

**CURRICULUM VITAE**  
**Merry L. Lindsey, Ph.D.**

**Date of Preparation: September 2017**

**I. GENERAL INFORMATION**

**A. Personal Data:**

Citizenship Status: US Citizen  
Office Address: University of Mississippi Medical Center  
2500 North State Street, Room G351-04, Jackson, MS 39216-4505  
Phone: 601-815-1329 Fax: 601-984-1817 Email: mllindsey@umc.edu  
Place of Birth: Stuart, FL

**B. Education:**

YEAR	DEGREE	MAJOR	INSTITUTION/LOCATION
1988-1992	B.A.	Biology with Chemistry and English Minors	Boston University, Boston, MA
1994-1999	Ph.D.	Cardiovascular Sciences	Baylor College of Medicine, Houston, TX

Dissertation Title: MMP 9 Expression and Activation Following Myocardial Ischemia/Reperfusion  
Dissertation Advisor: Mark L. Entman, M.D.

**C. Postgraduate Training:**

1999-2002 Postdoctoral Fellowship Harvard Medical School and Brigham and Women's Hospital  
Boston, MA;  
Supported in part by an NRSA postdoctoral fellowship  
Fellowship Advisor: Richard T. Lee, M.D.

**D. Academic Appointments:**

<b>2013-present</b>	Professor and Director, Mississippi Center for Heart Research, Department of Physiology and Biophysics, University of Mississippi Medical Center, Jackson, MS (tenured effective 7/1/2015)
<b>2013-present</b>	Full Member, School of Graduate Studies, University of Mississippi Medical Center, Jackson, MS
<b>2013-present</b>	Research Health Scientist, Research Service, G.V. (Sonny) Montgomery Veterans Affairs Medical Center, Jackson, MS
2013-2014	Member, Graduate Faculty, Department of Agricultural and Biological Engineering, Mississippi State University, Starkville, MS
2012-2013	Professor with Tenure, Department of Medicine, Division of Geriatrics, Gerontology and Palliative Medicine Division (primary appointment), and Department of Cellular and Structural Biology (cross-appointment), The University of Texas Health Science Center at San Antonio.
2010-2012	Associate Professor with Tenure, Department of Medicine, Division of Geriatrics, Gerontology and Palliative Medicine Division (primary appointment), and Department of Cellular and Structural Biology (cross-appointment), The University of Texas Health Science Center at San Antonio.
2010-2012	Research Health Scientist, South Texas Veterans Health Care System, San Antonio, TX
2009-2010	Associate Professor with Tenure, Department of Medicine, Cardiology Division (primary appointment), and Department of Cellular and Structural Biology (cross-appointment), The University of Texas Health Science Center at San Antonio
2009-2010	Interim Assistant Dean for Medical Student Research Programs, School of Medicine, The University of Texas Health Science Center at San Antonio
2005-2013	Graduate Faculty Member, Cell and Structural Biology, Biochemistry, Biomedical Engineering, and Physiology Graduate Programs, The Graduate School of Biomedical Sciences, The University of Texas Health Science Center at San Antonio
2005-2013	Faculty Member, The Sam and Ann Barshop Center for Longevity and Aging Studies, The University of Texas Health Science Center at San Antonio
2005-2009	Assistant Professor (Tenure-Track), Department of Medicine, Cardiology Division (primary appointment); Department of Cellular and Structural Biology (cross-appointment), The University of Texas Health Science Center at San Antonio
2002-2005	Assistant Professor (Tenure-Track), Department of Surgery, Medical University of South Carolina
2003-2005	Assistant Professor (Tenure-Track), Department of Cell and Molecular Pharmacology and Experimental Therapeutics (dual appointment), Medical University of South Carolina
2004-2007	Member (2004-2007) and Associate Member (2002-2004), Graduate Faculty, College of Graduate Studies, Program in Molecular and Cellular Biology and Pathobiology, MUSC

**E. Other Employment:**

1992- 1994 Research Technician II, Department of Molecular Physiology and Biophysics, Baylor College of Medicine, Houston, TX. Arthur M. Brown, M.D., Ph.D., supervisor

**F. Honors and Awards:**

1. 1999 Cover Photo Contest Winner, The Graduate School of Biomedical Sciences Graduate Student Symposium, Baylor College of Medicine.
2. 1999 Finalist for the North American Vascular Biology Organization (NAVBO) young investigator award, Federation of American Societies for Experimental Biology meeting, Washington, D.C. "PMNs are the early source of MMP 9 following myocardial I/R injury."
3. 2001 Trainee Abstract Award, Council on Basic Cardiovascular Sciences, American Heart Association Meeting, Anaheim, CA. "Selective MMP Inhibition Stimulates Angiogenesis and Reduces LV Remodeling Post MI in Rabbits."
4. 2005 Undergraduate Mentor Award, Winthrop University College of Arts and Sciences.
5. 2006 Leadership Education And Development (LEAD) Institute. Was 1 of 24 selected for the 2<sup>nd</sup> class; the goal was to provide future leaders with the insight, practical experiences and the tools to build on their leadership skills and to be successful.
6. National Doctors' Day Community Outreach Award, UTHSCSA 2009
7. 2010 Leading Light Award, for exemplary leadership and outstanding achievement in healthcare, Healthcare Businesswomen's Association, San Antonio Chapter.
8. IUPS 2013 Congress Travel Award
9. Silver Level Excellence in Research Medallion Award, UMMC 2013
10. Distinguished Service Award, American Physiological Society, Translational Physiology Interest Group, Experimental Biology 2014 (inaugural recipient; only 1 award was given)
11. Gold Level Excellence in Research Medallion Award, UMMC 2014
12. Translational Research Team Award, Excellence in Research Awards Ceremony, UMMC 2015- Dr. Michael Hall and Dr. Lindsey were selected as the most outstanding translational research team of the year.
13. tiny Heart Hero Award, Saving tiny Hearts Society 2016
14. Platinum Level Excellence in Research Medallion Award, UMMC 2016

**Awards for research excellence by trainees supervised (a selection of examples):**

1. Danielle K. Goshorn, technician. "Changes in Specific MMP Levels and Fibroblast Function Accompany the Age-related Increase in LV Mass." Finalist for the Scientific Sessions Poster Competition in Basic Science, American Heart Association Meeting, New Orleans, LA, 2004.
2. W. Chase Corn, M.D. student. "MMP-7 Levels During Acute and Chronic Phases of Left Ventricular Remodeling." Finalist for the poster competition, Student Research Day, Medical University of South Carolina, 2004.
3. Joseph T. Mingoia, M.D. student. "Identifying MMP-9 Substrates in the Myocardium Using in Silico Degradomics." South Carolina Medical Association Foundation Research Essay Scholarship Winner, 2005. (\$2000 scholarship award)
4. C. Russell Horres III, high school student. "Effects of MMP-9, MMP-7, and MCP-1 Deletion on Macrophage Phagocytic Potential and Differentiation." South Carolina Junior Academy of Science Annual Meeting in Columbia, SC, March 10, 2006. Fifth Place in the Oral Presentation Competition in the Biochemistry category. (\$50 prize)
5. Elizabeth Lopez, high school student. "Age-Related Cardiac Sarcopenia." Based on her achievements, we applied for and successfully obtained a research supplement to my R01 for her to work in my laboratory for the summers of 2007 and 2008. Based on her summer 2007 work, she also won several science fair awards for the 2007-2008 school year.
6. Sarah McCurdy, biology major at St. Mary's University. Sarah was awarded 1st place for the Science, Engineering, and Technology category at the St. Mary's 2008 Research Symposium. In addition, she was selected as 1 of 24 undergraduates in the United States to be awarded the American Physiological Society Undergraduate Summer Research Fellowship for the summer of 2008. Her abstract was 1 of 6 abstracts from 113 selected for oral presentation for the Department of Medicine Research Day (May 13, 2008). She was awarded 1st place for her category: Resident/Medical Student (she was the only undergraduate). Was a finalist for the APS Bruce Award for EB 2009.
7. Rogelio Zamilpa, PhD- Postdoctoral Fellow. Dr. Zamilpa received an AHA postdoctoral grant on his 1st submission, to study "MMP-9 Regulation of Cardiac Fibroblast Activation Post-Myocardial Infarction"- July 2009.
8. Ying Ann Chiao, PhD student. Was named a Translational Science Training Scholar, UTHSCSA, 2009-2010. Won the Young Investigator Award, Oral Presentation (1<sup>st</sup> Prize), Thirteen Annual Scientific Meeting of Institute of Cardiovascular Science and Medicine, 2009. Received the 2011 Cardiovascular Section Research

Recognition Award recipient by the American Physiology Society (9 of 116 applicants received an award). Won the Research Day Award (post-doctoral fellows/graduate student category) at the 14<sup>th</sup> Annual Medicine Research Day, UTHSCSA, 2011. Won the Paul Horowitz Award for the best Biochemistry graduate student in 2011. Won the Joe H. Ward, Jr., and Bettie B. Ward Award for Excellence in the Study of the Biology of Aging in recognition of outstanding achievements in aging research as a graduate student in 2011. Was a finalist for the FGTB Young Investigator Award for the AHA in 2011.

9. Ganesh Halade, PhD, pre-faculty fellow. Won the Sukhir Gupta Young Scientist Award from the Association of Scientists of Indian Origin (ASIOA) in 2012. Was the sole recipient of the Barbara H. Bowman Award from UT Health Science Center San Antonio as the most outstanding Postdoctoral Fellow in 2010. Was awarded a K99/R00 from NCCAM for "DHA Mechanisms in Obesity-mediated cardiac remodeling post-myocardial infarction." This application was funded on first submission and was the only K99 funded by NCCAM in FY 2011. Dr. Halade is now an Assistant Professor (tenure track) at University of Alabama in Birmingham.
10. Trevi Ramirez, BA- technician (was accepted into MD/PhD program at UTHSCSA). Won first place for the student category for the 2012 Department of Medicine Research Day poster competition.
11. Yonggang Ma, PhD- pre-faculty fellow. Won a 2012 FGTB Abstract Travel Award from AHA; received the 2015 Cardiovascular Section Research Recognition Award recipient by the American Physiology Society (9 of 104 applicants received an award).
12. Kristine DeLeon-Pennell, PhD- pre-faculty fellow. Won an APS Minority Travel Fellowship Award to attend EB 2013 to present a talk and poster. Won Poster Award for Research Day, Fellows Category, UMMC, Fall 2013. Won FGTB Minority Travel Grant to attend 2013 AHA Scientific Sessions. Received a 2014 APS K-12 minority outreach fellowship to help mentor underrepresented students and get them in the pipeline (2014). Won the 2014 Steven M. Horvath Professional Opportunity Award (2014; was 1 of 39 selected from 145 applications). 2014- one of 3 postdoctoral fellows chosen to attend the ASBMB Mentoring Workshop for Early Career Scientists. Semi-finalist, 2015 Burroughs Wellcome Fund Career Award at the Scientific Interface. 2016 Trustmark Postdoctoral Publication Award (single cutting edge publication)
13. Lisandra de Castro Brás, PhD- pre-faculty fellow. Won BCVS Abstract Travel Grant to attend 2013 AHA Scientific Sessions.
14. Rugmani Padmanabhan Iyer, PhD- postdoctoral fellow. 2014 Hearing's Scholarship for the Millsaps Business Advantage Program, Else School of Management, Millsaps College (only one awarded); 2014 Basic Cardiovascular Sciences Scientific Sessions Travel Award (American Heart Association); 2015 Keystone Symposia Future of the Science Fund Scholarship; 2015 Trustmark Postdoctoral Publication Award (single cutting edge publication)
15. Mira Jung, PhD- postdoctoral fellow. 2016 Excellent Poster Award at the International Conference of the Korean Society for Molecular & Cellular Biology (Oct 12-14 in Seoul); 2016 UMMC Graduate School Research Day Best Poster Award.

## II. TEACHING

### A. Classroom/Laboratory: (reverse chronological order)

Year(s)	Course Title / Block Hours/Number of Student evaluation score: Avg±SD; scale: 1=best; 5=worst	S*/L** Students	Hours/ Class/Lab	Role
2017	MCCTR Mentoring Academy Addressing equity and inclusion and Fostering Independence topics		3.0	Facilitator
2017	MSCI 790 Grant and Scientific Communication The Peer Review Process		2.0	Instructor
2016	Proteomics, Mass Spectrometry, DNA microarrays, Protein Arrays and Analysis Physiological Applications of Molecular Biology		2.0	Instructor
2015	Molecular Basis of Cardiovascular Disease Molecular and Cellular Biology and Pathobiology Program, MUSC		1.5	Guest Instructor
2014-present	Writing and Reviewing for Scientific Journals APS Professional Skills Training 2014 Online Course- taught entire course 2015-16 Onsite Course- was one of 6-7 instructors		21	Instructor
2014	K-Award Writer Series Writing K Grants: the abstract		1.5	Lecturer

2013	Responsible Conduct of Research Collaborative Research -gave the same lecture to 2 sets of about 20 trainees for each lecture		1	Lecturer
2015-7	GRAD717 Circulatory Physiology Cardiac Pathophysiology		2	Lecturer
2014-2017	Grant Writing Scientific Communications Spring 2014, Fall 2016, Fall 2017		2	Lecturer
2013	CV Physiology: Aging and MI Student evaluation score: 1.22±0.29 (n=10 student responses)		2	Lecturer
2011	MEDI5075 Scientific Communication Social Networking to Promote Your Science		1.5	Lecturer
2009-2010	INTD 5081 Topics in Cardiovascular Research	Graduate School	1.5	Team Teacher
2008-2010	CSBL 6090 Seminar; chaired the weekly journal club for the Department of Cellular and Structural Biology	Graduate School/	1	Chair
2008-2012	BIOC 6015 (Metabolic Disorders)/ 3/ 9 -2011: directed this course -2008: co-directed this course, which involved grading oral presentations & mock grant proposals; also taught the extracellular matrices in metabolic disorders lecture Student evaluation score: 1.32±0.41 (n=8 student responses in 1 lecture)	Graduate School/ Graduate	2	Co-Director
2008; 2010	CSBL 6021 (Animal Models)/ 3/ 3 - 2010: taught 1 lecture: Models of Cardiovascular Disease in Mice; this involved 8 hours of preparation - 2008: taught 2 lectures: 1) Ways to Assess Cardiovascular Function in Mice; and 2) Surgical Models of Cardiac Disease; this involved 16 hours of preparation Student evaluation score: 1.00±0.00 (n=13 student responses in 2 lectures)	Graduate School/ Graduate	3	Lecturer
2008	BME 6203 (Physiology for Engineers)/ 3/ 5 -taught 2 lectures on cardiac output, blood flow, and blood pressure (10 hours of preparation) Student evaluation score: 1.33±0.04 (n=8 student responses in 2 lectures)	Graduate School/ Graduate	2.5	Lecturer
2006-2010	INTD 5000 (Cell Biology)/ 3/35-40 Fundamentals of Biomedical Sciences -Fall 2008-2010: taught extracellular matrix and integrin lecture 2008 student evaluation score: 1.50±0.45 (n=41 student responses for 1 lecture) 2009 student evaluation score: 1.43±0.41 (n=38 student responses for 1 lecture) -Fall 2007: taught extracellular matrix and integrin lectures Student evaluation score: 1.38±0.03 (n=70 student responses in 2 lectures)	Graduate School/ Graduate	1	Lecturer
	INTD 5007 (Cell Biology) Core III (Cell Biology)/3/ 37 -Spring 2006 and 2007: taught the extracellular matrix and integrins lecture (3 hrs and 1.5 hrs)	Graduate School/ Graduate	3	Lecturer
	INTD5006 (Principle of Cellular and Molecular Biology) -Fall 2009: taught extracellular matrix and integrins lecture (n=1 student)	Graduate/ Dental School	3	Lecturer
2005-2011	CSBL 6048/3/10 Biology of Aging -2005; 2008-2011: taught the cardiovascular aging lecture	Graduate School/ Course Graduate	1	Lecturer

2008 student evaluation score: 1.20±0.31 (n=12 student responses in 1 lecture)  
 2009 student evaluation score: 1.27±0.27 (n=12 student responses in 1 lecture)  
 2010 student evaluation score: 1.26±0.38 (n=10 student responses in 1 lecture)  
 2011 student evaluation score: 1.16±0.19 (n=9 student responses in 1 lecture)

2007-2008	Research 3/1; ST3300W	Course St. Mary's University/ Undergraduate	0/8	Instructor
	-Supervised Sarah McCurdy 8 hrs/ week for Fall 2007 and Spring 2008 semesters			
2007-2008	Basic Survival Skills: Stuff you need to know no matter what you end up doing	Graduate School/Undergraduate non-credit		Course Director
	-This is a 6-8 week mini-course taught Wednesdays 5-6:30 pm in the summer to 10 students in the B-Sure program and the Cardiology summer students (high school, medical, and graduate); topics include ethics, time management, literature review, manuscript writing, and PowerPoint presentations.			
	2008 student evaluation score: 1.45±0.11 (n=69 student responses in 5 lectures) 2007 student evaluation score: 1.58±0.16 (n=42 student responses in 4 lectures)			
2007-2008	CSB Mock Proposal	Grader Graduate School	3	Grader
	2008: "The Role of Bone Morphogenetic Protein 2 In Regulating Mesenchymal Stem Cells Fate" Student: Wuchen Yang 2007: "The different roles of JNK isoforms in inflammation/ obesity induced insulin resistance"; Student: Xiaoban Xin -included grading written and oral components as a practice for the oral qualifying exam			
2007	CSB Practice Grant- Hypothesis and aims	Graduate School	2.5	Co-Reviewer/ review Lecturer
2007	CSB Student Library Paper "The Nonreproductive Effects Of Estrogen"; Student: Margaux Salas	Graduate School/ Graduate	2 (non-contact)	Grader
2006	Medicine/Cardiovascular Disease Core Curriculum Conference	Medical School/ Medical	1	Lecturer
	topic: extracellular matrix and integrins			
2006-2011	Biology for Bioengineers/ 3 -taught the proteomics lecture	Graduate School/ Graduate	1.5	Lecturer
	2009 student evaluation score: 1.64±0.83 (n=15 student responses in 1 lecture) 2008 student evaluation score: 1.43±0.29 (n=8 student responses in 1 lecture)			
2004	Integrative Biology of the Cardiovascular System/3/<10	Graduate School/ Graduate	1	Lecturer
	topic: critical thinking skills			
1996	Physiology/3/<20	Medical School/ Graduate	3/	wk Teaching Assistant

**Laboratory Rotations** (Each rotation involved daily to weekly meetings to discuss, plan, and evaluate experiments.)

2005	CGS 720/721	Laboratory Rotation MUSC	Level: G	Student: <a href="#">Ira Matthew Mains</a>
2006	BIOC 6097	Laboratory Rotation UTHSCSA	Level: G	Student: <a href="#">Harjinder Singh</a>
2007	PHYL 6097	Laboratory Rotation UTHSCSA	Level: G	Student: <a href="#">Huimin Liu</a>
2007	CSBL 6097	Laboratory Rotation UTHSCSA	Level: G	Student: <a href="#">Jessica Ibarra</a>
2007	BIOC 6097	Laboratory Rotation UTHSCSA	Level: G	Student: <a href="#">Hongzhi Chen</a>
2008	BIOC 6097	Laboratory Rotation UTHSCSA	Level: G	Student: <a href="#">Ying Ann Chiao</a>
2008	ORTO 6002	Laboratory Rotation UTHSCSA	Level: G	Student: <a href="#">Michou Kelley</a>
2008	CSBL 6097	Laboratory Rotation UTHSCSA	Level: G	Student: <a href="#">Jamila Momand</a>
2009	BIOC 6097	Laboratory Rotation UTHSCSA	Level: G	Student: <a href="#">Lishi Sun</a>
2009	INTD 6097	Laboratory Rotation UTHSCSA	Level: G	Student: <a href="#">Suzette Laing</a>
2010	INTD 6097	Laboratory Rotation UTHSCSA	Level: G	Student: <a href="#">Nicole Patterson</a>
2010	INTD 6097	Laboratory Rotation UTHSCSA	Level: G	Student: <a href="#">Kelly Grimes</a>

**B. Instructional Development:****1. Formal Study to Improve Teaching, Research, and Administrative Abilities:**

- 2006 "Minority Scientists: Where are They? Should We Care?" workshop; 1 hr professional development credit.
- 2006 "Leaks in the Pipeline: Do Faculty Mend Them or Create Them?" workshop; 1 hr professional development credit.
- 2006 "ABC's of Gen X, Y, & Z" workshop; 5 hrs professional development credit.
- 2006 Attended the 2006 Summer Training Course in Experimental Aging Research, an NIA-sponsored training course- only 19 of >50 applicants were invited to attend.
- 2006 UTHSCSA Teaching Excellence Course (UTEC) for professional development, sponsored by the Division of Educational Research and Development; received 26 hours of faculty development training to develop and practice key teaching skills.
- 2007 "Using the Logic Model in Grant Development" workshop; 2 hrs professional development credit.
- 2007 "National Leadership Workshop on Mentoring Women in Biomedical Careers: Mentoring is Everybody's Business;" November 27-28, 2007; NIH Campus, Natcher Conference Center, Bethesda, MD.
- 2011 "Conducting Clinical Research;" UTHSCSA.

