurodegenerative and psychiatric disorders. His group has demonstrated the beneficial effects of photobiomodulation therapy, continuous Theta Burst Stimulation (cTBS)/repeated Transcranial Magnetic Stimulation (rTMS) therapy, as well as aerobic exercise. The animal models in the laboratory include cerebral ischemia (cardiac arrest and focal ischemia, neonatal hypoxia-ischemia), brain trauma [Traumatic Brain Injury (TBI), Posttraumatic Stress Disorder (PTSD)], vascular dementia & depression, as well as transgenic Alzheimer rat model. The overall goal of his research is to develop new non-invasive therapies to protect the brain against neurodegeneration from ischemia, dementia and other forms of brain injury, including psychiatric disorders.

SELECTED PUBLICATIONS

Zhang Q, Han D, Wang RM, Dong Y, Yang F, Vadlamudi RK, Brann DW. C terminus of Hsc70-interacting protein (CHIP)-mediated degradation of hippocampal estrogen receptor- α and the critical period hypothesis of estrogen neuroprotection. *Proc Natl Acad Sci USA* 2011 Aug 30;108(35): E617-24.

Zhang Q, Wang R, Scott E, Han D, Yan, D, Tu J, Yang F, Sareddy GR, Vadlamudi RK, Brann DW. Hypersensitivity of the hippocampal CA3 region to stress-induced neurodegeneration and amyloidogenesis in a rat model of surgical menopause. *Brain*. 2013 May;136(Pt 5):1432-45.

Jiang P, Chen C, Wang R, Chechneva OV, Chung SH, Rao MS, Pleasure DE, Liu Y, **Zhang Q**, Deng W. hESC-derived Olig2+ progenitors generate a subtype of astroglia with protective effects against ischaemic brain injury. *Nat Commun*. 2013 July; 4:2196.

Lu Y, Wang R, Dong Y, Tucker D, Zhao N, Ahmed M, Zhu L, Liu T, Cohen RM, **Zhang Q**. Low-level Laser Therapy for b-Amyloid Toxicity in Rat Hippocampus. *Neurobiol Aging*. 2016 Oct 11; 49:165-182.

Zong X, Li Y, Liu C, Qi W, Han D, Tucker L, Hu S, Yan X, **Zhang Q**. Theta-burst Transcranial Magnetic Stimulation Promotes Stroke Recovery by vascular Protection and Neovascularization. *Theranostics*. 2020 Oct 26;10(26):12090-12110.

Yang L, Dong Y, Wu C, Youngblood H, Li Y, Zong X, Li L, Xu T, **Zhang Q**. Effects of prenatal photobiomodulation treatment on neonatal hypoxic ischemia in rat offspring. *Theranostics*. 2021 Jan 1;11(3):1269-1294.

Li Y, Dong Y, Yang LD, Tucker L, Zong XM, Brann D, Hamblin M, Vazdarjanova A, **Zhang Q**. Photobiomodulation prevents PTSD-like memory impairments in rats. *Molecular Psychiatry*. 2021. doi: 10.1038/s41380-021-01088-z.

Li Y, Dong Y, Yang LD, Tucker L, Yang B, Zong XM, Hamblin M, **Zhang Q**. Transcranial photobiomodulation prevents PTSD-like comorbidities in rats experiencing underwater trauma. *Translational Psychiatry*. 2021 May 5;11(1):270.

Yang L, Wu C, Tucker L, Xu Pei, **Zhang Q**. Photobiomodulation Therapy Attenuates Anxious-Depressive-Like Behavior in Alzheimer Rat. *J Alzheimers Dis*. 2021 Jul 2. doi: 10.3233/JAD-201616.

Yang L, Wu C, Parker E, Li Y, Tucker L, Brann D, Lin H, **Zhang Q**. Non-invasive photobiomodulation treatment in an Alzheimer disease-like transgenic rat model. *Theranostics*. 2022, Feb 14;12(5):2205-2231. PMID: PMC8899582

Joined LSUHS - 2021

EDUCATION/TRAINING

BS – Xuzhou Medical University

PhD – University of Science and Technology of China (USTC)

Post-Doc – Medical College of Georgia

HONORS/SERVICE

NIH ZRG1 Brain Disorders and Clinical Neuroscience (BDCN) Review panel

Brain Injury and Neurovascular Pathologies (BINP) Study Section, NIH

Academic Research Enhancement Award (AREA) R15 Review panel, NIH

Peer review committee. American Heart Association nationwide, BRAIN 2/3

Peer review committee. American Heart Association nationwide, Fellowship Cardiac Electrophysiology and Arrhythmias (Cardiac Electro), 2023.

Review for the Case Western Reserve Scholarship in Teaching Award

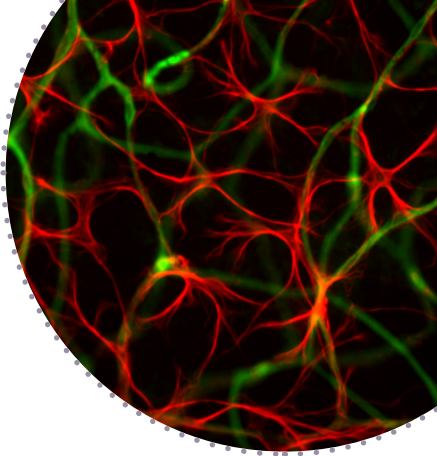
National Institutes of Health, NCCIH Training and Education Review Panel (CT), 2023.

Editorial Board, Journal of Alzheimer's Disease, Journal of Psychology and Psychotherapy Research

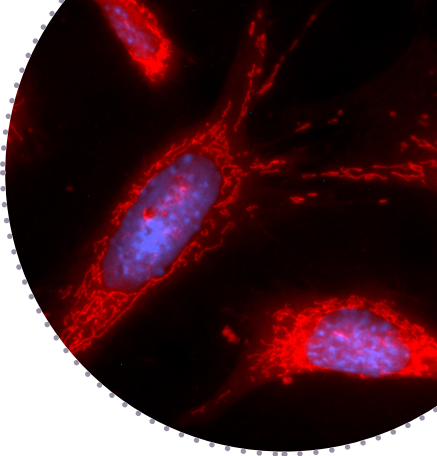
HONORS/AWARDS TRAINEES

Mentor, Trainee Professional Development Award (TPDA), Society for Neuroscience conference 2023

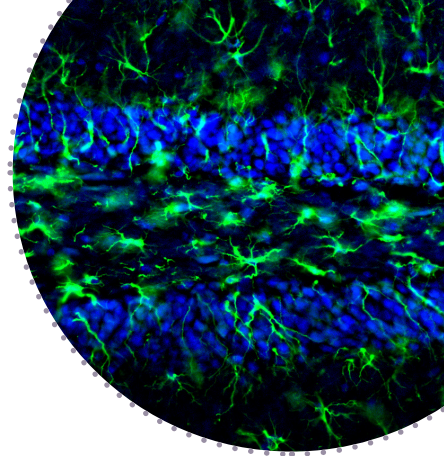
NOTES



NOTES



NOTES



FOLLOW US

#CCDSHealthyHeart



@lsuhs_ccds



@lsuhs_ccds



LSUHealthShreveportCCDS

www.lsuhs.edu/ccds