

CURRICULUM VITAE

Darla L. Tharp, Ph.D.

I. PERSONAL DATA:

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II. EDUCATION:

2003-2007 Ph.D., Biomedical Sciences (GPA 3.89), University of Missouri, Columbia, MO,
Mentor: Douglas K. Bowles, Ph.D.

1998-2002 B.S., Biochemistry (GPA 3.92), Summa Cum Laude, University of Missouri,
Columbia, MO

III. RESEARCH AND PROFESSIONAL EXPERIENCE:

**July 2024
To Present** Assistant Professor, Department of Biomedical Sciences,
University of Missouri, Columbia, MO

**May 2024
To June 2024** Associate Research Professor, Department of Biomedical
Sciences, University of Missouri, Columbia, MO

**February 2021
To May 2024** Assistant Research Professor, Department of Biomedical
Sciences, University of Missouri, Columbia, MO

**December 2016
To January 2021** Sr. Research Associate, Department of Biomedical,
Sciences, University of Missouri, Columbia, MO

**January 2008
To December 2016** Research Associate, Department of Biomedical Sciences,
University of Missouri, Columbia, MO

January 2003 Graduate Research Assistant, Department of Biomedical

<i>To December 2007</i>	Sciences, University of Missouri, Columbia, MO (Douglas K. Bowles, Ph.D.).
<i>August 2002 To January 2003</i>	Senior Laboratory Technician, Department of Biomedical Sciences, University of Missouri, Columbia, MO (Douglas K. Bowles, Ph.D.).
<i>August 1998 To August 2002</i>	Student Laboratory Technician, Department of Physiology, University of Missouri, Columbia, MO (Kerry S. McDonald, Ph.D.)
<i>September 2001 To May 2002</i>	Student Laboratory Technician, Molecular Reproductive Physiology and Transgenics, Animal Science Research Center, University of Missouri, Columbia, MO (Edmund B. Rucker, Ph.D.)

IV. RESEARCH INTERESTS AND GOALS:

The primary focus of my research is to investigate the specific mechanisms involved in the development of heart disease and associated cognitive impairment, with the goal of discovering potential targets for therapeutic interventions. My lab investigates these mechanisms at the molecular, cellular, tissue, and whole animal levels in clinically relevant porcine models of cardiovascular disease. During my doctoral training under the direction of Dr. Douglas Bowles, I focused on the role of ion channels in coronary lesion development and became proficient at coronary interventional approaches in swine, such as angiography and intravascular ultrasound, to deliver selective ion channel blockers directly to coronary arteries. Following my doctoral training, I changed my focus to investigate the development of heart failure and associated vascular-related cardiogenic dementia. This type of clinically relevant large animal research requires expertise in numerous unique skill sets including catheter-based coronary angiography, coronary and vascular ultrasound, magnetic resonance imaging (MRI), pressure-volume loop techniques, *in vivo* and *in vitro* vascular functional experiments, immunoblot, immunohistochemistry, immunofluorescence, qRT-PCR, and targeted genetic manipulation. My research is highly synergistic and collaborative, allowing the opportunity to investigate disease progression in numerous translational, pre-clinical large animal swine models. During my time as an independent researcher, I have developed numerous collaborations with investigators at the University of Missouri, other academic institutions around the world, as well as private companies to investigate both cardiac, as well as coronary and cerebral vascular function in a variety of clinically relevant swine heart disease models. The long-term goal of my research is to utilize pharmacological, genetic, regenerative, and exercise interventions to identify mechanisms underlying the development of heart disease and related cognitive decline and target those mechanisms for treatment and/or prevention.

V. CURRENT PROJECTS:

1. Examining the effects of GLP-1 targeted therapeutics on cerebral and cardiac arteriole function.
2. Examining the effect of a novel gene therapy (AAV9.TNNI3) in a severe model of hypertrophic cardiomyopathy.
3. Examining the efficacy of a novel gene therapy (myocardial AAV of non-endogenous p90 ribosomal S6 kinases [RSK3] binding domain protein) and mechanism (RSK3-muscle A-kinase anchoring protein [mAKAP] signalosome) for treating the development of heart failure with preserved and reduced ejection fraction.
4. Determining the efficacy of follistatin-like 1 (FSTL1) for treating the development of heart failure with reduced ejection fraction in obese diabetic and healthy control swine.

5. Examination of both smooth muscle and endothelial specific mechanisms mediating impaired vascular/ventricular interactions in swine models of heart failure with reduced ejection fraction (HFrEF), heart failure with preserved ejection fraction (HFpEF), and chronic kidney disease with diastolic dysfunction.
6. Dissemination of RNA sequencing data in cerebral and coronary microvessels isolated from Ossabaw swine models of heart failure with reduced ejection fraction (HFrEF) and heart failure with preserved ejection fraction (HFpEF).
7. Examining changes in cerebral perfusion and vascular function in an acute model of myocardial infarction induced arrhythmia.
8. Determining the specific mechanism by which furosemide serves as a prophylaxis for equine exercise-induced pulmonary hemorrhage by examining its effects on pulmonary vascular function.