**C. Direction of Masters' Theses and Ph.D. Dissertations, Membership on Supervising Committees, and Supervision of Pre-doctoral Students and Postdoctoral Fellows:****1. Masters' Theses Directed:**2010-2012 Dissertation Committee Chair

Student: Nicole Patterson

Department: Biochemistry (Molecular Biophysics and Biochemistry Track)

Degree: M.S.

Thesis Title: Roles of Matrix Metalloproteinase-9 and Matrix Metalloproteinase-12 in Post-Myocardial Infarction Remodeling

2013-2014 Dissertation Committee Chair

Student: Courtney Cates

Department: Biomedical Engineering (Mississippi State University)

Degree: M.S.

Thesis Title: The Role of Otolin-1 in Cardiac Matrix Remodeling Following Myocardial Infarction

2013-2015 Dissertation Committee Chair

Student: Presley L. Cannon

Department: Biology (Mississippi College)

Degree: M.S.

Thesis Title: Biological Function of MMP-9 Generated Fibronectin 1178B Fragment

**2. Ph.D. Dissertations Directed:**2007-2009 Dissertation Committee Chair

Student: Jessica Ibarra

Department: Cellular and Structural Biology

Degree: Ph.D.

Thesis Title: Matrix Metalloproteinase-9 Roles in Left Ventricular Remodeling and Macrophage Function in Mice

2008-2011 Dissertation Committee Chair

Student: Ying Ann Chiao

Department: Biochemistry (Metabolism and Metabolic Disorders Track)

Degree: Ph.D.

Thesis Title: The Role of MMP-9 in Cardiac Aging

**3. Membership on Supervising Committees:**

Thesis Committees:

2002-2003 Thesis Committee Member

Student: Robert E. Stroud

Department: Physiology and Neuroscience (MUSC)

Degree: M.S.

Thesis Title: Plasma Monitoring of the Myocardial Specific Tissue Inhibitor of Metalloproteinase-4 Following Alcohol-Induced Myocardial Infarction in Hypertrophic Obstructive Cardiomyopathy

2008-2008 Thesis Committee Member

Student: Marcello Pilia  
 Department: Mechanical Engineering, UTSA  
 Degree: M.S.  
 Thesis Title: Left Ventricular Mechanical Properties Post-Myocardial Infarction and the Role of Matrix Metalloproteinase-9

2008-2011 Thesis Committee Member

Student: Tao Kang  
 Department: Cellular and Structural Biology, UTHSCSA  
 Degree: M.S.  
 Thesis Title: Crosstalk between Extracellular Matrix/ Collagen and Prostaglandin E<sub>2</sub>-induced Signal Pathways in Regulation of Aromatase Expression in Adipose Stromal Cells

2011 Thesis Committee Member

Student: Yang Zhao  
 Department: Department of Mechanical Engineering, UTSA  
 Degree: M.S.  
 Thesis Title: Arterial Wall Remodeling Under Buckling in Organ Culture

2011 Thesis Committee Member

Student: Nguyen Nguyen  
 Department: Department of Electrical and Computer Engineering, UTSA  
 Degree: M.S.  
 Thesis Title: Targeting Myocardial Infarction-Specific Protein Interactions Using Computational Analyses

2012 Thesis Committee Member

Student: Justin Moreno  
 Department: Department of Mechanical Engineering, UTSA  
 Degree: M.S.  
 Thesis Title: The effects of pulmonary hypertension on the mechanical properties of arteries in Cav-1<sup>-/-</sup> mice

## Dissertation Committees:

2004-2007 Dissertation Committee Member

Student: Anne M. Deschamps  
 Department: Molecular and Cellular Biology and Pathobiology (MUSC)  
 Degree: Ph.D.  
 Thesis Title: Mechanisms of Induction, Activation, and Trafficking of Myocardial Membrane Type-1 Matrix Metalloproteinase in Ischemia and Reperfusion

2006-2010 Dissertation Committee Member

Student: Beili Zhu  
 Department: Joint Program in Biomedical Engineering (UTSA/UTHSCSA)  
 Degree: Ph.D.  
 Thesis Title: Establishing Atherosclerosis Occlusion in Porcine Coronary Artery

2006-2008 Dissertation Committee Member

Student: Yong-Ung Lee  
 Department: Joint Program in Biomedical Engineering (UTSA/UTHSCSA)  
 Degree: Ph.D.  
 Thesis Title: Effects of Axial Stretch and Wall Injury on Intimal Hyperplasia in Arteries

2007-2008 Dissertation Committee Member

Student: Maggie M. Beranek  
 Department: Joint Program in Biomedical Engineering (UTSA/UTHSCSA)  
 Degree: Ph.D. (Graduated May 2008)  
 Thesis Title: Overcoming Restenosis: A Combinational Surface to Improve Vascular Device Biocompatibility

2007-2011 Dissertation Committee Member

Student: Danika Hayman  
 Department: Joint Program in Biomedical Engineering (UTSA/UTHSCSA)  
 Degree: Ph.D.  
 Thesis Title: Pulsatile Pressure: its effect on arterial structure and function

2007-2011 Dissertation Committee Member

Student: Chi Fung Lee  
 Department: Biochemistry (UTHSCSA)  
 Degree: Ph.D.  
 Thesis Title: The Role of NADPH Oxidase 4 in Macrophage Function and Atherosclerosis

2008-2011 Dissertation Committee Member

Student: Avione Northcutt  
 Department: Joint Program in Biomedical Engineering (UTSA/UTHSCSA)  
 Degree: Ph.D.  
 Thesis Title: Determining the Critical Buckling Pressure of Blood Vessels through Modeling and In Vitro Experiments

2009-2011 Dissertation Committee Member

Student: Pramod Kumar Mishra  
 Department: Microbiology and Immunology  
 Degree: Ph.D.  
 Thesis Title: Mechanism of leukocyte trafficking into the central nervous system during murine neurocysticercosis

2008-2012 Dissertation Committee Member

Student: Sarah Ullevig  
 Department: Biochemistry (Metabolism and Metabolic Disorders Track)  
 Degree: Ph.D.  
 Thesis Title: Phytochemicals as Modulators of Thiol Oxidative Stress and Monocyte Recruitment

2011-2013 Dissertation Committee Member

Student: Celia Macias  
 Department: Biomedical Engineering  
 Degree: Ph.D.  
 Thesis Title: Non-Polymeric Coatings for Drug Eluting Coronary Stents

2011-2013 Dissertation Committee Member

Student: Yunji Wang  
 Department: Electrical and Computer Engineering  
 Degree: Ph.D.  
 Thesis Title: Modeling, Analysis, and Simulation of Macrophage Activation Post-myocardial Infarction

2010-2013 Dissertation Committee Member

Student: Omid Ghasemi  
 Department: Department of Electrical and Computer Engineering, UTSA  
 Degree: Ph.D.  
 Thesis Title: Systemic Analysis of Gene Expression Post Myocardial Infarction Using Computational Approaches

2012-2014 Dissertation Committee Member

Student: Haihui Pan  
 Department: Molecular Medicine  
 Degree: Ph.D.  
 Thesis Title: Physiology Role of RNA Polymerase II Pausing Factor, Negative Elongation Factor

2011-2014 Dissertation Committee Member

Student: Nguyen Nguyen  
 Department: Department of Electrical and Computer Engineering, UTSA  
 Degree: Ph.D.  
 Thesis Title: Implications of Cardiac Extracellular Matrix Remodeling and Computational Frameworks to Improve the Knowledge Discovery Post-Myocardial Infarction

2010-2014 Dissertation Committee Member

Student: Andrew Voorhees  
 Department: Biomedical Engineering, UTSA  
 Degree: Ph.D.  
 Thesis Title: The role of collagen in cardiac mechanics and adverse left ventricle remodeling post-myocardial infarction

2013-present Dissertation Committee Member

Student: Kristin Shirey  
 Department: Biochemistry  
 Degree: Ph.D.  
 Thesis Title: Characterization of Ionic Cyclic Lipopeptides as Effectors of Mitochondrial Electron Transfer and the Inner Membrane Anion Channel



**4. Membership on Supervising Committees as External Examiner:**

2012 External Examiner for Dissertation Committee

Student: Vijay Kandalam  
 Department: Physiology  
 University: University of Alberta, Canada  
 Degree: Ph.D.  
 Thesis Title: The Role of TIMPs in Heart Disease

2013 External Examiner for Dissertation Committee

Student: David A. White  
 Department: Baker IDI Heart and Diabetes Institute  
 University: Monash University Institute of Graduate Research, Australia  
 Degree: Ph.D.  
 Thesis Title: The role of macrophage migration inhibitory factor in post-infarct inflammation and cardiac remodelling

**Visiting graduate students**

2013 Laura Pietrovito, graduate student from University of Florence

**5. Pre-doctoral Students Supervised:****High School Students:**

1. C. Russell Horres III (Summer 2005; junior at Porter-Gaud School, Charleston, SC; South Carolina Governor's School for Science and Mathematics, Summer Program for Research Interns).
2. Elizabeth Lopez (Summers 2006-2008; June 12, 2008- graduated from John Jay Science and Engineering Academy, San Antonio, TX; UTHSCSA Summer Program for Research).
3. Reanna Witherspoon (Summers 2009-present; Voelcker Academy at UTHSCSA)

**Undergraduate Students:**

1. Christopher Keller (Summer 1997; Baylor College of Medicine SMART Program); resulted in authorship on 1 manuscript.
2. Kyle Wedin (Summer 1998; Baylor College of Medicine SMART Program); resulted in authorship on 1 manuscript.
3. Anjali Verghese (School Year 2001-2002; Massachusetts Institute of Technology student); resulted in authorship on 1 manuscript.
4. Shafara Dozier (Summer 2003; Medical University of South Carolina Summer Undergraduate Research Program); resulted in first authorship on 1 manuscript.
5. Shenikqua Bouges (Summer 2004; Medical University of South Carolina Summer Undergraduate Research Program); resulted in authorship on 1 manuscript.
6. Sarah Rozinek (Summer 2006; St. Mary's University and UTHSCSA Summer Research Program).
7. Harrison Davis (Summer 2006; UTHSCSA Biomedical Summer Undergraduate Research Experience (B-Sure) Program).
8. Rachel Finn (School Year 2006-2007; student volunteer)
9. Jesse Garcia (School Year 2006-2007; student volunteer)
10. Crystal Samaniego (Summer 2007; UTHSCSA Biomedical Summer Undergraduate Research Experience (B-Sure) Program).
11. Sarah McCurdy (Summer 2007- Summer 2008; student volunteer)- Sarah volunteered 20 hours per week in my laboratory during Summer 2007 and 10 hours per week during the Fall 2007 and Spring 2008 semesters. Sarah was 1 of 24 students from around the US to be accepted for the Summer 2008 American Physiological Society Undergraduate Fellowship, which provided her a stipend to work in my laboratory.
12. Joaquin Cigarroa IV (Summer 2008; UTHSCSA Physiology Summer Undergraduate Research Experience (PURE) Program); was accepted to UTHSCSA Medical School (Fall 2009)
13. Trevi Ramirez (April 2010- July 2012; volunteer or tech- in July 2012, Trevi enrolled in UTHSCA School of Medicine)
14. Daniel Levin (August 2010- July 2011; student volunteer- July 2011, Dan enrolled in UTHSCSA School of Medicine)
15. Dustin Bratton (February 2013- April 2014; researcher III)- Dusty enrolled in UMMC School of Medicine
16. Kayla Thomas (May 2014-present)- Tougaloo College
17. De'Aries Shannon (May 2015-present)- University of Mississippi

**Medical Students:**

1. Robert Leonardi (Summer 2003; MUSC Medical Student Summer Research Program); resulted in authorship on 1 manuscript. Dr. Leonardi matched to the Duke University Internal Medicine Residency Program.
2. John Payne (Summer 2003; MUSC Medical Student Summer Research Program); resulted in authorship on 1 manuscript. Dr. Payne matched to the Emory University Ophthalmology Residency Program.
3. William Chase Corn (Summer 2004; MUSC Medical Student Summer Research Program).

4. Joseph T. Mingoia (Fall 2004, Biochemistry Course Research Elective and Summer 2005).
5. Jessica Lambert (Summer 2006; UTHSCSA Medical Student Summer Research Program).
6. Christian Corbitt (Summer 2006; UTHSCSA Medical Student Summer Research Program).
7. Arvin Bansal (Summer 2007; UTHSCSA Medical Student Summer Research Program).
8. Jamie Berger (Fall 2007; UTHSCSA 4<sup>th</sup> year medical student).
9. Paul Gravel (Fall 2007; UTHSCSA 4<sup>th</sup> year medical student).
10. Vinh Nguyen (Summer 2008; UTHSCSA Medical Student Summer Research Program).
11. Roger Dikdan (July 2008- May 2009; UTHSCSA 2<sup>nd</sup> year medical student).
12. Steven Kim (May-June 2009; UTHSCSA 3<sup>rd</sup> year medical student).
13. Tariq Dayah (Summer 2009; UTHSCSA Medical Student Summer Research Program)
14. Nicolas Spampinato (Jan 2010-11; UTHSCSA Medical Student Volunteer)
15. Serena Michelle Okoronkwo (Summer 2011; UTHSCSA medical student; Medical Student Training in Aging Research (MSTAR) program)
16. James R. Heaberlin (Summer 2012; UTHSCSA medical student; Medical Student Training in Aging Research (MSTAR) program)
17. Daniel Levin (Summer 2012; UTHSCSA summer medical student research program)
18. Majdouline Asher (Summer 2013; UMMC American Heart Association medical student summer fellowship program)
19. Jared White (Aug 2013- present; UMMC Medical Student Research Program)
20. Ahmad Faisal Allaf (Summer 2014; UMMC / Alfaisal University Summer Research Program)
21. Fayez Mourad (Summer 2014; UMMC / Alfaisal University Summer Research Program)
22. Norah AlSomali (Summer 2015; UMMC / Alfaisal University Summer Research Program)
23. Paula Garbin (Jan-March 2016; UMMC/ Brazil Medical Student Research Program)

#### **6. Pre-Faculty and Pre-Industry Fellows and Instructors Supervised:**

##### Primary (Current):

1. Osasere Kelvin Ero, MBBS (April 2016- present)
2. Alan Mouton, PhD (May 2017- present)

##### Primary (Past):

1. Jianhua Zhang, M.D., Ph.D. (Sept 2009- April 2011; Dr. Zhang became a laboratory director at UTHSCSA.)
2. Patricia Shamhart, Ph.D. (Sept 2010- July 2011; Dr. Shamhart accepted an instructor position at Anne Arundel Community College)
3. Rogelio Zamilpa, Ph.D. (Dec 2007- March 2012; Dr. Zamilpa accepted a position in industry.)
4. YaoJun Li (February 2012- November 2012; Dr. Li accepted a fellowship in Houston.)
5. Ganesh Halade, Ph.D. (Sept 2010- April 2013; Dr. Halade transitioned to a tenure track assistant professor position at UAB)
6. Lisandra de Castro Brás, Ph.D. (June 2011- January 2014; Dr. de Castro Brás transitioned to a tenure track assistant professor position at ECU)
7. Fouad Zouein (January 2014- December 2014; Dr. Zouein transitioned to tenure track assistant professor at the American University at Beirut on July 1, 2015)
8. Yonggang Ma, Ph.D. (October 2010- December 2014; Dr. Ma transitioned to assistant professor when his AHA SDG grant was funded- he received a score of 1.15 (0.91%))
9. Ashley DeCoux (February 2014-February 2015)
10. Raffaele Altara (August 2014-April 2015)
11. Andriy Yabluchanskiy (April 2012- July 2015; Dr. Yabluchanskiy transitioned to tenure track assistant professor at the University of Oklahoma)
12. Kristine DeLeon, PhD (September 2011- present; Dr. DeLeon became an Instructor at UMMC in January 2014)
13. Rugmani Padmanabhan Iyer (December 2011- present; Dr. Iyer became an Instructor at UMMC in March 2014)
14. Cesar Meschiari, PhD (July 2016- July 2017)
15. Mira Jung, PhD (January 2015- August 2017)

##### Co-Mentor (Past):

1. Amina El Jamali, Ph.D. (Dec 2007- June 2010)
2. Trista Robichaud, Ph.D. (June 2009- Dec 2010)
3. Deborah Zamora, Ph.D. (June 2009-2012)
4. Jennifer Chesnutt (Aug 2010-2013)

##### Residents:

1. Rushit Kanakia (February 2009- March 2009)
2. Tejas Patel (November 2009- January 2010)

**7. Junior Faculty Mentored:**

1. Claude Jourdan Le Saux, PhD (UTHSCSA)
2. Gregory J. Aune, MD, PhD (UTHSCSA)
3. Hiroe Toba, PhD- (UMMC & Kyoto)- Dr. Toba is an assistant professor from the Pharmacology Department of Kyoto University who spent 1.5 years in Jackson to further improve her cardiac research skills.
4. Stanley V. Smith, PhD (UMMC)
5. Michael Hall, MD (UMMC)
6. Lisandra de Castro Brás, PhD (ECU)
7. Yonggang Ma, PhD (UMMC)
8. Romain Harmancey, PhD (UMMC)
9. Michael Puskarich, MD (UMMC; member of K08 mentoring committee)
10. Utsav Nandi, MD (UMMC; member of MSCI mentoring committee)

**III. RESEARCH**

\* peer reviewed; ¥ ML Lindsey is the corresponding author; funded by: (1) NHLBI HHSN26820100036C (N01-HV-00244) for the UTHSCSA Cardiovascular Proteomics Center, (2) NIH R01-HL-75360, (3) VA Merit, (4) Max and Minnie Tomerlin Voelcker Fund, (5) Novartis, (6) Health Resources and Services Administration, (7) AHA 0855119F, (8) Morrison Trust F0685300, (9) HL051971, (10) GM104357, (11) GM114833, and (12) HL129823.

**Complete List of Published Works in My Bibliography:**

<http://www.ncbi.nlm.nih.gov/sites/myncbi/merry.lindsey.1/bibliography/41659911/public/?sort=date&direction=descending>

**A. Bibliography:****a) Books**

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**b) Book chapters**

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3. Youker KA, Birdsall HH, Frangogiannis NG, Kumar AG, **Lindsey ML**, Ballantyne CM, Smith CW, Rossen RD, Entman ML. Phagocytes in Ischemic Injury. In Phagocytes: Biological and Clinical Aspects. Rodolfo Peoletti, Antonia Notario, and Giovanni Ricevuti, Eds.; Annals of the New York Academy of Sciences 832:243-265. (Dec 15, 1997). \*
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6. Zamilpa R, Chiao YA, Dai Q, Bansal A, **Lindsey ML**. Cardiac Fibroblast Functions Following Myocardial Infarction: Cause and Effect Roles of MMPs and TIMPs. Book chapter in "The Cardiac Fibroblast," Neil A. Turner, Editor. Research Signpost. (2011). \*¥ (2,7,8)
7. DeLeon K, de Castro Bras L, Ma Y, Halade G, **Lindsey ML**. Extracellular matrix biomarkers of adverse remodeling after myocardial infarction. Book chapter in "Cardiac Remodeling: Molecular Mechanism,s" Dr. B. I. Jugdutt and Dr. N.S. Dhalla, Editors. Springer. (2013). \*¥
8. Zamilpa R, Zhang J, Chiao YA, de Castro Bras L, Halade G, Ma Y, Hacker SO, **Lindsey ML**. Cardiac Wound Healing Post-Myocardial Infarction: A Novel Method to Target Extracellular Matrix Remodeling in the Left Ventricle. Book chapter in "Wound Regeneration and Repair: Methods and Protocols," Tereance Myers and Robert G. Gourdie, Editors. Methods in Molecular Biology, Humana Press. 1037:313-24 (2013). PMID:24029944 PMID: PMC3970183 \*¥ (1,2,3,4)
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10. Yamamoto D, Takai S, **Lindsey ML**. Molecular Mechanisms and Pharmacological Implications of MMP-9 Inhibition by ACE Inhibitors. In *ACE Inhibitors*. Nova Science Publ., Inc. 179-198 (2013). \*¥ (1,2,3,9)
11. Nguyen NT, Yabluchanskiy A, de Castro Brás LE, Jin Y-F, **Lindsey ML**. Aging-Related Changes in Extracellular Matrix: Implications for Ventricular Remodeling Following Myocardial Infarction. In *Aging and Heart Failure: Mechanisms & Management*. Editor: Jugdutt B. Springer. 377-389 (2014). \*¥
12. DeLeon KY, Yabluchanskiy A, Winniford MD, Lange RA, Chilton RJ, **Lindsey ML**. Chapter 35. Modifying Matrix Remodeling To Prevent Heart Failure. In *Cardiac Regeneration and Repair Volume I: Pathology and Therapies*. Editors: Li R-K and Weisel RD. 41-60 (2014). \*¥ (1,2,3)
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14. **Lindsey ML**, Gomes AV, Smith SV, de Castro Brás LE. How to Design a Cardiovascular Proteomics Experiment. In *Manual of Cardiovascular Proteomics*, Springer, 2016. \*
15. Gilda JE, Folmes C, Cheah JX, Innes-Gawn T, **Lindsey ML**, Gomes AV. Synergizing proteomic and metabolomic data to study cardiovascular systems. In *Manual of Cardiovascular Proteomics*, Springer, 2016. \*
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17. DeLeon-Pennell KY, Meschiari CA, Jung M, **Lindsey ML**. Matrix Metalloproteinases in Myocardial Infarction and Heart Failure. *Prog Mol Biol Transl Sci*. 2017;147:75-100. doi: 10.1016/bs.pmbts.2017.02.001. PMID: 28413032 \*¥

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13. Stroud RE, Deschamps AM, Lowry AS, Hardin AE, Mukherjee R, **Lindsey ML**, Ramamoorthy S, Zile MR, Spencer WH, Spinale FG. Plasma Monitoring of the Myocardial Specific Tissue Inhibitor of Metalloproteinase-4 Following

- Alcohol-Induced Myocardial Infarction in Hypertrophic Obstructive Cardiomyopathy. *Journal of Cardiac Failure*, 11(2):124-130. (2005)\*
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  15. Ikonomidis JS, Barbour JR, Amani Z, Stroud RE, Herron AR, McClister, Jr. DM, Camens SE, **Lindsey ML**, Mukherjee R, Spinale FG. Effects of Deletion of the Matrix Metalloproteinase-9 Gene on the Development of Murine Thoracic Aortic Aneurysms. *Circulation*, 112(9 Suppl.1):242-248. (2005).\* (2)
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  17. **Lindsey ML**, Escobar GP, Dobrucki LW, Goshorn DK, Bouges S., Mingoia JT, McClister Jr. DM, Su H, Gannon J, MacGillivray C, Lee RT, Sinusas AJ, Spinale FG. Matrix Metalloproteinase-9 Gene Deletion Facilitates Angiogenesis Following Myocardial Infarction. *American Journal of Physiology (Heart and Circulation Physiology)*, 290(1):H232-239. (2006). \* (2)
  18. **Lindsey ML**, Goshorn DK, Comte-Walters S, Hendrick JW, Hapke E, Zile MR, Schey K. A Multidimensional Approach to Identify Hypertrophy-Associated Proteins. *Proteomics*, 6(7):2225-2235. (2006). \*¥ (2)
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  20. **Lindsey ML**, Escobar GP, Mukherjee R, Goshorn DK, Sheats NJ, Bruce JA, Mains IM, Hendrick JW, Hewett KW, Gourdie RG, Matrisian LM, Spinale FG. Matrix Metalloproteinase-7 Affects Connexin 43 Levels, Electrical Conduction, and Survival Following Myocardial Infarction. *Circulation*, 113:2919-2928. (2006).\* ¥ (2)
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### c) Reviews and editorials

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12. **Lindsey ML**, Escobar GP, Chapman RE, Patrick D, Hendrick J, Dowdy KB, Squires C, Sweterlitsch SE, Mingoia JT, Spinale FG. Age-Dependent Cellular and Molecular Mechanisms of Functional Alterations in Left Ventricle Structure and Function. *Heart Failure Society of America*, Las Vegas, NV. (2003)

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14. Leonardi RA, Patrick DK, Escobar GP, Payne JF, Squires C, Spinale F, **Lindsey ML**. 2-Dimensional Electrophoretic Analysis of Total Protein Extracted from Post-MI Macrophages and Fibroblasts. Student Research Day, Medical University of South Carolina. (2003)
15. Escobar GP, Hendrick J, Leiser JS, Sample JA, Dowdy KB, Sweterlitsch SE, Mingoia JT, Matrisian LM, **Lindsey ML**. Matrix Metalloproteinase-7 Attenuates Left Ventricular Remodeling Post-Myocardial Infarction. Circulation, American Heart Association, Orlando. (2003)
16. Squires CE, Escobar GP, Hendrick JK, Mingoia JT, Spinale FG, **Lindsey ML**. Age-Dependent Alterations in Myocardial Fibroblast Phenotypes. Medical University of South Carolina, Charleston, SC, Center on Aging 1<sup>st</sup> Annual Aging Research Day. (2004)
17. Patrick DK, Escobar GP, Hendrick JK, Mingoia JT, Spinale FG, **Lindsey ML**. Age-Dependent Alterations in Left Ventricular Extracellular Matrix Profiles. Medical University of South Carolina, Charleston, SC, Center on Aging 1<sup>st</sup> Annual Aging Research Day. (2004)
18. Escobar GP, Hendrick JK, Mingoia JT, Sweterlitsch S, Spinale FG, **Lindsey ML**. Age-Dependent Alterations in Left Ventricular Structure. Medical University of South Carolina, Charleston, SC, Center on Aging 1<sup>st</sup> Annual Aging Research Day. (2004)
19. Corn WC, Hardin AE, Goshorn DK, Herron AR, Escobar GP, Hendrick J, Clark LL, Zile MR, Spinale FG, **Lindsey ML**. MMP-7 Levels During Acute and Chronic Phases of Left Ventricular Remodeling. Student Research Day, Medical University of South Carolina. (2004)
20. Escobar GP, Mukherjee R, Dozier S, Hendrick JW, Goshorn DK, Sweterlitsch SE, Clark LL, Mingoia JT, Bruce JA, Sample JA, Matrisian LM, Spinale FG, **Lindsey ML**. Matrix Metalloproteinase-7 Deletion Improves Survival and Myocardial Conduction Following Myocardial Infarction. Circulation, American Heart Association, New Orleans. (2004)
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27. Horres III CR and **Lindsey ML**. Effects of MMP-9, MMP-7, and MCP-1 Deletion on Macrophage Phagocytic Potential and Differentiation. South Carolina Junior Academy of Science Annual Meeting in Columbia, SC. (2006). Mr. Horres was a summer high school student in my laboratory. This presentation won Fifth Place in the Oral Presentation Competition in the Biochemistry category.
28. **Lindsey ML**, Matrisian LM, and Escobar GP. Effects of matrix metalloproteinase-7 (MMP-7) on myocardial fibroblast proliferation and migration following myocardial infarction. The FASEB Journal 20: A1464, 2006. \* This abstract was 1 of 4 selected from the poster session for an oral presentation at the Featured Topic symposium, "Fibroblasts and Myofibroblasts: function and tissue repair."
29. Dai Q, Craig T, Hinojosa-Laborde C, **Lindsey ML**. Estrogen Effects on Left Ventricular Hypertrophy and Matrix Metalloproteinase Profiles in Dahl Salt-induced Hypertension. 9<sup>th</sup> Annual Medicine Research Day, Department of Medicine, UTHSCSA. (2006)
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34. Dai Q, Craig T, Hinojosa-Laborde C, **Lindsey ML**. Estrogen Effects on Left Ventricular Hypertrophy and Matrix Metalloproteinase Profiles in Dahl Salt-induced Hypertension. 60th Annual Fall Conference and Scientific Sessions of the Council for High Blood Pressure Research in association with the Council on the Kidney in Cardiovascular Disease, San Antonio, TX. (2006)
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37. Dai Q, Davis H, Chou Y-M, Craig TA, Hinojosa-Laborde C, and **Lindsey ML**. Effects of Acute and Chronic Pressure Overload on Myocardial MMP and TIMP Levels. The FASEB Journal 21: A269-A270, 2007. \* (also presented at the 10<sup>th</sup> Annual Medicine Research Day, Department of Medicine, UTHSCSA. (2007)
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39. **Lindsey ML**, Lin J, Lopez L, Jin Y, Van Remmen H, Bauch T, Han H-C. Age-Related Cardiac Muscle Sarcopenia in Mice. Circulation. American Heart Association, Orlando. (2007)
40. Escobar GP, Dai Q, and **Lindsey M**. Tissue Inhibitor of Metalloproteinase-1 Levels Predict Left Ventricular Dilation following Myocardial Infarction in Mice. The FASEB Journal 22: 585.582, 2008.
41. Dai Q, Escobar GP, and Lindsey ML. Extracellular Matrix Gene Changes in Cardiac Fibroblasts Stimulated with Transforming Growth Factor. The FASEB Journal 22: 903.901, 2008.
42. McCurdy S, Kelley M, Escobar GP, **Lindsey ML**. The Role of Secreted Protein, Acidic, and Rich in Cysteine in Left Ventricle Remodeling. Poster presentation at the 2008 St. Mary's University Symposium (1<sup>st</sup> Place Winner for Science, Engineering, and Technology Category) and Oral presentation at the 11<sup>th</sup> Annual Medicine Research Day, Department of Medicine, UTHSCSA (was 1 of 6 from 113 abstracts selected for oral presentation; 1<sup>st</sup> Place Winner for the Resident/Medical Student Oral Presenter Category). (2008)
43. Yao Q, Hayman D, Dai Q, **Lindsey ML**, Han HC. The Mechanism of Pulse Pressure Affecting the Permeability of Arteries. 2008 Summer Bioengineering Conference, Marco Island, FL. (2008)
44. Zamilpa R, Chiao YA, Lopez EF, Dai Q, Escobar GP, Weintraub ST, **Lindsey ML**. Applying Extracellular Matrix Degradomics to Identify Novel MMP-9 Substrates in the Post-Myocardial Infarction Left Ventricle. Jackson Cardiovascular-Renal Meeting, Jackson, MS. (2008)
45. Zamilpa R, Lopez EF, Dai Q, Escobar GP, Weintraub ST, **Lindsey ML**. Proteomic Analysis Identifies *In vivo* Matrix Metalloproteinase-9 Substrates in the Left Ventricle Post-Myocardial Infarction. American Heart Association Scientific Sessions, New Orleans, LA. (2008) \* Also presented at our 12<sup>th</sup> Annual Research Day, UTHSCSA. (2009)
46. Jin Y, Berger J, Escobar GP, Dai Q, **Lindsey ML**. Combined Experimental and Mathematical Modeling of Macrophage Driven Left Ventricle Remodeling Post MI. Proceeding of IEEE International Conferences on Machine Learning and Cybernetics, 4012-7, July 12-15 in Kunming, China. (2008)
47. Zamilpa R, Cigarroa J, Dai Q, Escobar GP, Jimenez F, Martinez HG, Ahuja SS, **Lindsey ML**. CCR5 deletion impairs the post-myocardial infarction inflammatory response. Experimental Biology, New Orleans, LA. (2009) \* Also presented at The Annual Terry M. Mikiten, Ph.D. Graduate Student Research Forum. (2009)
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52. Chiao YA, Zamilpa R, Dai Q, Montes M **Lindsey ML**. Matrix metalloproteinase-9 (MMP-9) deletion slows cardiac aging, 13<sup>th</sup> Annual Scientific Meeting of the Institute of Cardiovascular Science and Medicine, Hong Kong. (2009)

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54. Chiao YA, Zamilpa R, Dai Q, and **Lindsey ML**. Matrix metalloproteinase (MMP)-9 deletion slows cardiac aging. The FASEB Journal 23: 677.676, 2009. Also presented for Medicine Research Day, UTHSCSA. (2009)
55. Ibarra JM, Dai Q, Zamilpa R, Chiao YA, Lopez EF, D'Armiento J, **Lindsey ML**. Macrophage –Specific Transgenic Expression of Matrix Metalloproteinase-9 Improves Left Ventricular Function Following Myocardial Infarction in mice. Terry Mitiken Graduate Student Research Forum, Graduate School of Biomedical Sciences. (2009). Also presented as an oral presentation for 12<sup>th</sup> Annual Medicine Research Day, Department of Medicine, UTHSCSA. (2009)
56. Zamilpa R, Cigarroa J, Dai Q, Escobar GP, Jimenez F, Martinez HG, Ahuja SS, and **Lindsey ML**. CCR5 deletion impairs the post-myocardial infarction inflammatory response. The FASEB Journal 23: 362.363, 2009. This abstract was also presented at the 2010 Department of Medicine Research Day.
57. McCurdy SM, Dai Q, Bradshaw AD, and **Lindsey ML**. SPARC Mediates Early Extracellular Matrix Remodeling Following Myocardial Infarction. The FASEB Journal 23: 793.792, 2009. This abstract was selected for oral presentation.
58. Jin Y, Han H, Berger J, Dai Q, and **Lindsey M**. Combining Experimental and Mathematical Modeling to Reveal Mechanisms of Macrophage-Dependent Left Ventricular Remodeling. The FASEB Journal 24: 1060.1061, 2010.
59. McCurdy SM, Dai Q, Bradshaw AD, and **Lindsey ML**. SPARC Regulates Early Fibroblast Responses to Myocardial Infarction. The FASEB Journal 24: 600.601, 2010.
60. Zamilpa R, Kanakia R, Cigarroa J, Martinez H, Jimenez F, Ahuja SS, and **Lindsey ML**. CC Chemokine Receptor 5 Directs Macrophage Function Following Myocardial Infarction. The FASEB Journal 24: 1029.1010, 2010.
61. Chiao YA, Jin Y, Dai Q, Chou Y-M, and **Lindsey ML**. Multi-analyte profiling reveals MCP-1 and MMP-9 as plasma biomarkers of cardiac aging. The FASEB Journal 24: 888.883, 2010. This abstract was selected for oral presentation at EB. This abstract was also presented at the 2010 Department of Medicine Research Day and at the 2010 Barshop Institute Student Research Day, where it was also selected for oral presentation.
62. Wang Y, Han H, Yang J, **Lindsey M**, and Jin Y. A Conceptual Cellular Interaction Model of Left Ventricular Remodeling: Dynamic Network with Exit-Entry Evolution Strategy. The FASEB Journal 24: 1060.1064, 2010.
63. Zhang J, Joy A, Dai Q, Mifflin S, and **Lindsey ML**. Differential changes of BNIP3 and beclin-1 during the right ventricle response to sustained or intermittent hypoxia. The FASEB Journal 24: 1023.1028, 2010.\* Also presented at the 2010 Department of Medicine Research Day, UTHSCSA.
64. Joy AM, Zhang J, Dai Q, Mifflin SW, and **Lindsey ML**. Differences in Lung and Right Ventricle Responses to Sustained and Intermittent Hypoxia. The FASEB Journal 24: 786.789, 2010. \* Annie Joy is a 7<sup>th</sup> grade science teacher at Driscoll Middle School who participated in the APS Frontiers in Physiology Professional Development Fellowship and spent Summer 2009 in my laboratory.
65. Chiao YA, Zamilpa R, Zhang J, **Lindsey ML**. MMP-9 Regulates Inflammatory Gene Expression in the Aging Left Ventricle, Society for Leukocyte Biology Annual Meeting, Vancouver, Canada. (2010)
66. Zamilpa R, Chiao YA, Dai Q, Zhang J, Hakala K, Ahuja SS, Weintraub ST, **Lindsey ML**. Proteomic Identification of ECM Biomarkers for Adverse Cardiac Remodeling Post-MI. Matrix Biology Biennial Meeting, Charleston, SC. (2010)
67. Zamilpa R, Kanakia R, Cigarroa IV J, Martinez H, Jimenez F, Ahuja SS, **Lindsey ML**. CC Chemokine Receptor 5 Deletion Prevents Macrophage Activation and Collagen Turnover Following Myocardial Infarction. American Heart Association Scientific Sessions, Chicago. (2010). This abstract was selected for oral presentation.
68. Chiao YA, Jin Y, Zamilpa R, Dai Q, Ramirez TA, Zhang J, **Lindsey ML**. Matrix Metalloproteinase-9 Deletion Differentially Regulates Extracellular Matrix Gene Levels and Attenuates Age-related Diastolic Dysfunction in Mice. Keystone Symposia, "Extracellular Matrix and Cardiovascular Remodeling (B2)," Tahoe City, NV. (2011)
69. Zamilpa R, Ramirez TA, Dai Q, Chiao YA, Zhang J, **Lindsey ML**. Transgenic Expression of Matrix Metalloproteinase -9 in Macrophages Improves LV Function and Differentially Regulates Extracellular Matrix Gene Levels Post-MI. Keystone Symposia, "Extracellular Matrix and Cardiovascular Remodeling (B2)," Tahoe City, NV. (2011)
70. Chiao YA, Jin Y-F, Shamhart P, Zamilpa R, Dai Q, Ramirez T, Zhang J, and **Lindsey M**. Matrix metalloproteinase-9 deletion attenuates age-related periostin induction and diastolic dysfunction in mice. The FASEB Journal 25: 1096.1094, 2011. This abstract was selected for oral presentation.
71. Hayman D, **Lindsey ML**, Han HC. The Effect of Pulse Pressure on Arterial Wall Permeability and Stiffness. American Society of Mechanical Engineers SBC Conference. (2011)
72. Hayman D, **Lindsey ML**, Han HC (2011). The effect of pulse pressure on arterial wall permeability and stiffness. ASME Summer Bioengineering Conference, Farmington, PA. (2011)
73. Xiao Y, Zhao Y, Hayman D, **Lindsey ML**, Han HC (2011). Biomechanical stress-induced arterial buckling promotes NF- $\kappa$ B activation that regulates cell proliferations in porcine carotid arteries perfused ex vivo. BMES Hartsfield, CT. (2011)
74. Zamilpa R, Ibarra J, Dai Q, Dayah T, Nguyen N, Zhang J, Ahuja SS, D'Armiento J, Jin Y-F, **Lindsey ML**. Matrix Metalloproteinase-9 Overexpression in Macrophages Improves Ventricular Function by Regulating the Inflammatory and Fibrotic Responses Post-Myocardial Infarction. American Heart Association Scientific Sessions, Orlando, FL.