VI. GRANTS AND CONTRACTS:

Current

Renovate Biosciences; (Tharp, PI) 08/01/2024-07/01/2025
 "TNNI3 Efficacy Study" \$253,000 Total Costs
 Major Goals: The goal of this project is to determine the appropriate viral dose and efficacy of treatment of AAV9.TNNI3 in a swine model of severe hypertrophic cardiomyopathy.
 Role: PI on Subcontract

Lexeo and Renovate Biosciences; (Tharp, PI) 09/01/2024-08/30/2025
 "DSP Arrhythmia Study" \$175,000 Total Costs
 Major Goals: Characterize a new porcine model of cardiac arrhythmia.
 Role: PI on subcontract

Submitted

P01 0076651; (Isakson, PI; Tharp, PI on subcontract) 01/01/2026-12/31/2030
 NIH/NHLBI Program Project Grant \$1,300,000 Subcontract Total Costs
 "Heme and Iron Metabolism in Heart Failure"
 Major Goals: The goal of this subcontract is to test iron supplementation, as well as one other therapeutic intervention directed at heme metabolism, in a cardiometabolic heart failure swine model (Western diet fed, aortic-banded Ossabaw swine).
 Role: PI on subcontract

R01 0089129 (Chade, PI) 12/01/2025-11/30/2030
 NIH \$2,966,172 Total Costs
 "Translational multipoint modulation of cardiac angiogenic signaling in HFpEF"
 Major Goals: To further elucidate the role of VEGF, VEGF-related signaling, angiogenesis in the pathophysiological development of chronic kidney disease and HFpEF.
 Role: Co-I

R01 0081957 (Sun, PI)
 NIH
 "Assessing GLP-1 Effects on Heart and Brain via Advanced MR Imaging in a Swine Model of Metabolic Syndrome"

Major Goals: To develop perfusion imaging of the brain and heart using MRI and assessing the effect of GLP-1 on brain and heart vascular function.

Role: Co-I

Not Funded, Pending Resubmission

R01 0077931; (Chade, PI)

12/01/2025-11/30/2030

NIH

\$3,909,647 Total Costs

“Strategies and mechanisms of cardiac inflammatory signaling leading to heart failure in chronic kidney disease”

Major Goals: To define the mechanism by which inflammatory signaling in chronic kidney disease leads to left ventricular hypertrophy and dysfunction, and to target that mechanism with a novel cardiovascular targeted therapeutic.

Role: Co-I

R01 0077911; (Martinez, PI)

04/01/2024-03/30/2029

NIH

\$3,573,739 Total Costs

“Role of tissue transglutaminase in mediating cerebrovascular inward remodeling and brain hypoperfusion in cardiometabolic disease”

Major Goals: To determine the role of tissue transglutaminase in the development of vascular related cognitive decline using a swine model of cardiometabolic disease.

Role: Co-I

R01 0087219; (Sun, PI)

12/01/2025-11/30/2030

NIH

\$2,127,438 Total Costs

“Progression of Radiation-Induced Heart Disease: From Microvascular Dysfunction to Regional Myocardial Function Abnormalities”

Major Goals: To develop a porcine model of radiation-induced heart disease for establishing improved magnetic resonance imaging of microvascular dysfunction and regional myocardial function abnormalities.

Role: Co-I

AHA 0081957 (Sun, PI)

“Assessing GLP-1 Effects on Heart and Brain via Advanced MR Imaging in a Swine Model of Metabolic Syndrome”

Major Goals:

Role: Co-I

SBIR 0078216 P3PLUS INC; (Liu, PI)

12/01/2024-11/30/2027

NIH

\$845,911 Total Costs

“LM22-P3: a novel anti-inflammatory therapeutic for prevention of severe COVID-19 disease”

Major Goals: To study the pharmacokinetics (PK) and toxicology of LM22-P3 to determine the minimal effective dose of LM22-P3 on pulmonary inflammation and survival. To evaluate the potential toxicity of LM22-P3, we will perform both acute and chronic toxicity studies of LM22-P3 in swine.

Role: Co-I

R44 HI172370; (Ruiz-Lozano, PI; Tharp, PI on subcontract) 10/01/2024-11/30/2026
 NIH
 "Subcutaneous Delivery of CardioTherapeutic Biologics"
 Major Goals: To test the efficacy of subcutaneous delivery of a novel protein therapeutic for treating heart failure with reduced ejection fraction in infarcted swine.
 Role: PI on subcontract

Completed

University of Missouri; Internal (Tharp, PI) 12/03/2021-12/31/2024
 College of Veterinary Medicine COR Faculty Research Program \$18,000 Direct Costs
 "Determining the Mechanisms Underlying the Therapeutic Action of Furosemide on Pulmonary Venous Function in Horses with Exercise-Induced Pulmonary Hemorrhage"
 Major Goals: To elucidate the specific mechanism by which furosemide reduces the severity of exercise-induced pulmonary hemorrhage by determining its effect on equine pulmonary venous function.
 Role: PI