- (2011). This abstract was selected for oral presentation in the Experimental Myocardial Infarction session.
75. Ma Y, Zhang J, Manicone A, **Lindsey ML**. Matrix Metalloproteinase-28 Deletion Preserves Cardiac Function Following Myocardial Infarction in Mice. American Heart Association Scientific Sessions, Orlando, FL. (2011)
  76. Bhatnagar H, Ji L, **Lindsey ML**, LeSaux C. Caveolin-1-dependent Inhibition of Transforming Growth Factor- $\beta$  Pathway Alters Inflammation Post Myocardial Infarction. American Heart Association Scientific Sessions, Orlando, FL. (2011)
  77. Chiao, YA (finalist), Jin Y-F, Shamhart P, Zamilpa R, Dai Q, Ramirez TA, Zhang J, **Lindsey ML**. Matrix Metalloproteinase-9 Deletion Attenuates Myocardial Fibrosis and Diastolic Dysfunction in Aging Mice. American Heart Association Scientific Sessions, Orlando, FL. (2011). This abstract was selected for oral presentation in the Functional Genomics and Translational Biology Young Investigator Award session.
  78. Wang Y, Ma Y, Halade G, **Lindsey ML**, Jin Y-F. Mathematical modeling of macrophage activation post myocardial infarction. IEEE GENSIPS 2011, San Antonio, TX. (2011)
  79. Nguyen N, Zhang X, Wang Y, Han HC, Chilton R, Lange R, **Lindsey ML**, Jin Y-F. Targeting myocardial infarction-specific protein-protein interaction network with computational approaches. IEEE GENSIPS 2011, San Antonio, TX. (2011)
  80. Ramirez TA, Jourdan-LeSaux C, Joy A, Zhang J, Dai Q, Mifflin S, **Lindsey ML**. Chronic and intermittent hypoxia differentially regulate the left ventricular inflammatory and extracellular matrix responses. FASEB J March 29, 2012 26:874.9. This abstract was also presented at the 2012 Department of Medicine Research Day, and Trevi Ramirez won the first place award for her poster. (2012)
  81. de Castro Bras LE, Dai Q, Zamilpa R, Fields GB, Weintraub ST, **Lindsey ML**. MMP-9 Generated Collagen I C-propeptides Alter Cardiac Fibroblast Function. FASEB J March 29, 2012 26:1059.3 (2012)
  82. Ma Y, Zhang J, Ramirez TA, Manicone AM, **Lindsey ML**. Matrix Metalloproteinase-28 Deletion Attenuates Short-term Left Ventricular Dysfunction but Exacerbates Cardiac Rupture Post-Myocardial Infarction in Mice FASEB J March 29, 2012 26:1060.1 (2012)
  83. Halade GV, Ramirez TA, Zhang J, Hensler JG, Jin Y-F, **Lindsey ML**. Brain-Derived Neurotrophic Factor Intensifies the Early Inflammatory Response After Myocardial Infarction. FASEB J March 29, 2012 26:1057.29 (2012)
  84. Zamilpa R, Ramirez TA, Dai Q, Dayah T, Nguyen N, Zhang J, Ahuja SS, D'Armiento J, Jin Y-F, **Lindsey ML**. MMP-9 overexpression in macrophages regulates the post-myocardial infarction inflammatory response through SCYE1. FASEB J March 29, 2012 26:399.2 (2012)
  85. De Castro Brás L, DeLeon K, Dai Q, Ma Y, Halade GV, Hakala K, Weintraub ST, **Lindsey ML**. Proteomic Profiling of Fractionated Post-myocardial Infarction Plasma Identifies MMP-9 Dependent Markers. 60<sup>th</sup> ASMS Conference on Mass Spectrometry, Vancouver, Canada. (2012)
  86. Ma Y, Jin YF, Zhang J, Ramirez TA, Voorhees A, Manicone AM, Han H-C, **Lindsey ML**. Matrix Metalloproteinase-28 Deletion Aggravates Left Ventricular Dysfunction and Rupture Post-Myocardial Infarction in Mice. World Congress on Medical Physics and Biomedical Engineering, Beijing, China. (2012). This abstract was selected for oral presentation.
  87. Okoronkwo SM, Chiao YA, **Lindsey ML**. Matrix Metalloproteinase-9 Deletion Attenuates Age-Related Diastolic Dysfunction and Myocardial Collagen Deposition. 2012 American Geriatrics Society (AGS) Annual Scientific Meeting, Seattle, WA. (2012). Ms. Okoronkwo received a travel award to present this poster.
  88. de Castro Brás LE, DeLeon KY, Ma Y, Dai Q, Hakala K, Weintraub ST, **Lindsey ML**. Proteomic Analysis of Fractionated Plasma Identifies Alpha-2 Macroglobulin as an MMP-9 Dependent Marker Post-Myocardial Infarction. 9<sup>th</sup> Siena Meeting – From Genome to Proteome 2012, Siena, Italy. (2012)
  89. Ghasemi O, Nguyen N, Ramirez TA, Zhang J, **Lindsey ML**, Jin Y-F. A Biclustering Approach to Analyze Drug Effects on Extracellular Matrix Remodeling Post-Myocardial Infarction. 2012 IEEE International Conference on Bioinformatics and Biomedicine Workshops (BIBMW). Philadelphia, PA. (2012)
  90. Voorhees A, Ma Y, DeLeon KY, Halade GV, **Lindsey ML**, Han HC. Failure Strength of the Infarcted Left Ventricle in Matrix Metalloproteinase-28 Null Mice. BMES Annual Meeting, Atlanta, GA. (2012)
  91. de Castro Bras LE, DeLeon KY, Dai Q, Fields GB, Weintraub ST, **Lindsey ML**. MMP-9 Generated Collagen I C-terminus Peptides Enhance Cardiac Fibroblast Wound Healing Response. Circulation. 126(21\_MeetingAbstracts): p. A16016. Scientific Sessions. (2012). This abstract was selected for oral presentation.
  92. Grimes KM, Chiao YA, **Lindsey ML**, Buffenstein R. Cardiac Function in an Extraordinarily Long-lived Rodent, the Naked Mole-rat. Circulation. 2012; 126(21\_MeetingAbstracts): p. A9857. Scientific Sessions. (2012)
  93. Ma Y, Halade GV, Zhang J, Ramirez TA, Voorhees A, Manicone AM, Jin Y-F, Han H-C, **Lindsey ML**. Matrix Metalloproteinase-28 Deletion Exacerbates Cardiac Dysfunction and Rupture Following Myocardial Infarction in Mice. Circulation. 2012; 126(21\_MeetingAbstracts): p. A15381. Scientific Sessions. (2012)
  94. Halade GV, Ma Y, Ramirez RA, Zhang J, Dai Q, Hensler J, Lopez EF, Jin Y-F, **Lindsey ML**. Reduced BDNF Attenuates Early Inflammation And Improves Long-term Survival Following Myocardial Infarction in Mice. Circulation. 2012; 126(21\_MeetingAbstracts): p. A12452. Scientific Sessions. (2012)



95. Iyer RP, Patterson NL, Fields GB, **Lindsey ML**. Matrix Metalloproteinase-9 Inhibition Attenuates ADAMTS2 and TOLLIP Expression Post-Myocardial Infarction in Mice. *Glycobiology*, 22(11), 2012, No. 313. ASMB:SFG Joint Meeting, San Diego, CA. (2012)
96. de Castro Bras LE, DeLeon KY, Yabluchanskiy A, Ma Y, Halade GV, Hakala K, Weintraub ST, and **Lindsey ML**. MMP-9 dependent proteins regulate left ventricular remodeling following myocardial infarction. *The FASEB Journal* 27: 1129.1124, 2013.
97. Halade GV, Ma Y, Ramirez TR, Zhang J, Dai Q, Hensler JG, Lopez EF, Ghasemi O, Jin Y-F, and **Lindsey ML**. Reduced BDNF attenuates inflammation and angiogenesis to improve survival and cardiac function following myocardial infarction in mice. *The FASEB Journal* 27: 1085.1086, 2013.
98. Ma Y, Yabluchanskiy A, Zhang J, Ramirez TA, Manicone AM, and Lindsey ML. Matrix metalloproteinase-28 deletion attenuates early cardiac dysfunction following myocardial infarction by restraining neutrophil infiltration and limiting the inflammatory response. *The FASEB Journal* 27: 386.312, 2013.
99. DeLeon KY, de Castro Bras LE, Zhang J, and **Lindsey ML**. Circulating *Porphyromonas gingivalis* lipopolysaccharide induces left ventricular dysfunction through MMP-9 regulation of inflammation. *The FASEB Journal* 27: 1128.1114, 2013.
100. Yabluchanskiy A, Ma Y, Chiao YA, Lopez E, Zhang J, Jin Y-F, and Lindsey ML. MMP-9 dependent early biomarkers of cardiac aging. *The FASEB Journal* 27: 1194.1195, 2013.
101. Iyer RP, Patterson N, Fields G, **Lindsey ML**. Matrix Metalloproteinase-9 Inhibition Attenuates Wall Thinning but Increases Neutrophil Infiltration Post-Myocardial Infarction in Mice. *The FASEB Journal* 27: 646.610, 2013.
102. Heaberlin J, Ma Y, Zhang J, Ahuja SS, **Lindsey ML**, Halade GV. *KKAY* mice show decreased survival but reduced ventricular dysfunction following myocardial infarction. 2013 American Geriatrics Society (AGS) Annual Scientific Meeting, Grapevine, TX. (2013)
103. Ma Y, Chiao YA, Ghasemi O, **Lindsey ML**, Jin YF. AHA 2013, Dallas, TX. Matrix Metalloproteinase-9 Deletion Alters the Age-associated Inflammatory Profile by Upregulating M2 Macrophage Polarization. *Circulation*. 128(22):A16783. AHA Scientific Sessions, Dallas, TX. (2013)
104. **Lindsey ML** and Halade GV. DHA and EPA differentially modulate the inflammatory response following myocardial infarction in obese and aging mice. *Circulation*. 128(22):A15570. AHA Scientific Sessions, Dallas, TX. (2013)
105. Iyer RP, Patterson N, Dive V, **Lindsey ML**. Matrix Metalloproteinase-12 Inhibition Exacerbates Cardiac Dysfunction and Stimulates Inflammation Post-Myocardial Infarction in Mice. *Circulation*. 128(22):A17580. AHA Scientific Sessions, Dallas, TX. (2013)
106. Yabluchanskiy A, Ma Y, Chiao YA, Bratton DR, Jin YF, **Lindsey, ML**. Matrix metalloproteinase-9 deletion blunts inflammation and facilitates scar formation post-myocardial infarction in the aging left ventricle. *Circulation*. 128(22):A15285. AHA Scientific Sessions, Dallas, TX. (2013)
107. de Castro Brás LE, DeLeon-Pennell KY, Bratton DR, Ma Y, Yabluchanskiy A, Halade GV, **Lindsey ML**. Matrix Metalloproteinase-9 Stimulated Osteopontin Proteolysis Enhances the Extracellular Matrix Response Post Myocardial Infarction. *Circulation*. 28(22):A15262. AHA Scientific Sessions, Dallas, TX. (2013)
108. Iyer R, Patterson N, Dive V, and Lindsey M. Matrix metalloproteinase-12 inhibition causes cardiac dysfunction post-myocardial infarction in mice (1151.3). *The FASEB Journal* 28: 2014.
109. Yabluchanskiy A, Ma Y, Chiao YA, Voorhees A, Han H-C, Jin Y, and Lindsey M. MMP-9 deletion improves vascular permeability and angiogenesis in aging mice (880.8). *The FASEB Journal* 28: 2014.
110. Ball J, Syed M, Maranon R, Reckelhoff J, Yanes Cardozo L, Iyer R, Lindsey M, and Romero D. Role of blood pressure in chronic aldosterone-mediated cardiac injury (701.5). *The FASEB Journal* 28: 2014.
111. Halade G, Lopez E, Kabarowski J, and Lindsey M. Obesity superimposed on aging magnifies the inflammatory and plasma lipid mediator responses following myocardial infarction (1155.1). *The FASEB Journal* 28: 2014.
112. DeLeon-Pennell KY, de Castro Brás LE, Bratton DR, **Lindsey ML**. Systemic *Porphyromonas gingivalis* lipopolysaccharide exacerbates the inflammatory response post-myocardial infarction through matrix metalloproteinase-9. *Experimental Biology*, San Diego, CA. (2014)
113. de Castro Bras L, DeLeon-Pennell K, Ma Y, Yabluchanskiy A, Iyer R, Fields G, and Lindsey M. Collagen C-peptide roles in post-myocardial infarction remodeling (867.15). *The FASEB Journal* 28: 2014.
114. Toba H, de Castro Brás L, Weintraub S, Jin Y-F, Bradshaw A, and Lindsey M. Age and SPARC dependent cardiac collagen changes (1120.7). *The FASEB Journal* 28: 2014.
115. Grimes K, Lindsey M, and Buffenstein R. Left ventricular structure and function in the aging naked mole-rat, the longest-lived rodent (879.1). *The FASEB Journal* 28: 2014.
116. DeCoux A, Tian Y, Nguyen NT, Flynn EF, Cannon PL, Jin YF, Jones AE, Puskarich MA, **Lindsey ML**. Sepsis Survivors and Non-Survivors Exhibit Changes in Distinct Proteins Within Common Pathways: A Glycoproteomic Analysis. NHLBI Proteomics Centers Seventh PI Meeting, Bethesda, MD. (2014)
117. Tian Y, DeLeon-Pennell K, Zhang B, Cannon P, Shah P, Aiyetan P, Halade GV, Ma Y, Zhang Z, Zhang H, **Lindsey ML**. In Vivo Substrates of MMP-9 in the Post-MI Left Ventricle. NHLBI Joint Metabolomics/Proteomics Workshop, Data Extraction, Integration, and Translation to Knowledge. Baltimore, MD. (2014)

118. Tian Y, DeLeon-Pennell K, Zhang B, Cannon P, Shah P, Aiyetan P, Halade GV, Ma Y, Zhang Z, Zhang H, **Lindsey ML**. MMP-9 associated extracellular proteins identified in the left ventricle infarct using glycoproteomics. American Society for Mass Spectrometry (ASMS), Baltimore, MD. (2014)
119. Yabluchanskiy A, Ma Y, DeLeon-Pennell KY, Jin Y-F, **Lindsey ML**. Matrix metalloproteinase-9 deletion shifts macrophage polarization towards M2 phenotype in aged left ventricles post-myocardial infarction. Cardiovascular Research 103(Suppl. 1):S6. Frontiers in Cardiovascular Biology 2014, Barcelona, Spain. (2014)
120. Tian Y, de Castro Brás LE, **Lindsey ML**. Proteomic mapping of MMP-9 cleavage sites on fibronectin. 2nd Cardiovascular Forum for Promoting Centres of Excellence and Young Investigators, Winnipeg, Manitoba, Canada. (2014)
121. Tian Y, DeCoux A, Flynn E, Jones A, **Lindsey ML**, Puskarich M. Sepsis associated glycoproteins in plasma. International Human Proteomics Organizer (HUPO), Madrid, Spain. (2014)
122. de Castro Brás LE, DeLeon-Pennell KY, Yao H, Tian Y, **Lindsey ML**. EMILIN-1 and Talin-2 are Matrix Metalloproteinase-9 Dependent Mechanisms of Stiffness in the Aging Heart. HUPO 2014, Madrid, Spain. (2014)
123. Iyer RP, Patterson NL, Fields GB, **Lindsey ML**. Early Matrix Metalloproteinase-9 Inhibition Stimulates Neutrophil Infiltration and Delays Neutrophil Apoptosis Post-Myocardial Infarction in Mice. Circulation. 130(Suppl\_2):A13389. AHA Scientific Sessions 2014, Chicago, IL. (2014)
124. Yabluchanskiy A, Ma, Y, Bratton DR, Chiao YA, Voorhees A, Han HC, Jin YF, **Lindsey ML**. What's the Best Age for Mice to Have Myocardial Infarction: Modulating Matrix Metalloproteinase-9 to Answer the Question. Circulation. 130(Suppl\_2):A13984. AHA Scientific Sessions, Chicago, IL. (2014)
125. DeLeon-Pennell KY, de Castro Brás LE, Iyer RP, Flynn ER, Jin YF, **Lindsey ML**. Systemic Exposure of Porphyromonas Gingivalis Induces Early Cardiac Dysfunction Through Activation of Cytotoxic T-Cells. Circulation. 130(Suppl\_2):A15796. AHA Scientific Sessions, Chicago, IL. (2014)
126. Ma Y, Yabluchanskiy A, Clark R, Cannon PL, Flynn ER, Jin YF, **Lindsey ML**. CXCL4 Aggravates Mortality and Left Ventricular Dilation Following Myocardial Infarction by Polarizing Macrophages to a Pro-inflammatory M1 Phenotype. Circulation. 130(Suppl\_2):A14885. AHA Scientific Sessions, Chicago, IL. (2014)
127. Toba H, de Castro Brás LE, Baicu CF, Zile MR, **Lindsey ML**, Bradshaw AD. SPARC Deletion Suppresses Age-related Cardiac Inflammation. Circulation. 130(Suppl\_2):A15308. AHA Scientific Sessions, Chicago, IL. (2014)
128. Nguyen NT, **Lindsey ML**, Jin Y-F. Systems analysis of gene ontology and biological pathways involved in post-myocardial infarction responses. BMC Genomics. 16(Suppl 7):S18. International Conference on Intelligent Biology and Medicine (ICIBM), San Antonio, TX. (2014)
129. Nguyen NT, **Lindsey ML**, Jin YF. Systems analysis of gene ontology and biological pathways involved in post-myocardial infarction responses. BMC Genomics Supplement Issue for ICIBM, San Antonio, TX. (2014)
130. Iyer RP, De Castro Brás LE, Patterson NL, Fields GB, **Lindsey ML**. Early Matrix Metalloproteinase-9 Inhibition Worsens Post-Myocardial Infarction Cardiac Dysfunction by Delaying Resolution of Inflammation. Cell Biology of the Heart: Beyond the Myocyte-Centric View, Keystone Symposia, Colorado. (2015)
131. DeLeon-Pennell KY, Flynn E, Jin YF, Buchanan W, **Lindsey ML**. Systemic Porphyromonas gingivalis Endotoxin Attenuates Fibroblast Matrix Deposition Post-Myocardial Infarction. Proceeding of the: International Association for Dental Research General Session 2015, Boston, MA. (2015)
132. DeLeon-Pennell K, Flynn E, Jin Y, Buchanan W, and Lindsey M. Macrophage Activation by Chronic P. gingivalis Endotoxin Attenuates Fibroblast Matrix Deposition Post-Myocardial Infarction. The FASEB Journal 29: 2015.
133. Toba H, de Castro Brás L, Baicu C, Zile M, Lindsey M, and Bradshaw A. SPARC Facilitates Inflammation in the Aging Heart and Suppresses Macrophage M2 Polarization. The FASEB Journal 29: 2015.
134. Ma Y, DeCoux A, Yabluchanskiy A, Clark R, Jin Y-F, and Lindsey M. Neutrophil Polarization Following Myocardial Infarction in Mice. The FASEB Journal 29: 2015.
135. **Lindsey ML**. MMP-9 mediated mechanisms of diastolic dysfunction. Annual Meeting of the International Academy of Cardiovascular Sciences: North American Section. Current Research: Cardiology, 2(3):127. (2015)
136. DeLeon-Pennell KY, Iyer RP, Ma Y, Yabluchanskiy A, Halade GV, **Lindsey ML**. Lower levels of interleukin-6 in female mice at days 1 and 3 post-myocardial infarction attenuate neutrophil infiltration, rupture, and left ventricular dilation. APS-Cardiovascular, Renal & Metabolic Diseases: Physiology & Gender, Annapolis, MD. (2015)
137. Lindsey ML, Cannon PL, Flynn ER, Jung M, Iyer RP, DeLeon-Pennell KY, and Ma Y. Matrix Metalloproteinase (MMP)-28 Activates Signal Transducer and Activator of Transcription 1 to Induce Macrophage M1 Polarization. The FASEB Journal 30: 160.163, 2016.
138. Iyer RP, de Castro Brás LE, Jung M, Ma Y, DeLeon-Pennell KY, Flynn ER, Cannon PL, Cates CA, and Lindsey ML. Matrix Metalloproteinase-12 Reduces Cardiac Dilation Post-Myocardial Infarction by Decreasing Neutrophil Accumulation. The FASEB Journal 30: 1210.1215, 2016.
139. Jung M, Ma Y, Yabluchanskiy A, Iyer RP, and Lindsey ML. IL-10 polarizes macrophages in vivo to an anti-inflammatory phenotype to improve cardiac remodeling post-myocardial infarction. The FASEB Journal 30: 1205.1203, 2016.