Edgewise Therapeutics, Inc.; (Tharp, PI) 09/20/2023-08/19/2024
 "Clinical Relevancy of Compound A in a Large Animal Model of HCM" \$144,678 Total Costs
 Major Goals: The goal of this project is to establish the efficacy of Compound A in a large animal model of hypertrophic cardiomyopathy using cardiac-gated magnetic resonance imaging (CMR).
 Role: PI on subcontract

Cardiac RSK3 Inhibitors, LLC; (Tharp, PI) 10/20/2023-7/30/2024
 "PBD Efficacy Study" \$246,516 Total Costs
 Major Goals: The goal of this project is to determine the appropriate viral dose of AAV9sc. PP2A/B56δ-directed anchoring disruptor peptide (AAV9.PBD) to examine its efficacy for treating heart failure with reduced ejection fraction in infarcted swine.
 Role: PI on subcontract

REGENCOR; (Tharp, PI) 08/01/2022-07/31/2024
 "FSTL1 Dose Response/Efficacy Study" \$839,928 Total Costs
 Major Goals: The goal of this project is to determine the appropriate dose of FSTL1 to examine biosafety and efficacy for treating heart failure with reduced ejection fraction in infarcted swine.
 Role: PI on subcontract

Cardiac RSK3 Inhibitors, LLC; (Tharp, PI) 06/20/2022-06/30/2024
 "SBIR: CRI New Virus Test & shmAKAP/RBD Efficacy Study" \$892,599 Total Costs
 Major Goals: The goal of this project is to determine the appropriate viral dose of AAV9sc. shmAKAP/RBD to examine its efficacy for treating heart failure with reduced ejection fraction in infarcted swine.
 Role: PI on subcontract

R44 HL158318-A1;(Cividini, PI; Tharp, PI - Phase 2 subcontract) 09/01/2021-08/31/2023
 NIH/NHLBI \$68,000 Total Costs
 Addendum: "PP2A Anchoring Disruptor Therapy in Heart Failure"
 Major Goals: The goal of this project is to develop a new therapy for heart failure based upon selectively targeting the anchoring of PP2A to the scaffold protein mAKAPβ.
 Role: PI on subcontract

University of Missouri; Internal (Tharp, PI)	11/01/2021-12/31/2022
MU Tier 1 Sequencing Grant Initiative	\$4,000 Direct Costs
"Transcriptomic Analysis of Coronary and Cerebral Vasculature in Ossabaw Swine with Cardio-Metabolic Heart Failure"	
Major goals: To determine differentially expressed vascular genes in HFpEF versus HFrEF swine models and identify how they are altered by female sex hormones or treatment with follistatin-like protein 1 (FSTL1).	
Role: PI	
R01 HL136386-01A1 (Bender, PI)	01/01/2018-11/30/2022
NIH/NHLBI	\$2,106,136 Direct Costs
"Mineralocorticoid receptor-dependent coronary vascular dysfunction in obesity"	
Major goals: To determine the role of mineralocorticoid receptors and voltage-dependent potassium channels on coronary artery structure and function in the setting of obesity.	
Role: Key Personnel	
2R44 HL097485-04A1 (Chen, PI)	05/15/2017-03/31/2022
NIH/NHLBI: SBIR Phase IIB Subcontract	\$1,007,682 Total Costs
"Improved long-term biocompatibility of coronary stents by plasma coating process"	
Major goals: Develop a superior plasma coating for stents	
Role: Key Personnel	
R44 HL097485-01A2 (Chen, PI)	09/1/2011-07/31/2014
NIH/NHLBI: SBIR	\$237,000 Direct Costs
"Improved long-term biocompatibility of coronary stents by plasma coating process"	
Major goals: Develop a superior plasma coating for stents	
Role: Key Personnel	
0610035Z (Tharp, PI)	01/01/2006-12/31/2007
American Heart Association Pre-Doctoral Fellowship	\$50,000
"Role of IK and TRP channels in coronary smooth muscle cell dedifferentiation, proliferation, and Migration"	
Major Goals: To determine the role of calcium-activated potassium channels and store-operated calcium channels on coronary smooth muscle cell phenotypic modulation.	
Role: Trainee	
HL07094 (Tharp, PI)	09/01/2003-08/31/2005
NIH Institutional Training Grant T32	\$51,905
Molecular and Biophysical Aspects of Cardiovascular Function and Adaptation Training Grant	
"Ion channel activity and atherosclerosis"	
Major Goals: To determine the role of both calcium and potassium channels in the development of coronary atherosclerosis.	
Role: Trainee	

VII. AWARDS AND HONORS:

2025: Invited for Oral Presentation – European Society for Microcirculation Biennial Meeting