140. DeLeon-Pennell K, Iyer RP, Ma Y, Yabluchanskiy A, and Lindsey ML. Decreased Interleukin-6 Signaling in Female Mice Early Post-Myocardial Infarction Attenuates Neutrophil Infiltration and Limits Cardiac Dilatation and Rupture. *The FASEB Journal* 30: 1205.1201, 2016.
141. White J, Iyer RP, De Castro Brás LE, Cannon PC, Ma Y, DeLeon-Pennell KY, Jung M, Flynn EF, Henry JB, Bratton DB, Fulton LK, Grady AW, **Lindsey ML**. Defining the Sham Environment for Post Myocardial Infarction Studies in Mice. University of Mississippi Medical Center Department of Medicine Research Day, Jackson, MS. (2016)
142. DeLeon-Pennell KY, Padmanabhan Iyer R, Cates CA, Flynn E, Ma Y, Cannon P, Shannon D, Garrett MR, Buchanan W, and **Lindsey ML**. Chronic inflammation inhibits myofibroblast activation through macrophage Ccl12 secretion. International Society for Heart Research World Congress, Buenos Aires, Argentina. (2016)
143. Nielsen SH, Flynn ER, and **Lindsey ML**. Macrophages are the Source of MMP-9 generated Osteopontin Fragment in the Post-Myocardial Infarction Left Ventricle. American Society for Matrix Biology Biennial Meeting, St. Petersburg, FL. (2016)
144. Kamimura D, Suzuki T, Furniss AL, Griswold ME, Lindsey ML, Winniford MD, Butler KR, Mosely TH, Hall ME. Elevated Serum Osteoprotegerin is Associated with Increased Left Ventricular Mass Index and Left Ventricular Diastolic Stiffness in African Americans: Insights from the Genetic Epidemiology Network of Arteriopathy (GENOA) Study. *Circulation* 134: A11417. (2016)
145. DeLeon-Pennell KY, Ero OK, Flynn ER, Espinoza I, Musani SK, Vasani RS, Hall ME, Fox ER, Lindsey ML. Plasma glycoproteomics reveals gender-specific activation of distinct pathways linked to heart failure development following myocardial infarction. *Eur J Heart Failure*. 19:132. (2017).
146. **Lindsey ML**, Jung M, Yabluchanskiy A, Cannon P, Iyer RP, Flynn ER, DeLeon-Pennell KY, and Ma Y. CXCL4 Aggravates Cardiac Dilatation and Mortality after Myocardial Infarction by Inducing Pro-inflammatory M<sub>1</sub> Macrophages and Inhibiting Macrophage Phagocytosis. *The FASEB Journal* 31: 1079.4, 2017.
147. Jung M, Ma Y, Yabluchiansiy A, Iyer RP, DeLeon-Pennell KY, Garrett MR, and **Lindsey ML**. IL-10 improves cardiac remodeling post-myocardial infarction by increasing M<sub>2</sub> macrophage polarization to improve scar formation. *The FASEB Journal* 31: 875.2, 2017
148. Iyer RP, Flynn ER, Ma Y, and **Lindsey ML**. Proteomic analysis identifies matrix metalloproteinase-9 and -12 regulated apoptosis substrates in the post-myocardial infarction left ventricle. *The FASEB Journal* 31: 694.6, 2017
149. **Lindsey ML**, Iyer RP, Flynn ER, Pan H. MMP-12 is an Inflammation Resolution Promoting Factor. Keystone Symposia Conference, Dublin, Ireland. (May 2017)
150. Jung M, Ma Y, Iyer RP, Yabluchiansky A, Garrett MR, and **Lindsey ML**. IL-10 Regulates Inflammation to Improve LV Physiology After Myocardial Infarction by Stimulating M2 Macrophage Polarization and Fibroblast Activation. AHA Basic Cardiovascular Sciences Summer Conference, Portland, Oregon. (July 2017)
151. Nielsen SH, Flynn ER, **Lindsey ML**. Macrophage-derived osteopontin is fragmented by MMP-9 to hinder angiogenesis in the post-myocardial infarction left ventricle. *European Heart Journal*, 38: Suppl 1 (2017)
152. Lui X, Zhang J, Zeigler Ac, **Lindsey ML**, Saucerman JJ. Large-scale Logic-based Differential Equation Computational Model Revealed a New Dimension in Macrophage Polarization. Biomedical Engineering Society (BMES) Annual Meeting, Phoenix, Arizona. (October 2017)

#### e) Other

##### Invited Lectures and Presentations:

1. Cardiology Division Seminar Series, Brigham and Women's Hospital, Boston, MA. (2000).
2. Vascular Research Division Seminar Series, Brigham and Women's Hospital, Boston, MA. (2002).
3. Grand Rounds, Cardiovascular Disease Division, University of Alabama at Birmingham, Birmingham, AL. (2002).
4. Cardiothoracic Division Seminar Series, Medical University of South Carolina, Charleston, SC. (2002).
5. Program in Molecular and Cellular Biology and Pathobiology Seminar Series, Medical University of South Carolina, Charleston, SC. (2003).
6. Department of Cell and Molecular Pharmacology and Experimental Therapeutics Seminar Series, Medical University of South Carolina, Charleston, SC. (2003).
7. "Applications to Specific Disease States: Hypertrophy." In the Basic Science Workshop "The Cardiovascular Proteomics Initiative: Defining a New Frontier in Cardiovascular Research," Heart Failure Society of America Conference, Las Vegas, NV. (Sept 2003).
8. Cardiology Research Conference at the University of Texas Health Science Center at San Antonio, San Antonio, TX. (Feb 2005).
9. Department of Pharmacology and Neuroscience Seminar Series, Texas Tech University Health Science Center, Lubbock, TX. (Feb 2005).
10. Department of Cellular and Structural Biology Seminar Series at the University of Texas Health Science Center at San Antonio, San Antonio, TX. (Sept 2005).
11. Cardiovascular Sciences Section Seminar, Department of Medicine, Baylor College of Medicine, Houston, TX. (Feb 2006).

12. "Integrated Modeling of Post-Myocardial Infarction Fibroblast Activation." 2006 Seminars in Basic and Clinical Investigation Seminar Series at The University of Texas Health Science Center at San Antonio, TX. (Sept 8, 2006).
13. "Integrated Modeling of Post-Myocardial Infarction Fibroblast Activation." The Department of Medicine Research Seminar Series, The University of Texas Health Science Center at San Antonio, TX. (Sept 19, 2006).
14. "Integrated Modeling of Post-Myocardial Infarction Fibroblast Activation." The University of Texas at San Antonio, Minority Biomedical Research Support (MBRS) and Minority Access to Research Careers (MARC) Fall 2006 Seminar Series. (Oct 20, 2006).
15. "Integrated Modeling of Post-Myocardial Infarction Fibroblast Activation." Biology Department Seminar, St. Mary's University, San Antonio, TX. (Oct 27, 2006).
16. "Extracellular Matrix Remodeling: Causes and Consequences." Department of Pediatrics Research Seminar Series, The University of Texas Health Science Center at San Antonio, TX. (March 1, 2007).
17. "Extracellular Matrix Remodeling: Causes and Consequences." IBT Information Exchange Seminar, Institute of Biosciences and Technology, Texas A&M University Health Science Center, Houston, TX. (March 2007).
18. "Modeling Fibroblast Activation to Improve Outcomes Post-MI." Cardiology Research Seminar, University of Texas Health Science Center at Houston, Houston, TX. (Sept 2007).
19. "Using a Portfolio to Document Excellence in Teaching." 2007 Cellular and Structural Biology Retreat, UTHSCSA, San Antonio, TX. Presented on why we need to document excellence in teaching and how we can do this using a teaching portfolio. (Sept 2007).
20. "Knowing What You Want." Women's Faculty Association General Meeting, UTHSCSA, San Antonio, TX. Presented on how to create a career development agenda. (Oct 2007).
21. "The Importance of Networking." Healthcare Businesswomen's Association, San Antonio Affiliate. Presented on how my support network has been important in my career and how the HBA has contributed to my networking. (Jan 24, 2008).
22. "Navigating the Extracellular Matrix Complexity of Left Ventricular Remodeling." UCSD Cardiology Research Seminar, San Diego, CA. (April 2008).
23. "Extracellular Matrix Mechanisms of Cardiac Aging." Sam and Ann Barshop Institute for Longevity and Aging Studies Research Seminar, UTHSCSA, San Antonio, TX. (Sept 2008).
24. "Navigating the Extracellular Matrix Complexity of Left Ventricular Remodeling." University of Pittsburgh Cardiology Grand Rounds, Pittsburgh, PA. (Oct 2008).
25. "Negotiation: Knowing Now What I Didn't Know Then." Co-Presented with Dr. Martha Medrano, Women's Faculty Association General Meeting, UTHSCSA, San Antonio, TX. (Feb 2009).
26. "Academic Medicine/ Research," Discussion Leader. 1<sup>st</sup> Annual Career Development Day for UTHSCSA MSIII Students. San Antonio, TX (April 14, 2009).
27. "Navigating the Extracellular Matrix Complexity of Left Ventricular Remodeling." Department of Physiology, James H. Quillen College of Medicine, East Tennessee State University, Johnson City, TN. (May 2009).
28. "LV Remodeling in Aging and Infarction." Cardiovascular Sciences, Department of Medicine, Baylor College of Medicine, Houston, TX. (Aug 2009).
29. "Using Systems Biology Approaches to Understand Extracellular Matrix Remodeling." Cardiology Division, Department of Medicine, The Johns Hopkins University School of Medicine, Baltimore, MD. (Sept 2009).
30. "Role of Periodontal Disease in Post-Myocardial Infarction Remodeling." The Max and Minnie Tomerlin Voelcker Fund Trustees. (Oct 2009).
31. "Measuring Cardiac Healthspan." Lifespan and Healthspan Extension in Aging Research: When Is It Real and How Can We Be Certain? Bandera Conference, Barshop Institute. (Oct 2009).
32. "Aging and the Heart." National Conference of State Legislatures, Legislators in the Lab. UTHSCSA (Nov 2-3, 2009).
33. "How I Became a Cardiovascular Scientist." Presented to 355 7<sup>th</sup> grade science students at Driscoll Middle School, San Antonio, TX, as part of the American Physiological Society, Physiology Understanding (PhUN) Week.
34. "Collagen and Cardiac Repair." Post-Infarct Remodeling: Contribution of Wound Healing (evening seminar). American Heart Association Scientific Sessions. (Nov 2009).
35. "How to be a good mentor to your students." Women's Faculty Association General Meeting, UTHSCSA, San Antonio, TX. (Jan 2010).
36. "Novel Strategies in Cardiovascular Extracellular Matrix Proteomics." Department of Cell Biology and Anatomy, University of South Carolina, Columbia, SC. (April 2010).
37. "Extracellular matrix causes and consequences of infarct remodeling." Feature Topic Session: Extracellular Matrix and Pathology of Cardiovascular Disease. Experimental Biology Meeting. (April 2010).
38. "Three Pieces of Advice for Your Career." Women's Faculty Association Student Leadership Award Ceremony, UTHSCSA, San Antonio, TX. (May 2010).
39. "Using Extracellular Matrix Proteomic Approaches to Understand Left Ventricular Remodeling." Biochemistry Department, University of South Alabama School of Medicine. (June 2010).

40. "MMP-9 Regulation of Cardiac Remodeling." The Child Health Research Center Seminar Series, The Research Institute at Nationwide Children's Hospital, Ohio State University. (July 2010).
41. "Novel Therapeutic Strategies for the Post-MI Patient." Internal Medicine Grand Rounds, University of South Alabama School of Medicine. (September 2010).
42. "MMP-9 Regulation of Cardiac Remodeling." Department of Physiology Seminar Series, University of Louisville School of Medicine. (September 2010).
43. "Using extracellular matrix proteomics to understand cardiac remodeling." Cardiovascular Research Center Seminar, Massachusetts General Hospital, Boston, MA. (October 2010).
44. "How to measure ECM globally." How to Profile the Extracellular Matrix: Tools and Strategies Session at the American Heart Association Scientific Sessions, Chicago, IL. (November 2010).
45. "Left Ventricular Adaptations to Chronic and Intermittent Hypoxia." Department of Integrative Physiology Seminar Series, University of North Texas Health Science Center, Ft. Worth, TX. (December 2010).
46. "Using ECM-Specific Microarrays and Proteomics to Gain Insight into Cardiac Remodeling Post-Myocardial Infarction." Extracellular Matrix and Cardiovascular Remodeling Keystone Symposium, Tahoe, CA. (January 2011).
47. "Post-MI Remodeling from the Extracellular Matrix View." Texas A&M Health Science Center, Division of Molecular Cardiology, Temple, TX. (February 2011).
48. "Multi-dimensional approaches to study cardiac extracellular matrix remodeling." New York University, Cardiology Division Research Seminar, New York City, NY. (February 2011).
49. "Multi-dimensional approaches to study cardiac extracellular matrix remodeling." Cardiovascular Basic Science Seminar, Texas Heart<sup>®</sup> Institute at St. Luke's Episcopal Hospital, Houston, TX. (April 2011).
50. "Personalized Medicine in the Era of Omics – Genomics, Epigenomics, Proteomics, Metabolomics." (panel discussion) Department of Medicine Research Day. (May 2011).
51. "Post-MI Remodeling from the Extracellular Matrix View." Cardiovascular Research Center and the Department of Physiology, Temple University School of Medicine, Philadelphia, PA. (May 2011).
52. "Cardiac Remodeling from the Extracellular Matrix View." Department of Physiology and Biophysics, University of Mississippi Medical Center, Jackson, MS. (August 2011).
53. "Cardiac Remodeling from the Extracellular Matrix View." Barshop Institute for Aging and Longevity Studies, UTHSCSA, San Antonio, TX. (September 2011).
54. "Using Extracellular Matrix Proteomic Strategies to Understand Cardiac Remodeling Post-MI." Distinguished Lectureship of Proteomic Science at UCLA, Los Angeles, CA. (September 2011).
55. "Establishing Collaborations/ Leading a Successful Research Laboratory." KL2 Seminar, UTHSCSA, San Antonio, TX (September 2011). *This lecture was given to the KL2 scholars that are part of our CTSA training program. Of 7 attendees, the evaluation score was 1.17±0.31 (1=best; 5=worst).*
56. "Novel Strategies Targeting the Cardiac Extracellular Matrix." Department of Pharmacology and Toxicology, Maastricht University, Maastricht, Netherlands. (October 17, 2011).
57. "Novel Strategies Targeting the Cardiac Extracellular Matrix." Klinik und Poliklinik für Herzchirurgie, Universitätsklinikum Bonn, Bonn, Germany. (October 19, 2011).
58. "Novel Strategies Targeting the Cardiac Extracellular Matrix." ICCAD 2011 - the 9<sup>th</sup> International Congress on Coronary Artery Disease, Venice, Italy. (October 25, 2011).
59. "Extracellular Matrix Proteomics and Cardiovascular Remodeling." Department of Molecular Pathology. Università degli Studi di Urbino, Urbino, Italy. (October 27, 2011).
60. "Using extracellular matrix proteomic strategies to understand cardiac remodeling post-MI." Wilf Family Cardiovascular Research Institute, Albert Einstein College of Medicine, New York, NY. (November 8, 2011).
61. "Cardiac Remodeling from the Extracellular Matrix View." Department of Molecular Medicine, UTHSCSA, San Antonio, TX. (December 13, 2011).
62. "Cardiac Wound Healing from the Extracellular Matrix View." San Antonio Wound Healing Group Seminar Series, Southwest Research Institute, San Antonio, TX. (January 19, 2012).
63. "Cardiac Remodeling from the Extracellular Matrix View." Department of Physiology, Loyola University Health Sciences Center, Chicago, IL. (March 23, 2012).
64. "Cardiac Remodeling from the Extracellular Matrix Perspective." Department of Medicine Research Series, UTHSCSA, San Antonio, TX. (March 27, 2012).
65. "Tips for Thriving in a Scientific Career." Trainee Meetings Outside the Box (TMOB) Seminar Series, UTHSCSA, San Antonio, TX. (April 11, 2012).
66. "Using Proteomics to Identify Novel Extracellular Matrix Mechanisms of Cardiac Remodeling." Third Wenzhou International Diabetic Complication Forum. Chinese-American Research Institute for Diabetic Complications, Wenzhou Medical College, Wenzhou, Zhejiang, China. (May 1, 2012).
67. "Cardiac Remodeling from the Extracellular Matrix Perspective." The Center for Cardiovascular Research, University of Illinois at Chicago, Chicago, IL. (May 18, 2012).
68. "The Extracellular Matrix in Cardiac Remodeling During Aging and Disease." Gerontology Division, Department of Medicine, Fourth Military Medical Institution, Xi'an, China. (June 2012).

69. "The Heart of Aging." Barshop Institute for Aging and Longevity Studies, UTHSCSA, San Antonio, TX. (June 2012).
70. "Cardiac Remodeling from the Extracellular Matrix View." Cardiology Division, UCSD, San Diego, CA. (July 2012).
71. "Cardiac Remodeling from the Extracellular Matrix View." The Hopkins Bayview Proteomics Centre, Johns Hopkins University, Baltimore, MD. (August 2012).
72. "Cardiac Remodeling from the Extracellular Matrix View." Physiology Department, University of Alberta, Edmonton, Canada. (August 2012).
73. "Lead-Header-Ship: Leveraging your career to match your authentic self." (panel discussion) Healthcare Businesswomen's Association, San Antonio Chapter, San Antonio, TX. (September 2012).
74. "Session III: Cardiopulmonary." (individual speaker and panel discussion). Mouse Healthspan: Why Lifespan is No Longer Enough. 2012 San Antonio Nathan Shock Center Conference on Aging. (October 2012).
75. "Extracellular Matrix Roles in Cardiac Remodeling." Physiology Department, School of Medicine, LSU Health New Orleans, New Orleans, LA. (October 2012).
76. "Exploring the Cardiac Extracellular Matrix." Riley Heart Center Seminar Series Mini-Symposium. Herman B Wells Center for Pediatric Research, Indiana University School of Medicine. (April 2013).
77. "Exploring the Cardiac Extracellular Matrix." Department of Biochemistry, University of Mississippi Medical Center, Jackson, MS. (May 2013).
78. "Writing Successful NIH Grants." Office of Research Training Series, University of Mississippi Medical Center, Jackson, MS. (May 2013).
79. "Proteomic Strategies to Identify Novel Extracellular Matrix Biomarkers of Cardiac Injury." Biotec Open Forum: New Technology and Innovative Approaches in Biomarker Development. 2013 AAPS National Biotechnology Conference, San Diego, CA. (May 2013).
80. "Proteomic Strategies to Identify Novel Extracellular Matrix Biomarkers of Cardiac Injury." Department of Pharmacology, University of Mississippi Medical Center, Jackson, MS. (June 2013).
81. "Cardiac Extracellular Matrix Remodeling Following Myocardial Infarction." Department of Physiology and Biophysics, University of Mississippi Medical Center, Jackson, MS. (June 2013).
82. "Proteomic Strategies to Identify Novel Extracellular Matrix Biomarkers of Cardiac Injury." Department of Pharmacology and Toxicology, University at Buffalo, The State University of New York, Buffalo, NY. (July 2013).
83. "Using Proteomics to Dissect Extracellular Matrix Remodeling Following Myocardial Infarction." Cardiology Department, Fuwai Hospital, Beijing, China. (August 2013).
84. "Using Proteomics to Dissect Extracellular Matrix Remodeling Following Myocardial Infarction." Featured faculty, Cardiovascular Pathology Forum Session I, China Heart Congress, Beijing, China. (August 2013).
85. "Proteomic strategies to identify novel extracellular matrix biomarkers of cardiac injury." 24th Annual Vascular Biology and Hypertension. Birmingham, AL. (September 2013).
86. "Milestones in Myocardial Remodeling Research." IBT Distinguished Lecturer Series. Texas A&M Health Science Center Institute of Biosciences and Technology. Houston, TX. (December 2013).
87. "Cardiac Remodeling: Risks and Relationships." Physiology in Medicine Series, Department of Physiology and Biophysics, UMMC. Presented the translational aspects, while Dr. Michael Hall presented the clinical aspects of cardiac remodeling research. (January 2014).
88. "MouseMonitor S Webinar." Webinar meeting hosted by Indus Instruments to discuss their mouse monitor. This was a panel presentation, and I gave a 10 minute overview of how our lab uses the mouse monitor. (January 2014).
89. "Proteomic strategies to identify novel extracellular matrix biomarkers of cardiac injury," Frontiers in Pharmacology Seminar, Department of Pharmacology, UC Davis. Davis, CA. (April 2014).
90. "Leukocytes in Acute Myocardial Infarction," Hematopoietic Stem Cells Give Rise to Inflammation in Cardiovascular Disease Symposium, FASEB. San Diego, CA. (April 2014).
91. "Diabetic Complications of Post-MI Remodeling," 5<sup>th</sup> Chinese-American Diabetic Complication Forum, Chinese-American Research Institute for Diabetic Complications at Wenzhou Medical University. Rui-An, China. (May 2014).
92. "Cardiac Wound Healing after a Heart Attack," National Association of Biology Teachers Annual Conference. Cleveland, OH. (Nov 2014).
93. "Proteomic strategies to identify extracellular markers of cardiac injury," Division of Cardiovascular Disease, University of Alabama. Birmingham, AL. (Jan 2015).
94. "Proteomic strategies to identify extracellular markers of cardiac injury," Department of Cell Biology and Anatomy, University of South Carolina School of Medicine, Columbia, SC. (Feb 2015).
95. "Jackson Heart Study and Omics Data Analyses," NIH Big Data to Knowledge (BD2K) PI meeting, University of California at Los Angeles, Los Angeles, CA. (Feb 2015).
96. "Proteomics of Post-Infarct Extracellular Matrix Remodeling," Cell Biology of the Heart: Beyond the Myocyte-Centric View Keystone Symposium. Copper Mountain, CO. (March 2015).
97. "Biomarkers to cardiac extracellular matrix," HUPO Workshop on Cardiovascular Disease. Proteomic Forum. Berlin, Germany. (March 2015).
98. "MMPs and TIMPs: Novel Inhibitors," HFA Workshop on Fibrosis, European Society of Cardiology, Brussels, Belgium. (March 2015).

99. "Extracellular matrix- cardiac fibroblast communication," Experimental Biology ASPET Symposium on Cardiac Fibroblasts: Fair-weather Friends in Myocardial Fibrosis and Repair, Boston, MA. (March 2015).
100. "Proteomic strategies to identify extracellular markers of cardiac injury," Cardiology Division, Vanderbilt University School of Medicine, Nashville, TN. (April 2015).
101. "Strategies to identify extracellular markers of cardiac injury," Robert M. Berne Cardiovascular Research Center and the Biomedical Engineering Department, University of Virginia, Charlottesville, VA. (April 2015).
102. "Matrix Metalloproteinase-9 Mediated Mechanisms of Post-MI Remodeling." *Third Forum to Promote Young Investigators and Centers of Excellence in Cardiovascular Research*. Annual Meeting of the International Academy of Cardiovascular Sciences: North American Section. Omaha, NE. (September 2015).
103. "Strategies to identify extracellular markers of myocardial infarction." Molecular and Cellular Biology & Pathobiology Program, Department of Medicine, Cardiology Division, Medical University of South Carolina, Charleston, SC. (October 2015).
104. "Extracellular Matrix and Healing After Myocardial Infarction." in CVS.212 Cardiovascular Seminar: Early Wound Healing After Myocardial Infarction: Concepts, Players, Treatment Options. Scientific Sessions. Orlando, FL. (November 2015).
105. "Extracellular Matrix Remodeling Following Cardiac Injury." Basic Medical Sciences Seminar Series, The University of Arizona, College of Medicine, Phoenix, AZ. (December 2015).
106. "Cardiac Fibrosis" NIH/NHLBI Workshop on *Refining Current Scientific Priorities and Identifying New Scientific Gaps in HIV-related Heart, Lung, and Blood Research*, Bethesda, MD. (December 2015).
107. "BD2K Training Update," Big Data To Knowledge PI meeting, EMBL, Cambridge, UK (February 2016)
108. "The crossroads between cardiac inflammation and fibrosis," Institute of Cardiovascular Sciences, University of Manchester, Manchester, UK. (February 2016)
109. "The crossroads between cardiac inflammation and fibrosis," Department of Physiology, University of Tennessee Health Science Center, Memphis, TN. (April 2016)
110. "The crossroads between cardiac inflammation and fibrosis," Dalton Cardiovascular Research Center and Department of Medical Pharmacology and Physiology, University of Missouri, Columbia, MO. (April 2016)
111. "The crossroads between cardiac inflammation and fibrosis," Department of Pharmacology & Toxicology Seminar Series (joint w/ Department of Physiology), East Carolina University, Greenville, NC. (May 2016)
112. "The crossroads between cardiac inflammation and fibrosis," Distinguished Lecture Series, University of Washington, Seattle, WA. (May 2016)
113. "As The Tides Turn: Inflammation and Fibrosis in Cardiac Wound Healing", Department of Physiology and Biophysics, University of Mississippi Medical Center, Jackson, MS. (June 2016)
114. "Cardiac Remodeling: Risks and Relationships", joint presentation with Dr. Michael Hall, Summer of Research Lecture Series, Medical Student Summer Research Program, University of Mississippi Medical Center, Jackson, MS. (June 2016)
115. "The crossroads between cardiac inflammation and fibrosis", Department of Physiology, University of Wuerzburg, Wuerzburg, Germany. (July 2016)
116. "The crossroads between cardiac inflammation and fibrosis", Institute for Cardiovascular Prevention University Hospital Munich, Ludwig-Maximilians-University Munich, Munich, Germany. (July 2016)
117. "Proteomics of the Cardiac Extracellular Matrix", FASEB Summer Conference on Matricellular Proteins in Development, Health, and Disease, West Palm Beach, FL. (July 2016)
118. "The crossroads between inflammation and fibrosis", Cardiovascular Science at the Cutting Edge, AJP Heart and University of Nebraska Medical Center, Omaha, NE. (September 2016)
119. "The crossroads between cardiac inflammation and fibrosis", Departments of Cell Biology and Pathology, Louisiana State University Health Science Center, Shreveport, LA. (October 2016)
120. "The crossroads between cardiac inflammation and fibrosis", American Society for Matrix Biology Biennial Meeting, St. Petersburg, FL. (November 2016)
121. "The 3 R's of Gender Equity", GWIMS, UMMC, Jackson, MS. (January 2017)
122. "Extracellular Matrix Roles in Cardiac Wound Healing", Physiology Department, Baylor College of Medicine, Houston, TX. (February 2017)
123. "Extracellular Matrix Roles in Cardiac Wound Healing", Physiology Department, University of Arizona, Phoenix, AZ. (March 2017)
124. "Extracellular Matrix Roles in Cardiac Wound Healing", Physiology Department, Medical College of Georgia, Augusta, GA. (March 2017)
125. "Extracellular Matrix Roles in Cardiac Wound Healing", Department of Physiology and Biophysics, UMMC, Jackson, MS. (May 2017)
126. "Extracellular Matrix Roles in Cardiac Wound Healing", Cardiovascular Center, Medical College of Wisconsin, Milwaukee, WI. (May 2017)

127. "MMP-12 is a inflammation resolution promoting factor". Special Cardiovascular Symposium: Discovery Science to Clinical trials, Institute of Cardiovascular and Medical Science, BHF Centre of Research Excellence, British Heart Foundation Glasgow, Cardiovascular Research Centre, Glasgow, Scotland. (June 2017)
128. "MMP-12 is a inflammation resolution promoting factor". American Heart Association Basic Cardiovascular Sciences Summer Conference, Portland, Oregon. (July 2017)
129. "Matrix metalloproteinase mechanisms of cardiac wound healing". VA Brain-Heart Multisite Consortium Meeting, Columbia, SC. (July 2017)
130. "ECM roles in post-myocardial infarction wound healing". University of South Dakota, Vermillion, SD (September 2017)

#### Sessions Moderated and Organized

1. Organized and moderated: "Ask the Experts: Extracellular Matrix Effects on Cardiac Remodeling" Session at the American Heart Association Scientific Sessions, New Orleans, LA. (November 10, 2008).
2. Co-chaired the featured topic "Matrix Metalloproteinases in Mitochondrial, Cytoskeletal, and Nuclear Remodeling" for the Experimental Biology Meeting, Anaheim, CA. (April 2010).
3. Organized and co-moderated the Daytime Seminar Session, "Challenging Issues in Cardiac Fibrosis: Are Fibroblasts Pharmacologic Targets in LV Remodeling?" at the American Heart Association Scientific Sessions, Chicago, IL. (November 15, 2010).
5. Co-chaired the featured topic "ECM-Cardiomyocyte Signaling in Heart Disease" for the Experimental Biology Meeting, Washington, D.C. (April 2011).
6. Organized and Chaired the "Physiology InFocus: Physiology in Medicine. Using Physiology to Translate Cardiac Remodeling and Heart Failure" Symposium for the Experimental Biology Meeting, San Diego, CA (April 2012).
7. Organized and Chaired the "Targeted Proteomic Analyses of Heart Failure" Feature Topic for the Experimental Biology Meeting, American Physiological Society, Cardiovascular Section, San Diego, CA (April 2012).
8. Moderated a group panel discussion on "Proteomics/ Drug Discovery." Biotalk Session: 2013 AAPS National Biotechnology Conference, San Diego, CA. (May 2013)
9. Co-chaired the "Hematopoietic Stem Cells Give Rise to Inflammation in Cardiovascular Disease Symposium," FASEB. San Diego, CA. (April 2014).
10. Chaired the "Young Investigator Morning Session" at the Joint Metabolomics/Proteomics Workshop in Baltimore, MD. (June 13, 2014).
11. Moderated the Session, "Cardiac Non-Myocytes in Tissue Structure and Function in the Adult Heart" for the Cell Biology of the Heart: Beyond the Myocyte-Centric View Keystone Symposium. Copper Mountain, CO (March 2015)
12. Moderated the Session, "Big Data Workshop" for the American Physiological Society, Experimental Biology. Boston, MA. (March 2015).
13. Moderated the "Proteomics for the Physiologist" Workshop for the American Physiological Society, Experimental Biology. Boston, MA. (March 2015).
14. Co-moderated the Symposium "Sex-specific cardiac regulation by sex hormones", International Conference of Physiological Sciences, Beijing, China. (September 2016).
15. Co-moderated the Symposium "ECM in Cardiovascular Disease", American Society for Matrix Biology, St. Petersburg, FL. (November 2016)
16. Breakout session leader, VA Brain-Heart Multisite Consortium Meeting, Columbia, SC. (July 2017)

#### Conferences Organized

1. Co-organized the Keystone Symposium, "Extracellular Matrix and Cardiovascular Remodeling (B2)," Granlibakken Resort, Tahoe City, CA. (January 23-28, 2011). *This included co-moderating one session, serving as a panel member of the career development workshop, and providing introductory and concluding remarks.*
2. Co-organized the FASEB SRC Conference, "Cross-Translational Research in Fibrosis Across Organs", Scottsdale, AZ (September 30 – October 5, 2018).

#### Roundtable Discussions:

1. The ABCs of Interviewing: Skills to hire the best. Member of 3 panel discussion session sponsored by the GWIMS "Coffee Talk" junior women's faculty group and MS Center for Heart Research. UMMC, Jackson, MS. (March 2016)

#### Interviews:

1. Interviewed by Yael L. Maxwell for the article, "Protein-Based Risk Score Shows Potential for Tailored Medicine in Cardiology" for tctMD/the heart beat (<https://www.tctmd.com/news/protein-based-risk-score-shows-potential-tailored-medicine-cardiology>)



Social Media:

1. Established the CV-ECM Linked in group ([http://www.linkedin.com/groups?gid=3775394&trk=hb\\_side\\_g](http://www.linkedin.com/groups?gid=3775394&trk=hb_side_g)), which currently has >140 international research members. The purpose of the Cardiovascular Extracellular Matrix Group is to provide a forum for researchers to share ideas, protocols, and resources that will propel our field forward.
2. Filmed a commercial for our proteomics center that was placed on YouTube: <http://www.youtube.com/watch?v=WLjg-1VEw4Q> – this commercial has been seen by >1000 viewers.
3. Facebook name: merrylindsey-professional Twitter name: @merrylindseyphd Skype name: merrylindsey
4. Podcasts for AJP Heart:
  - December 17, 2012- [MMPs: Milestones, Myths, and \(Mis\)Perceptions](#)
  - February 12, 2014- [Release Kinetics of Circulating Cardiac Myosin Binding Protein-C Following Cardiac Injury](#)
  - March 13, 2014- [MMP-2 is Localized to the Mitochondria-Associated Membrane of the Heart](#)
  - July 25, 2014- [Deformation Causes Vascular Alignment During Angiogenesis](#)
  - August 19, 2014- [TIMP-4 and Left Ventricular Pressure Overload](#)
  - September 15, 2014- [DDR2 Deletion in the Heart](#)
  - January 22, 2015- [Diet, Sex and Exercise in Mice](#)
  - April 7, 2015- [Cardiac Mineralocorticoid Receptors Diastolic Dysfunction](#)
  - May 12, 2015- [TTD Reverses Human Cardiac Myofibroblast Activation](#)
  - July 21, 2015- [Exercise and Chemoreflex Control of Renal Blood Flow in Chronic Heart Failure](#)
  - August 28, 2015- [Ventricular Arrhythmias and Fibrosis in Mice](#)
  - November 17, 2015- [Clock Dysfunction Triggers Fibrotic Response in the Heart](#)
  - December 8, 2015- [Calpastatin Overexpression Impairs Post-MI Scar Healing](#)
  - November 1, 2016- [TNF and Cardiac Stem Cell Differentiation](#)
  - March 15, 2017- [Macrophage MMP-9 Accelerates Cardiac Aging](#)
  - August 30, 2017- [Hypoxia Inducible Factor-alpha and Cancer Cachexia](#)

**B. Areas of Research Interest:****MISSION STATEMENT**

**My laboratory is dedicated to performing cardiovascular research that involves:**

1. **Developing multidimensional approaches to examine the mechanisms whereby the left ventricle responds to injury;**
2. **Applying the knowledge gained to develop therapeutic strategies to prevent, slow, or reverse the progression to heart failure; and**
3. **Disseminating our results to general, scientific, and medical communities.**

**C. Current Projects:**

1. Identifying novel MMP substrates and using peptidomics to identify novel signaling pathways altered post-MI.
2. Examining the roles of neutrophils, macrophages, and fibroblasts in post-MI remodeling of the left ventricle using systems biology approaches.
3. Determining the role of aging on the remodeling process.

**Research Support: ACTIVE****1. NATIONAL**

**Source:** NIH/ NHLBI 2 R01 HL075360  
**Title:** **Systems Biology of Macrophage Polarization Following Myocardial Infarction**  
**Period:** August 15, 2015 to May 31, 2019 (first funded July 1, 2004)  
**Direct Costs/ Current:** \$250,000  
**Year/ Total:** 4/ \$1,525,000                      Role: Principal Investigator

**Source:** NIH/ NHLBI 1 R01 HL129823  
**Title:** **Systems Biology of Fibroblast Polarization Following Myocardial Infarction**  
**Period:** May 1, 2016 to April 30, 2020  
**Direct Costs/ Current:** \$250,000  
**Year/ Total:** 4/ \$1,525,000                      Role: Principal Investigator

**Source:** Veteran's Administration  
**Title:** **MMP-9 Roles in the Aging Myocardial Response to Ischemia**  
**Period:** October 1, 2009- March 31, 2019  
**Direct Costs/ Current:** \$ 222,855  
**Year/ Total:** 8/ \$1,772,368 (Direct)                      Role: Principal Investigator

**Source:** NIH/NIGMS U54GM114833 (Ping, P, PI)  
**Title:** **A Community Effort to Translate Protein Data to Knowledge: An Integrated Platform**  
**Period:** September 29, 2014 to April 30, 2018  
**Direct Costs/ Current** \$ 172,379 (my annual portion of directs)  
**Year/ Total:** 4/ \$11,256,908 **Role:** Co-Principal Investigator (Contact PI: Peipei Ping)

**Source:** NIH/NIGMS U54GM115428 (Wilson, JG, PI)  
**Title:** **Mississippi Center for Clinical and Translational Research**  
**Period:** August 18, 2016 to July 31, 2021  
**Direct Costs/ Current** \$199,148 (my portion of directs)  
**Year/Total:** 5/ \$19,856,370 **Role:** Co-investigator

**Source:** NIH/NHLBI R01 HL133870 (Wilson, JG, PI)  
**Title:** **Aptamer Proteomics of Cardiometabolic and Renal Traits in African Americans**  
**Period:** April 1, 2017 to February 28, 2021  
**Direct Costs/ Current** \$1,481,692  
**Year/Total:** 4/ \$4,740,098 **Role:** Co-investigator

**Source:** NIH/NHLBI P01HL051971 (Hall, JE, PI)  
**Title:** **Cardiovascular Dynamics and Their Control**  
**Period:** August 1, 2014- May 31, 2019  
**Direct Costs/ Current:** \$1,316,926  
**Year/ Total\*:** 5/ \$10,041,560 **Role:** Co-Investigator

**Source:** Veterans Administration 1K2BX003922-01 (DeLeon-Pennell, KY, PI)  
**Title:** **T-cell regulation of cardiac remodeling**  
**Period:** June 1, 2017 to May 31, 2022  
**Direct Costs/ Current:** \$ 192,462  
**Year/ Total\*:** 5/ \$870,855 **Role:** Mentor

**Source:** T32HL105324 (Granger, JP, PI)  
**Title:** **Hypertension and Cardiorenal Diseases Research Training Program**  
**Period:** September 20, 2010 to August 31, 2020  
**Role:** Mentor

**Source:** P20GM121334 (Reckelhoff, JF, PI)  
**Title:** **Mississippi Center of Excellence in Perinatal Research**  
**Period:** June 8, 2017- May 31, 2022  
**Role:** Mentor

## 2. UNIVERSITY- none

## 3. OTHER

**Source:** American Heart Association  
 Scientist Development Grant  
**Title:** **MMP-9 Generated Collagen C-peptide Roles in Post-myocardial Infarction Remodeling**  
**Period:** January 1, 2014 to December 31, 2017  
**Direct Costs/ Current** \$70,000 (Total)  
**Year/ Total\*** 4/ \$308,000 (Total) **Role:** Consultant/ Mentor (PI: Lisandra de Castro Brás)

**Source:** American Heart Association Scientist Development Grant  
**Title:** **Neutrophil polarization in post-myocardial infarction cardiac remodeling**  
**Period:** January 1, 2015 to December 31, 2018  
**Direct Costs/ Current** \$70,000 (Total)  
**Year/ Total\*** 4/ \$308,000 (Total) **Role:** Consultant/ Mentor (PI: Yonggang Ma)

**Source:** NIGMS K23  
**Title:** **Platelet activation in septic shock**  
**Period:** January 12, 2015 to December 31, 2018  
**Year/ Total\*** 4/ \$308,000 (Total) **Role:** Consultant/ Mentoring Committee Member (PI: Michael A. Puskarich)

**Source:** St. Baldrick's Foundation  
**Title:** **Evaluation of the Long-term Cardiac Toxicity of Liposomal Doxorubicin**  
**Period:** September 1, 2014 to August 31, 2017  
**Year/ Total:** 3/ \$330,000 **Role:** Sponsor/ Mentor (PI: Gregory J. Aune)

**Research Support: PAST****1. NATIONAL**

**Source:** NIH NRSA Fellowship F32 HL10337  
**Title:** **Targeted Deletion of MMP-9 and Left Ventricular Remodeling**  
**Period:** May 1, 2000 to May 31, 2003  
**Year/ Total\*:** 3/ \$109,960 (Total) **Role:** Principal Investigator

**Source:** NIH NHLBI R01 HL075360  
**Title:** **The Role of Macrophage-Derived MMPs in LV Remodeling**  
**Period:** July 1, 2004 to June 30, 2010  
**Year/ Total\*:** 5/ \$1,250,000 (Direct); \$1,811,200 (Total) **Role:** Principal Investigator  
**Supplement:** NIH NHLBI R01 HL075360S1 (for high school student Elizabeth Lopez)  
**Period:** June 1, 2007 to August 31, 2008  
**Direct Costs/ year:** \$ 2,716  
**Year/ Total\*:** 3/ \$10,716 (Direct)

**Title:** **The Role of Macrophage-Derived MMP-9 in LV Remodeling**  
**Period:** July 1, 2010 to August 14, 2015  
**Year/ Total\*:** 5/ \$1,250,000 (Direct); \$1,863,375 (Total) **Role:** Principal Investigator  
**3 Supplements:**  
**Award Periods:** 5/1/14-4/30/15; 8/1/10-4/30/15; 9/1/11-8/30/13  
**Award Totals:** \$17,278; \$193,644; \$168,123  
**Details:** Minority Supplements: Kayla Thomas (undergraduate); Nicolle Patterson (graduate); Rogelio Zamilpa, PhD (postdoctoral).

**Source:** NIH/NHLBI  
**Title:** **NHLBI UTHSCSA Cardiovascular Proteomics Center**  
**Period:** August 15, 2010 to August 14, 2015  
**Year/ Total\*:** 5/ \$11,643,580 (Total) **Role:** Principal Investigator

**Source:** NIH/NHLBI R01 HL095852  
**Title:** **Biomechanical mechanisms of artery tortuosity**  
**Period:** 3/1/2010-12/31/2015  
**Year/ Total\*:** 5/ \$1,821,770 **Role:** Co-Investigator (PI: Hai-Chao Han)

**Source:** Health Resources and Services Administration  
**Title:** **Center for Cardiovascular Systems Biology**  
**Period:** September 1, 2010 to August 31, 2011  
**Year/ Total\*:** 1/ \$297,000 **Role:** Principal Investigator

**Source:** NIH/EB 1R03 EB 009496  
**Title:** **Mathematical Modeling of Matrix Metalloproteinase-9 Driven Left Ventricular Remodeling Post Myocardial Infarction**  
**Period:** 9/1/2010-8/31/2011  
**Year/ Total\*:** 1/ \$82,799 (Total) **Role:** Co-Investigator (PI: Yufang Jin, PhD)

**Source:** Veteran's Administration  
**Title:** **Role of CCR5 in EPC Biology and Atherosclerosis**  
**Period:** September 2008- August 2012  
**Year/ Total\*:** 4/ \$600,000 (Direct) **Role:** Co-Investigator (PI: Seema Ahuja)

**Source:** NIH/NHLBI T32 HL07446  
**Title:** **Pathobiology of Occlusive Vascular Disease**  
**Period:** 07/1990- 08/2015 **Roles:** 2007-2013- Co-Investigator (PI: Linda McManus)  
**Year/ Total\*:** 5/ \$1,018,107.00 (Direct) 2009-2013- Associate Program Director

**Source:** NIH/NIA T32 AG021890-07  
**Title:** **Training Grant on the Biology of Aging**  
**Period:** 05/01/2003-04/30/2013  
**Year/ Total\*:** 5/ \$628,580 (Annual Total)      Role: 2008-2013- Co-Investigator/Mentor (PI: Steve Austad)

**Source:** NIH/NHLBI SC2 HL101430  
**Title:** **Effects of Aging on LV Geometry and MMP-9 Expression Level**  
**Period:** 9/1/2009-8/31/2012  
**Direct Costs/ year:** \$100,000  
**Year/ Total\*:** 3/ \$397,375 (Total)      Role: Consultant (PI: Yufang Jin)

**Source:** NIH/NIA RC2 AG036613  
**Title:** **Can Rapamycin Retard Age-Related Diseases?**  
**Period:** 9/30/2009-8/31/2012  
**Year/ Total\*:** 2/ \$2,576,662      Role: Co-Investigator (PI: Arlan Richardson, PhD)

**Source:** NIH/NIA P30 AG13319  
**Title:** **Nathan Shock Aging Center- Healthspan and Functional Core**  
**Period:** 9/30/09-6/30/2012  
**Year/ Total\*:** \$259,732      Role: Co-Investigator (PI: Arlan Richardson, PhD)