- 2025: Invited to Co-Chair “Vasodilation of Microvessels from Bed to Bench and Back” Session at the European Society for Microcirculation Biennial Meeting
- 2025: Abstract Selected for Flask Talk Presentation at Cardiovascular Day 2024. *Presented by Eryn Wagoner, Doctoral Student*
- 2025: APS Barbara A. Horwitz and John M. Horowitz Outstanding Undergraduate Research Abstract Award, *Shannon Draper*
- 2024: Abstract Selected for Flash Talk Presentation at Cardiovascular Day 2024. *Presented by Taylor J. Kelty, Post-Doctoral Fellow*
- 2024: Abstract Selected for Oral Presentation at ERA 2024. *Presented by Alejandro R. Chade, NextGen Precision Health Collaborating Investigator*
- 2023: Abstract Selected for Oral Presentation and Published Proceeding at the American College of Veterinary Internal Medicine (ACVIM) Forum. *Presented by Kyle S. Townsend, Equine Internal Medicine*
- 2023: Abstract of Distinction Award – American Physiology Summit Cardiovascular Section
- 2023: Image featured on the cover of JCI Insight from published study: *“Insulin-like Growth Factor I Reduces Human-like Coronary Atherosclerosis.”*
- 2023: Selected for Oral Presentation – American Physiology Summit
- 2023: Poster of Distinction Award – American Physiology Summit Water and Electrolyte Homeostasis Section
- 2022: American Physiological Society ‘Excellence in Research Award’ for the published study: *“Distribution of cardiomyocyte-selective adeno-associated virus serotype 9 vectors in swine following intracoronary and intravenous infusion.”*
- 2022: First place presentation award, Missouri Physiological Society Annual Meeting, *Awarded to my trainee, Emily E. Hoffman*
- 2011: Selected for Oral Presentation – Experimental Biology
- 2008: Selected for Oral Presentation – Arteriosclerosis, Thrombosis, and Vascular Biology Conference
- 2006: American Heart Association Pre-Doctoral Fellowship Award
- 2006: Selected for Oral Presentation - FASEB Summer Smooth Muscle Research Conference
- 2006: Third place award advanced graduate student/post-doc presentation, CVM/Phi Zeta Research Day, University of Missouri – Columbia
- 2006: Graduate Student Association Superior Graduate Achievement Award, University of Missouri – Columbia
- 2006: Fourth place award graduate student poster presentation, Cardiovascular Day, University of Missouri - Columbia
- 2005: Selected for Oral Presentation – Cardiovascular Day, University of Missouri, Columbia
- 2005: First place award graduate student poster presentation, CVM/Phi Zeta Research Day, University of Missouri - Columbia
- 2004: First place award graduate student oral presentation, Central States Microscopy and Microanalysis Meeting, University of Missouri, Columbia
- 2004: First place award graduate student poster presentation, CVM/Phi Zeta Research Day, University of Missouri – Columbia
- 2003: NIH Molecular and Biophysical Aspects of Cardiovascular Function and Adaptation Training Grant Award
- 2002: McNair Scholar, University of Missouri-Columbia (1998-2002)
- 1998: Valedictorian, Dixon H.S., Dixon, MO

VIII. ORAL PRESENTATIONS/SEMINARS:

International/National/Regional Seminars

- May 2025* **Pathological Adaptations of Cerebral Vasculature in a Female Ossabaw Swine Model of Cardiometabolic Heart Failure with Preserved Ejection Fraction**
Invited Seminar at the European Society for Microcirculation Biennial Meeting, Szeged, Hungary
- May 2025* **Pathological Adaptations of Cerebral Vasculature in Female Ossabaw Swine Models of Cardiometabolic Heart Failure with Preserved and Reduced Ejection Fraction**
Invited Seminar at the University of Virginia, Charlottesville, VA
- January 2025* **Brains, Blood Vessels, & Hearts: Investigating Cardio-Cerebral Crosstalk using Pig Models of Heart Failure**
Invited Seminar at the Missouri Veterinary Medical Association Conference, Columbia, MO
- January 2025* **Brains, Blood Vessels, & Hearts: Investigating Cardio-Cerebral Crosstalk using Pig Models of Heart Failure**
Invited Seminar at Kansas State University
- June 2023* **Furosemide-Induced Dilation of Equine Pulmonary Veins as a Mechanism of Prophylaxis for Exercise-Induced Pulmonary Hemorrhage in Thoroughbreds**
American College of Veterinary Internal Medicine Forum, Philadelphia, PA
Presented by Kyle S. Townsend, Equine Internal Medicine
- April 2023* **A novel RSK3/mAKAP β signalosome-focused gene therapy inhibits developing heart failure in aortic-banded, Western diet-fed female Ossabaw swine**
APS Physiology Summit Meeting – Cardiovascular Science Symposium: *Hot Topics in Heart Transplant*. Long Beach, CA
- January 2020* **Exercise for the Workplace**
Missouri Veterinary Medical Association Conference, Columbia, MO
- April 2011* **Exercise Attenuates Reductions in Intimal Smooth Muscle K⁺, but not Ca²⁺ Currents in a Swine Model of Coronary Artery Disease**
Experimental Biology, Washington, D.C.
- April 2008* **Local Delivery of the K_{Ca}3.1 Blocker, TRAM-34, Prevents Acute Angioplasty-Induced Coronary Smooth Muscle Phenotypic Modulation and Limits Stenosis**
Arteriosclerosis, Thrombosis, and Vascular Biology Conference, Atlanta, GA
- August 2006* **IKCa1 is an Immediate Early Response Gene Mediating Coronary Smooth Muscle Phenotypic Modulation**
FASEB Summer Smooth Muscle Research Conference, Snowmass, CO
- November 2004* **Stary Wars: Using Laser Capture Microdissection (LCM) in the Battle against Atherosclerosis**