**Source:** NIH/NCCAM K99 AT006704  
**Title:** **DHA Mechanisms in Obesity-Mediated Cardiac Remodeling Post-Myocardial Infarction**  
**Period:** 8/1/11-6/30/2013 (K99 phase)  
**Year/ Total\*:** 2/ \$194,400      Role: Mentor (PI: Ganesh Halade, PhD)

## 2. UNIVERSITY

**Source:** The University of Texas Health Science Center at San Antonio  
 Translational Science Training (TST) Program  
**Title:** **Matrix Metalloproteinase-9 (MMP-9) Roles in Cardiac Aging**  
**Period:** 8/1/2009 – 7/31/2010  
**Direct Costs/ year:** \$33,000/ \$33,000  
**Year/ Total\*:** 1/ \$33,000 (Direct)      Role: Mentor (Scholar: Ying Ann Chiao, Dept Biochemistry)

**Source:** The University of Texas Health Science Center at San Antonio Executive Research Committee  
 Pilot Project Grant  
**Title:** **Extracellular Matrix Changes in Chronic and Intermittent Hypoxia**  
**Period:** 9/1/2008 – 8/31/2009  
**Direct Costs/ year:** \$15,000 / \$15,000  
**Year/ Total\*:** 1/ \$15,000 (Direct)      Role: Principal Investigator

**Source:** The University of Texas at San Antonio  
 Collaborative Research Seed Grant Program (CRSGP)  
**Title:** **Why do arteries become tortuous?**  
**Period:** 11/8/2008 – 8/31/2009  
**Year/ Total\*:** 1/ \$30,000 (Direct)      Role: Co-PI (PI: Hai-Chao Han)

**Source:** The University of Texas Health Science Center at San Antonio  
 Executive Research Committee Pilot Project Grant  
**Title:** **Age-Related Differences in Myocardial Matricryptin Profiles**  
**Period:** 7/1/2006 – 6/30/2007  
**Year/ Total\*:** 1/ \$15,000 (Direct)      Role: Principal Investigator

**Source:** The University of Texas Health Science Center at San Antonio Executive Research Committee  
 Pilot Project Grant  
**Title:** **Multi-Analyte Profiling to Determine Age-Related Protein Changes in Murine Plasma Samples**  
**Period:** 3/1/2007 – 2/29/2008  
**Year/ Total\*:** 1/ \$15,000 (Direct)      Role: Principal Investigator

**3. Other**

- Source:** American Heart Association, Texas Affiliate  
Beginning-Grant-in-Aid 0665032Y  
**Title:** **Extracellular Matrix Remodeling in the Aging Myocardium**  
**Period:** July 1, 2006 to June 30, 2008  
**Year/ Total\*** 2/ \$130,000 (Total) Role: Co-Investigator (PI: G. Patricia Escobar)
- Source:** Morrison Trust  
**Title:** **Anti-inflammatory effects of dietary sulforaphane, a component in broccoli**  
**Period:** October 1, 2008 to September 30, 2009  
**Year/ Total\*** 1/ \$72,000 (Total) Role: Principal Investigator
- Source:** American Heart Association, South Central Affiliate  
Grant-in-Aid 0855119F  
**Title:** **Macrophage-Dependent Mechanisms of Post-Myocardial Infarction Remodeling**  
**Period:** July 1, 2008 to June 30, 2010  
**Year/ Total\*** 2/ \$140,000 (Total) Role: Principal Investigator
- Source:** American Heart Association, South Central Affiliate  
Postdoctoral Fellowship  
**Title:** **MMP-9 Regulation of Cardiac Fibroblast Activation Post-Myocardial Infarction**  
**Period:** July 1, 2009 to June 30, 2011  
**Year/ Total\*** 2/ \$82,000 (Direct) Role: Sponsor (Zamilpa, PI)
- Source:** Novartis  
**Title:** **Role of Aliskiren/ Valsartan in Modulating MMP-9 Post-MI Remodeling**  
**Period:** January 26, 2010- June 30, 2011  
**Direct Costs/ year** \$176,000  
**Year/ Total\*** 1/ 221,760 (Total) Role: Principal Investigator
- Source:** The Max and Minnie Tomerlin Voelcker Fund Young Investigator Award  
**Title:** **Role of Periodontal Disease in Post-Myocardial Infarction Remodeling**  
**Period:** July 1, 2009- June 30, 2014 (terminated January 13, 2013 due to re-location to Jackson, MS)  
**Year/ Total\*** 5/ \$750,000 (Total) Role: Principal Investigator
- Source:** American Heart Association, South Central Affiliate  
Grant-in-Aid 10GRNT4020024  
**Title:** **Caveolin-1 Prevents the Development and Progression of Cardiac Remodeling**  
**Period:** July 1, 2010 to June 30, 2012  
**Year/ Total\*** 2/ \$140,000 (Total) Role: Co-Investigator (LeSaux, PI)
- Source:** Amylin Pharmaceuticals, Inc.  
**Title:** **Cardiac Remodeling in a Dahl Salt Sensitive Rat Model**  
**Period:** December 2011 to December 2012  
**Year/ Total\*** 1/ \$211,450 (Total) Role: Co-Principal Investigator (with Ganesh Halade, PhD)
- Source:** American Heart Association  
Postdoctoral Fellowship  
**Title:** **P. gingivalis primes the post-myocardial infarction remodeling response**  
**Period:** January 1, 2013 to December 31, 2014  
**Year/ Total\*** 2/ \$90,772 (Total) Role: Mentor (PI: K. DeLeon)
- Source:** American Heart Association  
Postdoctoral Fellowship  
**Title:** **Matrix metalloproteinase-12 Roles in Cardiac Remodeling Post-Myocardial Infarction**  
**Period:** January 1, 2014 to December 31, 2015  
**Year/ Total\*** 2/ \$93,704 (Total) Role: Mentor (PI: Rugmani Padmanabhan Iyer)

**IV. SERVICE****D. Professional Affiliations:****1. Current Professional and Scientific Organizations and Societies (\*requires election or examination for membership)**

Year(s)	Organization
2012-2013	Member, American Aging Association
2017-present	Member, American Evaluation Association
1995-present	American Heart Association, Council on Basic Cardiovascular Sciences and Interdisciplinary Council on Functional Genomics and Translational Biology
	2008-2012 Fundraiser for the San Antonio Heart Walk
	2010 and 2012 \$1,000 Club member; raised >\$1,000 for the heart walk, primarily by soliciting \$25 individual donations
	2011- Fellow, Council on Basic Cardiovascular Sciences
	2012-2014 Member, Membership/ Communications Committee, BCVS Council
	2012 Fellow, Council on Functional Genomics and Translational Biology
	2013-2015 Member, Professional Education and Publications Committee, FGTV Council
	2017 BCVS Summer Conference Abstract Grader
2001-present	American Association for the Advancement of Science
2017	American College of Cardiology- Meeting abstract grader
2004-2008	Association for Women in Science
2003-present	Federation of the American Society of Experimental Biologists*
	The American Physiological Society
	2003-present Member*
	2006 Minority Travel Fellow Mentor for Nildris Cruz-Dias
	2008 Minority Travel Fellow Mentor for Mesia M. Steed
	2009-2012 Nominating Committee, Cardiovascular Section
	2009-2013 APS Cardiovascular Section Programming Committee Co-Chair- Each year, my co-chair and I select 8 symposium and 9 featured topics from >40 submissions and program approximately 600 posters for the Experimental Biology meeting.
	2009-present APS Cardiovascular Section Steering Committee Member
	2009-2013 APS Joint Programming Committee, Cardiovascular Section Representative
	2010-2013 Inaugural Chair, APS Translational Physiology Interest Group Steering Committee
	2011-2012 APS Actively work to attract, meet the needs of, engage, and retain membership Task Force; Women Subgroup of the Task Force
	2012-present Fellow, CV section
	2013-2016 Chair, CV Section
	2013-2016 Member, APS Steering Advisory Committee
	2013-2016 Member, APS Nominating Committee
	2016-2017 Chair, CV Section Communications Committee
	American Society for Investigative Pathology
	2007-2012 Member
	American Society for Matrix Biology
	2010-present Member
	2016 Women Mentoring Women Breakfast Organizing Committee Chair
	2017-2020 Councilor
2007-2012	Healthcare Businesswomen's Association Member
	2007 Member, Marketing and Publicity Committee
	2007-2008 Co-Chair, Women in Science Affinity Group for San Antonio
	2011 Member, Nominating Committee, San Antonio Chapter
2003-2012	Heart Failure Society of America*
2010-present	International Society of Heart Research, American Section
2014-2015	Poster Judging at the Annual Meeting of the International Academy of Cardiovascular Sciences: North American Section Forum
2002-2008	National Association for Female Executives
2011-2015	Saving Tiny Hearts Society
	2011-2015 Chair Pro Tempore, Medical Advisory Board

**2. Journal Editing**

Year(s)	Journal	Activity
2011-present	American Journal of Physiology- Heart and Circulatory Physiology	
	Jan 2011- present	Editorial Board
	Jan 2013- Feb 2014	Consulting Editor
	Feb 2014- Dec 2014	Associate Editor
	Jan 2015- Dec 2017	Deputy Editor
	July 2017: Special Issue on ECM in CV Pathophysiology	Guest Editor
2016-present	Basic Research in Cardiology	Editorial Board
2008-2012	Cardiovascular Research	Consulting Editor
2007-present	Circulation Research	
	2007-present	Diamond Reviewer (reviewed >10 manuscripts)
	2008-present	Triage and Tie-Breaker Reviewer
	2009-2010; 2014-present	Editorial Board
	2009-named one of the best reviewers of the year	
2013-present	Comprehensive Physiology	Topic Editor, Heart
2016-present	Current Opinion in Physiology	Editorial Board
	2016-2017 Topic: Hearts (Physiology of Cardiovascular Systems)	Guest Editor
2011-present	Frontiers in Genetics of Aging	Review Editorial Board
2009-2014	Hypertension	Editorial Board
2009-present	Journal of Cardiac Failure	Editorial Board
2008-2017	Journal of Molecular and Cellular Cardiology	
	2008-2017	Editorial Board; Triage Reviewer
	2009: Special Issue on Extracellular Matrix and Cardiovascular Remodeling; with Dr. Tom Borg (published March 2010)	Guest Editor
	2014-2017	Associate Editor
	2015: Special Issue on Exploring Fibrosis as the Next Target for Myocardial Remodeling; with Dr. Burns Blaxall	Guest Editor
2011	Microscopy and Microanalysis	
	Special Issue on "Cardiovascular Extracellular Matrix;" with Dr. Tom Borg	Guest Editor
2007-present	The Open Proteomics Journal	Editorial Board
	Proteomics: Clinical Applications	
	2015 Special Issue on Tissue Damage, Repair and Regeneration	Guest Editor
2005-2010	Recent Patents on Anti-Cancer Drug Discovery	Editorial advisory board
2014-present	Biomedical Computation Review	Editorial advisory board

**3. Journal Reviewing**

Year(s)	Journal	Activity
2010-present	ACS Chemical Biology	Reviewer
2011-present	Acta Biomaterialia	Reviewer
2014-present	Ageing Research Reviews	Reviewer
2007-present	Aging Cell	Reviewer
2012-present	American Journal of Cardiology	Reviewer
2008-present	American Journal of Hypertension	Reviewer
2016-present	American Journal of Physiology- Cell Physiology	Reviewer
2005-present	American Journal of Physiology- Heart and Circulatory Physiology	Reviewer
2005-present	American Journal of Physiology- Regulatory, Integrative and Comparative Physiology	Reviewer
2011-present	The Anatomical Record	Reviewer
2010-present	Angewandte Chemie	Reviewer
2015-present	Annals of Biomedical Engineering	Reviewer
2004-present	Annals of Medicine	Reviewer
2013-present	Antioxidants and Redox Signaling	Reviewer
2008-present	Archives of Medical Research	Reviewer
2007-present	Archives of Pharmacology	Reviewer
2008-present	Atherosclerosis	Reviewer
2007-present	Arteriosclerosis, Thrombosis, and Vascular Biology	Reviewer
2015-present	Basic Research in Cardiology	Reviewer
2016-present	Beneficial Microbes	Reviewer
2008-present	Biochimica et Biophysical Acta	
	-Molecular Basis of Disease	Reviewer

	-Molecular Cell Research	Reviewer
	-General Subjects	Reviewer
	-Proteins and Proteomics	Reviewer
2006-present	Biochemical Pharmacology	Reviewer
2007-present	Biomarkers in Medicine	Reviewer
2013-present	Biomed Research International	Reviewer
2013-present	British Journal of Pharmacology	Reviewer
2007-present	Cardiology	Reviewer
2013-present	Cardiovascular & Hematological Disorders- Drug Targets	Reviewer
2005-present	Cardiovascular Drugs and Therapy	Reviewer
2011-present	Cardiovascular Pathology	Reviewer
2005-present	Cardiovascular Research	Reviewer
2010-present	ChemMedChem	Reviewer
2002-present	Circulation	Reviewer
2008-present	Circulation: Heart Failure	Reviewer
2004-present	Circulation Research	Reviewer
2015-present	Clinical Pharmacology and Therapeutics	Reviewer
2016-present	Clinical Proteomics	Reviewer
2011-present	Clinical Science	Reviewer
2013-present	Comparative Biochemistry and Physiology	Reviewer
2016-present	Current Biology	Reviewer
2009-present	Current Medicinal Chemistry	Reviewer
2017-present	Current Opinion in Physiology	Reviewer
2005-present	Current Pharmaceutical Design	Reviewer
2010-present	Cytokine	Reviewer
2015-present	Data in Brief	Reviewer
2007-present	Drug Discovery Today	Reviewer
2015-present	E-Biomedicine	Reviewer
2017-present	European Journal of Inflammation	Reviewer
2008-present	European Journal of Pediatrics	Reviewer
2008-present	European Journal of Pharmacology	Reviewer
2004-present	European Heart Journal	Reviewer
2007-present	Expert Opinion on Drug Discovery	Reviewer
2010-present	Expert Opinion on Investigational Drugs	Reviewer
2010-present	Expert Opinion on Therapeutic Targets	Reviewer
2015-present	Expert Review of Proteomics	Reviewer
2015-present	Experimental Biology and Medicine	Reviewer
2008-present	Experimental Gerontology	Reviewer
2008-present	FASEB Journal	Reviewer
2012-present	Fibrogenesis and Tissue Repair	Reviewer
2011-present	Frontiers in Bioscience	Reviewer
2011-present	Heart Failure Reviews	Reviewer
2006-present	Hypertension	Reviewer
2007-present	Hypertension Research	Reviewer
2010-present	Immunobiology	Reviewer
2011-present	Indian Journal of Biochemistry and Biophysics	Reviewer
2004-present	International Journal of Cardiology	Reviewer
2008-present	International Journal of Developmental Biology	Reviewer
2011-present	IUBMB Life	Reviewer
2008-present	Journal of the American College of Cardiology	Reviewer
2016-present	JACC: Basic to Translational Science	Reviewer
2017-present	Journal of the American Medical Association Cardiology	Reviewer
2011-present	Journal of Applied Physiology	Reviewer
2006-present	Journal of Biological Chemistry	Reviewer
2002-present	Journal of Cardiac Failure	Reviewer
2011-present	Journal of Cardiovascular Medicine	Reviewer
2008-present	Journal of Cardiovascular Pharmacology	Reviewer
	2011-present	Tie-breaker reviewer
2016-present	Journal of Cellular and Molecular Medicine	Reviewer
2006-present	Journal of Dental Research	Reviewer



2008-present	Journal of Experimental Gerontology	Reviewer
2007-present	Journal of Gene Medicine	Reviewer
2008-present	Journal of Gerontology: Biological Sciences	Reviewer
2008-present	Journal of Histochemistry and Cytochemistry	Reviewer
2002-present	Journal of Molecular and Cellular Cardiology	Reviewer
2008-present	Journal of Pharmacy and Pharmacology	Reviewer
2009-present	Journal of Proteome Research	Reviewer
2011-present	Journal of Proteomics	Reviewer
2011-present	Journal of Visualized Experiments	Reviewer
2011-present	Life Sciences	Reviewer
2010-present	Matrix Biology	Reviewer
2011-present	Microscopy and Microanalysis	Reviewer
2011-present	Molecular Biology Reports	Reviewer
2008-present	Molecular and Cellular Biochemistry	Reviewer
2011-present	Molecular and Cellular Proteomics	Reviewer
2015-present	Molecular Imaging and Biology	Reviewer
2017-present	Nature Communications	Reviewer
2017-present	Nature Reviews Cardiology	Reviewer
2011-present	OMICS Publishing Group/Clinical	Reviewer
2011-present	PDA Journal of Pharmaceutical Science and Technology	Reviewer
2007-present	Pharmacology and Therapeutics	Reviewer
2011-present	Physiological Genomics	Reviewer
2009-present	PLoS One	Reviewer
2013-present	Proceedings of the National Academy of Sciences	Reviewer
2015-present	Progress in Biophysics and Molecular Biology	Reviewer
2006-present	Proteomics	Reviewer
2013-present	Proteomics: Clinical Applications	Reviewer
2005-2010	Recent Patents on Anti-Cancer Drug Discovery	Reviewer
2011-present	Rejuvenation Research	Reviewer
2009-present	The Tohoku Journal of Experimental Medicine	Reviewer
2005-present	Thrombosis Research	Reviewer
2010-present	Translational Research	Reviewer
2013-present	Yonsei Medical Journal	Reviewer

**Total number of manuscripts reviewed:**

- 2007- 105 (8.8±2.3/ month)
- 2008- 120 (10.0±1.7/ month)
- 2009- 126 (10.5±3.0/ month)
- 2010- 56 (4.7±2.2/ month)
- 2011- 122 (10.2±4.6/ month)
- 2012- 76 (6.3±2.8/ month)
- 2013- 92 (7.7±2.5/ month)
- 2014- 93 (7.8±3.6/ month)
- 2015- 101 (8.4±2.8/ month)
- 2016- 81 (6.8±2.7/ month)

○ **2007-2016 TOTAL: 972 manuscripts reviewed**

**Book Reviewing**

2012	Book abstract review, Bentham e-books
2013	Inflammation as an Orchestrator in Heart Failure book idea reviewer, Elsevier

**Meeting Abstract Reviewing**

2014	Reviewed 20 abstracts for the Joint ESH-ISH Hypertension Meeting, Athens, Greece
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**Grant Reviewing:****National Institutes of Health**

2007	Cellular Mechanisms in Aging and Development Study Section (Oct 2007)	Temporary Member
2009	ZRG1 CVRS-B 58 Stage One Panel (Challenge Grants Panel 19; May-June 2009)	Mail Reviewer
2009	R13 Conference Grants Study Section (July-Aug 2009)	Member
2010	NHLBI ZRG1 CVRS-L(85)S ARRA: Ischemic Challenge	Member
2012	NIA Special Emphasis Panel ZAG1 ZIJ-8 (02) Stress and Aging PPG (June)	Member
2014	NIA Special Emphasis Panel Aging (program project grant)	Member

2008-2016	Myocardial Ischemia and Metabolism Study Section Feb 2009, Oct 2009, Feb 2010, June 2010 July 1, 2010- June 30, 2016 2012-2016	Temporary Member Member Vice-Chair
2015	ZHL1 CSR-G(01) Clinical Trials Review Study Section (July)	Member
2015	NIA Special Emphasis Panel ZAG1 ZIJ-8 (J2) CVD Disease in Aging PPG (September)	Member
2015	NIH/CSR AREA/R15 Study Section (November)	Member & Co-Chair
2017	NIH/NHLBI R21 Panel for RFA-HL-17-015, Bold New Bioengineering Methods and Approaches for Heart, Lung, Blood and Sleep Disorders and Diseases	Member
2017	NIH/NHLBI R21 Panel for RFA HL-17-022, Maximizing the Scientific Value of the NHLBI Biorepository: Scientific Opportunities for Exploratory Research	Member
2017	NIH/NHLBI R01 Panel for RFA-HL-18-004 (HIV-Related HLBS Comorbidities)	Member
2005-present	<b>Department of Veterans Affairs</b>	
	<ul style="list-style-type: none"> <li>▪ Merit Grant Review <span style="float: right;">Consultant Grant Reviewer</span> <ul style="list-style-type: none"> <li>○ National- reviewed 2 Merit grant application in 2005 (CARB) and 1 in 2007</li> </ul> </li> <li>▪ Merit Grant Pre-Submission Review <span style="float: right;">Internal Grant Reviewer</span> <ul style="list-style-type: none"> <li>○ South Texas Veterans Health Care System, Audie L. Murphy Memorial Veterans Hospital, San Antonio- reviewed pre-submission Merit grant applications: 1 in 2007, 1 in 2008, and 1 in 2010</li> <li>○ G.V. (Sonny) Montgomery Veterans VA Medical Center, Jackson, MS- reviewed pre-submission Merit grant application: 1 in 2017</li> </ul> </li> <li>▪ Career Development Pre-Submission Review <span style="float: right;">Internal Grant Reviewer</span> <ul style="list-style-type: none"> <li>○ G.V. (Sonny) Montgomery Veterans VA Medical Center, Jackson, MS <ul style="list-style-type: none"> <li>▪ reviewed pre-submission Career Development (CDA2) grant applications: 1 in 2013, 1 in 2014, 1 in 2016</li> <li>▪ reviewed VISN 16 Pilot grant applications: 1 in 2017</li> </ul> </li> </ul> </li> </ul>	
2007-present Reviewer	<b>American Heart Association</b> Western Review Consortium Committee 2B- 4/2007: 7 grants; 4/2008: 14 grants; 4/2009: 14 grants Regenerative Cell Biology 2- 4/2011: 11 grants; Cardiac Bio Reg- BSci 3- 4/2012: 9 grants; 2013- 2015- chair, Cardiac Bio Reg- Bsci 6 study section 2014-presented the 2 <sup>nd</sup> half of the Spring 2014 Leaders and Staff Peer Review Processes slide set over a teleconference of AHA study section chairs and co-chairs, to review the process. 2017- member, AHA Collaborative Sciences Award Review Panel	Grant Proposal
2007-present	<b>Health Research Board Ireland</b> 2007 Translational Research Awards (March 2007- reviewed 1 grant) 2016 Investigator Led Project (November 2016- reviewed 1 grant)	Grant Proposal Reviewer
2012-present	Tobacco-Related Disease Research Program (TRDRP) Cardiovascular Diseases panel, University of California February 6, 2015 and December 4-5, 2017- reviewed 7-8 proposals each cycle and participated in panel discussion of applications	Grant Proposal Reviewer
2011-present	<b>Netherlands</b> -November 2011- evaluated 1 proposal in the scientific TOP programme Netherlands Organisation for Health Research and Development (ZonMw) -March 2013- evaluated 1 proposal in the Innovational Research Incentives Scheme Veni Program for the Netherlands Organisation for Scientific Research (NWO) -August 2013- evaluated 1 proposal (Vici grant) for Innovational Research Incentives Scheme for NWO -September 2013 & 2016- evaluated 1 proposal each year; NWO Division for Earth and Life Sciences	Grant Proposal Reviewer
2009	<b>Austrian Science Fund</b> (Oct- reviewed 1 grant)	Grant Proposal Reviewer
2010-2012	<b>Israeli National Strategic Research Program in Life Sciences</b> -November 2010: reviewed 1 proposal -February 2012: reviewed 1 proposal	Grant Proposal Reviewer
2005-2007	<b>Research Management Group</b> <b>Philip Morris External Research Program</b> (3 each year)	Grant Proposal Reviewer

2010-2013	<b>James and Esther King Biomedical Research Program</b> Research Project Grant Applications managed by the Florida Department of Health- proposals and progress reports reviewed: March 2010- 2 and 0; March 2011- 2 and 1; March 2012- 1 and 2; March 2013- 0 and 1	Grant Proposal Reviewer
2012	<b>Deutsche Forschungsgemeinschaft (German Research Foundation)</b> -January 2012: evaluated 1 proposal	Grant Proposal Reviewer
2012	<b>Research Grant Council (Hong Kong)</b> -March 2012: evaluated 1 proposal	Grant Proposal Reviewer
2012	<b>National Science Center (Poland)</b> -May 2012, March 2014, January 2015: evaluated 1 proposal each time	Grant Proposal Reviewer
2012	<b>NSERC Discovery Grant (Canada)</b> -December 2012: evaluated 1 proposal	Grant Proposal Reviewer
2013	<b>Qatar National Research Fund (Qatar)</b> -March 2013: evaluated 1 proposal -February 2014: evaluated 2 proposals -February 2015: evaluated 1 proposal	Grant Proposal Reviewer
2013	<b>Research Foundation (Flanders)</b> (Fonds Wetenschappelijk Onderzoek - Vlaanderen, FWO) -June 2013: evaluated 1 proposal	Grant Proposal Reviewer
2013	<b>European Research Council</b> ERC Consolidator Grant- July 2013: evaluated 1 proposal	Grant Proposal Reviewer
2013	<b>Istituto Pasteur-Fondazione Cenci Bolognetti</b> -July 2013: evaluated 1 proposal	Grant Proposal Reviewer
2013	<b>Medical Research Council (United Kingdom)</b> -November 2013, January 2013, June 2017: evaluated 3 proposals	Grant Proposal Reviewer
2013	<b>Louisiana Board of Regents' Research Competitiveness Subprogram</b> -November 2013: evaluated 1 proposal	Grant Proposal Reviewer
2014	<b>Canada Networks of Centres of Excellence</b> -July 2014; evaluated 1 proposal	Grant Proposal Reviewer
2015	<b>Wellcome Trust Intermediate Clinical Fellowship</b> -September 2015; evaluated 1 proposal	Grant Proposal Reviewer
2016	<b>British Heart Foundation</b> -June 2016; evaluated 1 Personal Chair application and 1 Programme Grant application	Grant Proposal Reviewer
<u>Internal grant reviewing</u>		
2009-2012	<b>UTHSCSA Grant Reviewing</b> <b>IIMS/ Clinical and Translational Service Award (CTSA)</b> IIMS/ CTSA Pilot Project Applications -April 2009 and April 2012: reviewed 2 pilot grants each cycle KL2 Applications Review Panel- 4 KL2 grants (02/10); 3 KL2 grants (05/11); 5 KL2 grants (01/12) <b>CPRIT II A</b>	Grant Proposal Reviewer Internal Abstract Reviewer
2013	<b>UMMC Intramural Research Support Program</b> -September 2013: reviewed 3 grants	Internal Grant Proposal Reviewer
2014	<b>UMMC COBRE of the Center for Psychiatric Neuroscience</b> -September 2014: reviewed 1 grant	Internal Grant Proposal Reviewer
2005-present	<b>Colleague Grant Reviewing</b> -edited submissions and provided support letters for >75 colleagues	

Other Reviewing Activities

2005-present **Colleague promotion and tenure letters**- have written evaluation letters for >20 colleagues  
 2002-present **Other letters of support (e.g., grant or permanent resident applications)** >20 colleagues

**1. Community Activities**

- 2006-2007 Alamo Regional Science & Engineering Fair, Special Awards Judge- judged 10-15 posters each year for the Special Awards Females Junior Division, which was organized in conjunction with the UTHSCSA Women's Faculty Association.
- 2006 Science Expo volunteer- Provided a table display for the Women's Faculty Association to provide inspiration to students to pursue a career in the health professions. The expo was attended by nearly 1000 middle-school and high school students from the San Antonio area and outlying regions (Laredo, Corpus Christi, Kerrville, Marion, Snook, Cotulla, Lytle, Eagle Pass, Del Rio, Austin, San Marcos, Helotes, Bandera, Zapata, and New Braunfels).
- December 13, 2006- Was a Career Exploration Mentor to Irma Cordova, a high school senior from John F. Kennedy High School (Edgewood School District); provided her with a 2 hr tour of my laboratory and discussion of science career opportunities.
- February 3, 2007- Was a reading session volunteer for the Jr Academy of Science- reviewed student research committee forms for completeness and accuracy.
- March 14, 2007- Was an invited speaker for the Med-Ed Field Experience, which brought in 85 high school students from Laredo and other border towns to discuss career options; presented a 1 hr talk on being a cardiovascular research scientist.
- June 25, 2008- Gave a 30 min presentation on cardiovascular research for the National Conference of State Legislatures Legislators in the Lab Visit.
- July 2008- participated in a video for the local San Antonio American Heart Association Heart Walk Fundraiser.
- September 23, 2008- presented a 10 min presentation on "Cardiovascular Research at UTHSCSA" to the local San Antonio AHA board.
- March 30, 2009- presented 1 hr presentation on what it's like to be a cardiovascular research scientist to 60 10<sup>th</sup> graders at Johnson High School, as part of UT Health Science Center National Doctors' Day Community Outreach.
- October 2009- was a talent judge for the UTHSCSA Chili Cook-Off Talent Competition.
- January 2010- Expanding Your Horizons Conference in Science and Mathematics; presented to 15 middle school girls on what it is like to be a cardiovascular research scientist.
- July 2012- Scientist for a Day; hosted 6 girl scouts for a tour of the lab to show what being a research scientist is like.
- July 2013- Chair, Department of Physiology and Biophysics Heart Walk Team- our team raised \$3,165 (I raised \$1,545), ranked 7<sup>th</sup> overall
- Spring 2014- hosted Discovery U Students in my lab. This program is designed to bring local high school students from Clinton High School and Madison Central High School to the UMMC campus where they can observe and learn about biomedical research. The basic structure of the program involves the 20 students traveling to our campus where they are divided into 2 person groups to observe the functioning of a real world research laboratory in a series of three week rotations. Each visit was about 2 hours, and every third week the students rotated to a different laboratory.

**E. Committees:**

<b>Department</b>	<b>Committee</b>	<b>Member/ Officer</b>
Year(s)		
2006	Research Day Poster Judging Committee- judged 118 posters 9 <sup>th</sup> Annual Medicine Research Day, Department of Medicine, UTHSCSA	Judge
2011	Research Day Poster Judging Committee-judged ~85 posters 14 <sup>th</sup> Annual Medicine Research Day, Department of Medicine, UTHSCSA	Judge
2007-2008	Biomedical Summer Undergraduate Research Experience (B-Sure) Program Strategic Planning Committee Biochemistry Department, UTHSCSA	Program Co-Director Member
2007-2008	Faculty Search Committee Dermatology Division, Department of Medicine, UTHSCSA	Member
2007	Cardiology Fiesta Cardiology Division, Department of Medicine, UTHSCSA	Abstract Grader
2008-2010	Committee on Graduate Studies Department of Cellular and Structural Biology	Member

2008- 2012	Research Equipment and Research Space (REARS) Allocation Committee, Department of Medicine -an ad hoc research space and equipment needs assessment committee	Member
2009-2011	Career Development Committee, Department of Cellular and Structural Biology	Member
2013-2015	Department of Physiology Seminar Series	Organizer
2014-present	Faculty Recruitment Committee, Department of Physiology	Member
2015-present	Promotion and Tenure Committee, Department of Physiology	Member

*Qualifying Exam Committees:*2005 Oral Qualifying Exam Committee Member

Student: Andre Ana Pena

Department: Cellular and Structural Biology, UTHSCSA

Degree: Ph.D.

Proposal Title: The Contribution of Vascular Cell Senescence to Atherosclerosis in Progeria

2006 Oral Qualifying Exam Committee Member

Student: Yong-Ung Lee

Department: Joint Program in Biomedical Engineering (UTSA/UTHSCSA)

Degree: Ph.D.

Proposal Title: Effects of Axial Stretch and Wall Injury on Intimal Hyperplasia in Arteries

2006 Oral Qualifying Exam Committee Member

Student: Beili Zhu

Department: Joint Program in Biomedical Engineering (UTSA/UTHSCSA)

Degree: Ph.D.

Proposal Title: Establishing Atherosclerosis Occlusion in Porcine Coronary Artery

2007 Oral Qualifying Exam Committee Member

Student: Maggie M. Beranek

Department: Joint Program in Biomedical Engineering (UTSA/UTHSCSA)

Degree: Ph.D.

Proposal Title: Overcoming Restenosis: A Combinational Surface to Improve Vascular Device Biocompatibility

2007 Oral Qualifying Exam Committee Member

Student: Danika Hayman

Department: Joint Program in Biomedical Engineering (UTSA/UTHSCSA)

Degree: Ph.D.

Proposal Title: Pulsatile Pressure: its effect on arterial structure and function

2008 Level II Qualifying Exam Committee, Supervising Professor

Student: Michou Kelley

Department: Joint Program in Biomedical Engineering (UTSA/UTHSCSA)

Degree: Ph.D.

2008 Level II Qualifying Exam Committee Member

Student: Pamela A. Colby

Department: Joint Program in Biomedical Engineering (UTSA/UTHSCSA)

Degree: Ph.D.

2008 Level II Qualifying Exam Committee Member

Student: Avione Y. Northcutt

Department: Joint Program in Biomedical Engineering (UTSA/UTHSCSA)

Degree: Ph.D.

2008 Oral Qualifying Exam Committee Member

Student: Chi Fung Lee

Department: Metabolism and Metabolic Disorders Track, Biochemistry, UTHSCSA

Degree: Ph.D.

Proposal Title: The Role of PLU-1 in Gene Regulation, RB/E2F Pathway and Cancers

2009 Oral Qualifying Exam Committee Member

Student: Maria Villarreal  
 Department: Metabolism and Metabolic Disorders Track, Biochemistry, UTHSCSA  
 Degree: Ph.D.  
 Proposal Title: Nampt Roles in Type 2 Diabetes

2009 Oral Qualifying Exam Committee Member

Student: Avione Y. Northcutt Lee  
 Department: Joint Program in Biomedical Engineering (UTSA/UTHSCSA)  
 Degree: Ph.D.  
 Proposal Title: Determining the Critical Buckling Pressure of Blood Vessels through Modeling and In Vitro Experiments

2010 Oral Qualifying Exam Committee Member

Student: Yanan Chen  
 Department: Aging Track, Cellular and Structural Biology, UTHSCSA  
 Degree: Ph.D.  
 Proposal Title: Extranuclear thyroid hormone receptor regulates thyroid hormone-stimulated iNOS expression in vascular myocytes through activation of the PI3K/Akt/mTOR/HIF1 $\alpha$  pathway

2011 Oral Qualifying Exam Committee Member

Student: Celia Macias  
 Department: Joint Program in Biomedical Engineering (UTSA/UTHSCSA)  
 Degree: Ph.D.  
 Proposal Title: Non-Polymeric Coatings for Drug Eluting Stents

2016 Oral Qualifying Exam Round 1 Committee Member

Student: Victoria Wolf  
 Department: Physiology (UMMC)

2016 Oral Qualifying Exam Round 1 Committee Member

Student: Abdulhadi Alamodi  
 Department: Physiology (UMMC)

**School**

Year(s)	Committee	Member/ Officer Member
2005-2009	Medical School Admissions Committee School of Medicine, UTHSCSA 2006-2008: MD Applicant Interviewer 2009: MD/PhD Applicant Interviewer -JAMP Shiller Scholarship Application Reviewer- was 1 of 5 member committee to rank 11 applicants	
2006-2010	Annual Medical Student Research Day Poster Judging Committee School of Medicine, UTHSCSA 2006: judged approximately 10 posters 2007-2009: coordinated judging of approximately 65 student posters to select top 6 posters	Judge Chair
2006-2012	Recruiting and Faculty Resources Committee, Biology of Aging Track Graduate School, UTHSCSA	Member
2006-2011	Curriculum Committee Metabolism and Metabolic Disorders Track, Graduate School, UTHSCSA	Member
2006-2012	Recruitment Acquisition Committee MCIP Integrative Biology Track, Graduate School, UTHSCSA	Member
2007-2009	Science Symposium Judging Committee, Dental School, UTHSCSA 2007: judged 10 oral presentations for 1 <sup>st</sup> and 2 <sup>nd</sup> place prizes 2008: judged oral presentations 2009: judged 10 posters	Head Judge Judge Judge

2007-2010	Medical Student Summer Stipend Review Committee School of Medicine, UTHSCSA -committee reviewed applications for summer research: 58 applications in 2007, 52 applications in 2008, 50 applications in 2009, 62 applications in 2010.	Chair
2007-2010	MD with Distinction in Research Advisory Committee, School of Medicine, UTHSCSA 2007-2009 2009-2010 -6 members review applications and monitor student progress (15-20 applications/ year)	Committee Member Chair
2007-2008	Admissions Committee Graduate School, UTHSCSA -Metabolism and Metabolic Disorders Track Representative -Recruiting Weekend, Poster Session Subcommittee	Member Co-Chair
2007-2008	Diversity Task Force School of Medicine, UTHSCSA -Faculty Recruitment and Retention Subcommittee	Member Chair
2008-2009	Graduate School Student Advisor Graduate School, UTHSCSA -1 <sup>st</sup> year advisor to 3 students (Xiang Bai, Aimee Signarovitz and Anel Lizcano)	Member
2008-2009	XYZ Compensation Plan Committee School of Medicine, UTHSCSA -a 6 member committee to formulate the compensation plan for SOM faculty	Member
2009	National Doctors' Day School of Medicine, UTHSCSA Community Outreach; gave a 1 hour presentation to high school students about research career options	Speaker
2009	First Annual Medical Student Career Day School of Medicine, UTHSCSA -discussed academic medicine career options with 3 <sup>rd</sup> year medical students	Speaker
2009-2010	MD PhD Advisory Committee Medical Scientist Training Program	Member
2010-2011	Associate Dean for Faculty Affairs Search Committee School of Medicine, UTHSCSA	Member
2011-2012	Recruitment Committee Molecular Biophysics and Biochemistry Track, Graduate School, UTHSCSA	Member
<b>University</b>		
Year(s)	Committee	Member/ Officer
1995-1997	Graduate Student Council Graduate School of Biomedical Sciences Baylor College of Medicine	Student Representative (1995-6) Vice-President (1996-7) President (1997)
2003-2005	Institutional Research Funds Subcommittee University Research Committee, Medical University of South Carolina	Member/ Reviewer
2004	Student Research Day Medical University of South Carolina	Judge
2005	Summer Health Professional Research Program Medical University of South Carolina	Application Reviewer

2006-2012	Women's Faculty Association UTHSCSA	Member (2006-present) President (2006-7) Recruiting Chair (2007-8)
2006-2010	Conflict of Interest Committee, UTHSCSA	Medical School Representative
2006-2012	Advisory Committee for Biomedical Research Barshop Institute, UTHSCSA	Medical School Representative
2007	UTHSCSA Leadership, Education, and Development (LEAD) Institute - 1 of 24 UTHSCSA leaders selected for the 2 <sup>nd</sup> annual 9 month class on developing leadership skills	Fellow
2007-2012	Cardiovascular Function Core Barshop Institute for Longevity and Aging Studies, Nathan Shock Aging Center of Excellence	Director
2007-2008	University Research Core Facility Committee, UTHSCSA	Member
2009-2012	Mass Spectrometry Core Advisory Committee, UTHSCSA	Member
2009-2010	Council for Education Innovation and Research Research Education, Training, and Career Development Key Function Institute for Integration of Medicine and Science The purpose of this council is to share and develop processes for the creation and evaluation of research education programs throughout UTHSCSA.	Board Member
2009-2010	Academic Environment Subcommittee LCME Self-Study, SOM, UTHSCSA	Chair
2011-2012	Glenn Foundation Student Fellowship Selection Committee Barshop Institute, Graduate School, UTHSCSA	Member
2013-present	Research Advisory Committee University of Mississippi Medical Center	Member
2013-present	Group on Women in Medicine and Science (GWIMs), UMMC	Member
2013	Research Informatics Committee University of Mississippi Medical Center	Member
2014-present	Grant Review Committee Cardiovascular Renal Research Center, University of Mississippi Medical Center	Member
2014-present	Centers and Institutes Committee University of Mississippi Medical Center 2016- subcommittee to update review process and forms	Member
2014-2015	Institute Model Strategic Plan Subcommittee University of Mississippi Medical Center	Member
2015	Jackson Heart Study Task Force University of Mississippi Medical Center	Member
2015-present	Central Data Warehouse Research Qlik Cohort Implementation Committee University of Mississippi Medical Center	Member
2016-7	Discovery Awards Review Panel University of Mississippi Medical Center	Member
2017	Promotion and Tenure Committee University of Mississippi Medical Center	Member



**Inter-institutional**

Year(s)	Committee	Member/ Officer
2004-2005	Institutional Animal Care and Use Committee Ralph H. Johnson VA Medical Center, Charleston, SC	Member/ Member
2007-2012	Joint Program in Biomedical Engineering Committee on Graduate Studies, UTSA/ UTHSCSA	Member
2007-2008	Faculty Search Committee Department of Biomedical Engineering, UTSA	Member
2014	Rural Interdisciplinary Case Experience (RICE) Bowl, UMMC	Judge
2015-present	Animal Care and Use Committee University of Mississippi Medical Center and G.V. (Sonny) Montgomery VA Medical Center	Alternate Voting Member
2017	VA Brain-Heart Multisite Consortium Meeting July 29-30, 2017 Columbia, SC	Working group member

**National**

Year(s)	Committee	Member/ Officer
2015	NIH/NHLBI Workshop Working Group <i>Refining Current Scientific Priorities and Identifying New Scientific Gaps in HIV-related Heart, Lung, and Blood Research</i> , Bethesda, MD (December 2015)	Member/ Member
2016	South Carolina IDeA Network of Biomedical Research Excellence (INBRE)	External Advisory Board

**International**

Year(s)	Committee	Member/ Officer
2015	European Society of Cardiology, Heart Failure Association Workshop Working Group <i>Fibrosis</i> , Brussels, Belgium (March 2015)	Member/ Member