Central States Microscopy and Microanalysis Meeting,
University of Missouri, Columbia, MO

October 2001 **The Effect of Mechanical Overload on Functional Properties of Mouse Plantaris Muscle**
McNair Scholars National Conference, San Juan, Puerto Rico

Local Seminars

February 2025 **Brains, Blood Vessels, & Hearts: Investigating Cardio-Cerebral Crosstalk using Pig Models of Heart Failure**
Invited Seminar for Cardiology Grand Rounds, University of Missouri

May 2024 **Brains, Blood Vessels, & Hearts: Investigating Cardio-Cerebral Crosstalk using Pig Models of Heart Failure**
Department of Biomedical Sciences, University of Missouri, Columbia, MO

March 2024 **A Tale of Two Heart Failures from a Vascular Perspective**
Cardiovascular Day, University of Missouri, Columbia, MO

March 2024 **A Pathway to Precision Medicine: Coronary and Cerebral Arterial Transcriptomic Analyses Reveal Distinct Pathophysiological Adaptations in Two Clinically Relevant Porcine Models of Heart Failure**
Cardiovascular Day, University of Missouri, Columbia, MO, *Presented by Post-Doctoral Fellow, Taylor J. Kelty*

February 2024 **Furosemide-Induced Dilation of Pulmonary Veins as a Prophylactic for Exercise-Induced Pulmonary Hemorrhage in Horses.**
Comparative Medicine Program Seminar, University of Missouri, Columbia, MO, *Presented by my trainee, Emily E. Hoffman.*

October 2023 **Porcine, Equine, and Sunshine...Oh My! From Obese Pigs to Athletic Horses: The Study of Heart and Vascular Physiology with a Smile.**
Department of Medical Pharmacology and Physiology, University of Missouri, Columbia, MO

February 2023 **No More Horsing Around: Furosemide-Induced Dilation of Equine Pulmonary Veins as a Mechanism of Prophylaxis for Exercise-Induced Pulmonary Hemorrhage**
Department of Biomedical Sciences, University of Missouri, Columbia, MO

August 2022 **Exercise-Induced Pulmonary Hemorrhage (EIPH): Furosemide and Pulmonary Veins**
Equine Grand Rounds, College of Veterinary Medicine, University of Missouri, Columbia, MO

November 2011 **Potassium and Calcium Channel Currents in a Swine Model of Coronary Atherosclerosis**
Department of Biomedical Sciences, University of Missouri, Columbia, MO

November 2007 **Role of K_{Ca}3.1 in Coronary Smooth Muscle Cell Phenotypic Modulation**

Department of Biomedical Sciences, University of Missouri,
Columbia, MO

- March 2007* **Role of IKCa1 in Coronary Smooth Muscle Phenotypic Modulation following Balloon Angioplasty**
Department of Biomedical Sciences, University of Missouri,
Columbia, MO
- February 2006* **Role of IKCa1 in Coronary Smooth Muscle Phenotype Modulation: Relation to Atherosclerosis and Post-Angioplasty Restenosis**
Department of Biomedical Sciences, University of Missouri,
Columbia, MO
- February 2005* **Functional Upregulation of IK Channels is Necessary for Coronary Smooth Muscle Dedifferentiation and Migration**
Cardiovascular Day, University of Missouri, Columbia, MO
- February 2005* **Functional Upregulation of Intermediate-Conductance Calcium-Activated Potassium Channels is Necessary for Coronary Smooth Muscle Cell Dedifferentiation and Migration**
Department of Biomedical Sciences, University of Missouri,
Columbia, MO
- March 2004* **Ion Channel Expression and Activity during Vascular Smooth Muscle Phenotypic Modulation**
Department of Biomedical Sciences, University of Missouri, Columbia, MO

IX. BIBLIOGRAPHY:

Peer-Reviewed Articles

1. Alam P, **Tharp DL**, Bowles HJ, Grisanti L, Bui H, Bender SB, Bowles DK. Genetic silencing of KCa3.1 inhibits atherosclerosis in ApoE null mice. Submitted *ATVB* Dec 2024
2. Sun C, Goyal N, Wang Y, **Tharp DL**, Kumar S, Altes TA. Conditional Diffusion-Generated Super Resolution for Myocardial Perfusion MRI. *Frontiers in Cardiovascular Medicine*. Submitted with Revisions Dec 2024.
3. Chade AR, **Tharp DL**, Sitz R, McCarthy EA, Shivam K, Kazeminia S, Eirin A. A new model of chronic kidney disease, metabolic derangements, and heart failure with preserved ejection fraction in aging swine. *Am J Nephrol*. 2025 Jan 2:1-20.
4. Chade AR, Sitz R, Kelty TJ, McCarthy E, **Tharp DL**, Rector RS, Eirin A. Chronic Kidney Disease and Left Ventricular Diastolic Dysfunction (CKD-LVDD) Altered Cardiac Expression of Mitochondria-Related Genes in Swine. *Translational Research*. Jan. 2024
5. Kelty TJ, Taylor CL, Wieschhaus NE, Thorne PK, Amin AR, Mueller CM, Olver TD, **Tharp DL**, Emter CA, Caulk AW, Rector RS. Western Diet-Induced Obesity Results in Brain Mitochondrial Dysfunction in Female Ossabaw Swine. *Frontiers in Molecular Neuroscience*. Nov 2023.

6. Sukhanov S, Higashi Y, Yoshida T, Danchuk S, Alfortish M, Goodchild T, Scarborough A, Sharp T, Jenkins JS, Garcia D, Ivey J, **Tharp DL**, Schumacher J, Rozenbaum Z, Kolls JK, Bowles D, Lefer D, Delafontaine P. Insulin-like Growth Factor I Reduces Human-like Coronary Atherosclerosis. *JCI Insight*. Jan 2023.
7. Li J, Kelly SC, Ivey JR, Thorne PK, Yamada KP, Aikawa T, Mazurek R, Turk JR, Silva KAS, Amin AR, **Tharp DL**, Mueller CM, Thakur H, Leary EV, Domeier TL, Rector RS, Fish K, Cividini F, Ishikawa K, Emter CA, and Kapiloff MS. Distribution of cardiomyocyte-selective adeno-associated virus serotype 9 vectors in swine following intracoronary and intravenous infusion. *Physiological Genomics* 54: 261-272, Jul 2022.
Editorial: The heart is where AAV9 lies. Frank Park, 11 Jul 2022.
Editorial: Highlighting recent impactful publications in Physiological Genomics, Hilary A. Collier, 15 Nov 2022.
8. Zaid M, Sala L, Ivey JR, **Tharp DL**, Mueller CM, Thorne PK, Kelly SC, Silva K, Amin AR, Ruiz-Lozano P, Kapiloff MS, Despins L, Popescu M, Keller J, Skubic M, Ahmad S, Emter CA, Guidoboni G. Mechanism-driven modeling to aid noninvasive monitoring of cardiac function via ballistocardiography. *Frontiers in Medical Technology*. 16;4:788264, Feb 2022.
9. **Tharp DL**, Bowles DK. KCa3.1 Inhibition Decreases Size and Alters Composition of Atherosclerotic Lesions Induced by Low, Oscillatory Flow. *Artery Research*. 27(2):93-100, Jun 2021.
10. Goodwill AG, Baker HE, Dick GM, McCallinhart PE, Bailey CA, Brown SM, Man JJ, **Tharp DL**, Clark HE, Blaettner BS, Jaffe IZ, Bowles DK, Trask AJ, Tune JD, Bender SB. Mineralocorticoid receptor blockage normalizes coronary resistance in obese swine independent of functional alterations in Kv channels. *Basic Research in Cardiology*. 20;116(1):35, May 2021.
11. Fisher D, Mosaval F, **Tharp DL**, Bowles DK, Henkel R. Oleanolic acid causes reversible contraception in male mice by increasing the permeability of the germinal epithelium. *Reproduction, Fertility, and Development*. 31(10):1589-1596, 2019.
12. Aragonez CG, de Beer VJ, **Tharp DL**, Bowles DK, Laughlin MH, Merkus D, Duncker DJ, Bender SB. Differential impact of severe familial hypercholesterolemia on regional skeletal muscle and organ blood flows during exercise: Effects of PDE5 inhibition. *Microcirculation*. 26(6):e12539, 2019.
13. **Tharp DL**, Masseau I, Ivey J, Laughlin MH, Bowles DK. Endurance exercise training does not limit coronary atherosclerosis in familial hypercholesterolemic swine. *Physiological Reports*. 7(4):e14008, 2019.
14. Bender SB, de Beer VJ, **Tharp DL**, Bowles DK, Laughlin MK, Merkus D, Duncker DJ. Severe familial hypercholesterolemia impairs the regulation of coronary blood flow and oxygen supply during exercise. *Basic Research in Cardiology*. 111(6):61, 2016.
15. Gole HK, **Tharp DL**, Bowles DK. Upregulation of intermediate-conductance Ca^{2+} -activated K^{+} channels (KCNN4) in porcine coronary smooth muscle requires NADPH oxidase 5 (NOX5). *PLoS One*. 9(8):e105337, 2014.
16. **Tharp DL**, Ivey JR, Shaw RL, Bowles DK. Ovariectomy increases L-type Ca^{2+} channel activity in porcine coronary smooth muscle. *Menopause*. 21(6):661-8, 2014.

17. Bender SB, de Beer VJ, **Tharp DL**, van Deel ED, Bowles DK, Duncker DJ, Laughlin MH, Merkus D. Reduced contribution of endothelin to the regulation of systemic and pulmonary vascular tone in severe familial hypercholesterolemia. *The Journal of Physiology*. 592(8): 1757-69, 2014.
18. de Beer VJ, Merkus D, Bender SB, **Tharp DL**, Bowles DK, Duncker DJ, Laughlin MH. Familial hypercholesterolemia impairs exercise-induced systemic vasodilation due to reduced NO bioavailability. *Journal of Applied Physiology*. 115(12):1767-76, 2013.
19. Emter CA, **Tharp DL**, Ivey JR, Ganjam VK, Bowles DK. Low-intensity interval exercise training attenuates coronary vascular dysfunction and preserves Ca^{2+} -sensitive K^{+} current in miniature swine with LV hypertrophy. *American Journal of Physiology - Heart and Circulatory Physiology*. 301(4):H1687-94, 2011.
20. Long X, **Tharp DL**, Georger MA, Silvano OJ, Lee MY, Wamhoff BR, Bowles DK, Miano JM. The smooth muscle cell-restricted KCNMB1 ion channel subunit is a direct transcriptional target of serum response factor and myocardin. *The Journal of Biological Chemistry*. 284(48):33671-82, 2009.
21. **Tharp DL**, Masseau I, Ivey J, Ganjam VK, Bowles DK. Endogenous testosterone attenuates neointima formation after moderate coronary balloon injury in male swine. *Cardiovascular Research*. 82(1):152-60, 2009.
22. **Tharp DL**, Wamhoff BR, Wulff H, Cheong A, Beech DJ, and Bowles DK. Local delivery of the $\text{KCa}3.1$ blocker, TRAM-34, prevents acute angioplasty-induced coronary smooth muscle phenotypic modulation and limits stenosis. *Arteriosclerosis, Thrombosis, and Vascular Biology*. 28(6):1084-9, 2008.
Editorial: Preventing stenosis by local inhibition of $\text{KCa}3.1$. A finger on phenotypic switching. Karen Lounsbury, *Arteriosclerosis, Thrombosis, and Vascular Biology*, 2008.
23. **Tharp DL**, Wamhoff BR, Turk JR, and Bowles DK. Upregulation of intermediate-conductance Ca^{2+} -activated K^{+} channel ($\text{IKCa}1$) mediates phenotypic modulation of coronary smooth muscle. *American Journal of Physiology - Heart and Circulatory Physiology*. 291(5):H2493-503, 2006.
24. Maddali KK, Korzick DH, **Tharp DL**, and Bowles DK. PKCdelta mediates testosterone-induced increases in coronary smooth muscle Cav1.2. *The Journal of Biological Chemistry*. 280(52):43024-9, 2005.
25. Heaps CL, **Tharp DL**, and Bowles DK. Hypercholesterolemia abolishes voltage-dependent K^{+} channel contribution to adenosine-mediated relaxation in porcine coronary arterioles. *American Journal of Physiology - Heart and Circulatory Physiology*. 288(2):H568-76, 2005.
26. Bowles DK, Ganjam VK, Rubin LJ, Maddali KK, **Tharp DL**, Turk JR, and Heaps CL. Endogenous testosterone increases L-type Ca^{2+} channel expression in porcine coronary smooth muscle. *American Journal of Physiology - Heart and Circulatory Physiology*. 287(5): H2091-H2098, 2004.

Invited Reviews

1. Laughlin MH, Yang HT, **Tharp DL**, Rector RS, Padilla J, Bowles DK. Vascular cell transcriptomic changes to exercise training differ directionally along and between skeletal muscle arteriolar trees. *Microcirculation*. 24(2), 2017.
2. **Tharp DL**, Bowles DK. The intermediate-conductance Ca^{2+} -activated K^{+} channel (KCa3.1) in vascular disease. *Cardiovascular and Hematological Agents in Medicinal Chemistry*. 7(1):1-11, 2009.

Published Proceedings

1. Kile S. Townsend, DVM, MS, DACVIM-LA; Pamela K. Thorne, MPH; Emily E. Hoffman, Lynn M. Martin, MPH, DVM, DACVIM-LA; Philip J. Johnson, BVSc, MS, MRCVS, DACVIM-LA, DECEIM; Warwick M. Bayly, BVSc, MA, PhD, DACVIM-LA; and **Darla L. Tharp, PhD**. Furosemide-Induced Dilation of Equine Pulmonary Veins as a Mechanism of Prophylaxis for Exercise-Induced Pulmonary Hemorrhage in Thoroughbreds. ACVIM Forum, Philadelphia, PA, 2023. **Selected for Oral Presentation.**
2. Changyu Sun, **Darla L. Tharp**, Craig A. Emter, Talissa Altes. Self-supervised denoising of pulmonary perfusion imaging in human subjects and swine. ISMRM Annual Meeting, Toronto, ON, Canada, 2023.

Abstracts

1. Eryn P. Wagoner, Taylor J. Kelty, Pamela K. Thorne, Michael S. Kapiloff, **Darla L. Tharp**. Distinct Transcriptomic Adaptations in Coronary and Cerebral Arterioles in Female Ossabaw Swine with Cardiometabolic Heart Failure Treated with a RSK3/mAKAP β Gene Therapy. American Physiology Summit, Baltimore, Maryland, April 2025.
2. Shannon E. Draper, Taylor J. Kelty, Pamela K. Thorne, **Darla L. Tharp**. Coronary and Cerebral Arteriole Pathophysiological and Transcriptomic Adaptations in Intact vs. Ovariectomized Ossabaw Pigs with Cardiometabolic Heart Failure. American Physiology Summit, Baltimore, Maryland, April 2025.
3. Changyu Sun, Neha Goyal, **Darla Tharp**, Senthil Kumar, Talissa A. Altes. Conditional Diffusion-Generated Super-Resolution for Myocardial Perfusion MRI. ISMRM 2025.
4. Craig A. Emter, Sarah Lehman, Lindsey Lee, Emily DiNatale, Angela Peter, Marcus Henze, David A. Bluemke, **Darla L. Tharp**, Steve Roof, Carlos L. Del Rio, Marc J. Semigran, Alan Russell, Marc Evanchik. Chronic administration of EDG-7500, a novel sarcomere modulator, prevents increases in cardiac mass, T1 relaxation time, and left ventricular end diastolic pressure in Yucatan mini-pig model of genetic non-obstructive hypertrophic cardiomyopathy. American Heart Association Scientific Sessions, Chicago, Illinois, November 2024.
5. Shannon E. Draper, Taylor J. Kelty, Pamela K. Thorne, **Darla L. Tharp**. Coronary and Cerebral Pathophysiological Adaptations in Intact vs. Ovariectomized Pigs with Heart Failure. National Veterinary Scholars Symposium, St. Paul, Minnesota, August 2024.

6. Emily E. Hoffman, Pamela K. Thorne, Kile S. Townsend, Lynn M. Martin, Philip J. Johnson, Warwick M. Bayly, and **Darla L. Tharp**. Furosemide-induced venodilation by inhibition of Na⁺, K⁺, Cl⁻ cotransporter-1 (NKCC1) as a mechanism for mitigation of exercise-induced pulmonary hemorrhage. CVM Research Day, May 2024. **Emily E. Hoffman: Second Place Presentation Award.**
7. Alejandro R. Chade, Rhys Sitz, Elizabeth McCarthy, **Darla L. Tharp**, Gene L. Bidwell III, and Alfonso Eirin. Cardiac targeted VEGF therapy improves cardio-renal pathophysiology in a novel model of chronic kidney disease and heart failure with preserved ejection fraction. *ERA Meeting*, Stockholm, Sweden, 2024. **Selected for Oral Presentation.**
8. Talyor J. Kelty, Pamela K. Thorne, Christina M. Mueller, Shannon C. Kelly, Amira R. Amin, R. Scott Rector, Craig A. Emter, and **Darla L. Tharp**. A pathway to precision medicine: coronary and cerebral arterial transcriptomic analysis reveals distinct pathophysiological adaptations in two clinically relevant porcine models of heart failure. APS Physiology Summit, Long Beach CA, 2024.
9. Emily E. Hoffman, Pamela K. Thorne, Kile S. Townsend, Lynn M. Martin, Philip J. Johnson, Warwick M. Bayly, and **Darla L. Tharp**. Furosemide-induced dilation of pulmonary veins as a prophylactic for exercise-induced pulmonary hemorrhage. National Veterinary Scholars Symposium, Puerto Rico, August 2023.
10. **Darla L. Tharp**, Jinliang Li, Amira R. Amin, Pamela K. Thorne, Christina M. Mueller, Federico Cividini, Michael S. Kapiloff, and Craig A. Emter. A novel RSK3/mAKAP β signalosome-focused gene therapy inhibits developing heart failure in aortic-banded, Western diet-fed female Ossabaw swine. APS Physiology Summit, Long Beach, CA, 2023. **Abstract of Distinction Award – Cardiovascular Section, Selected for Oral Presentation**
11. Amira Amin, Shannon C. Kelly, Pamela K. Thorne, **Darla L. Tharp**, Christina M. Mueller, Kang An, Emily V. Leary, and Craig A. Emter. Multivariable regression modeling identifies relationships between DUSP-4, MMP-2, MMP-14, and TIMP-4 mRNA with left ventricular total collagen protein variation, independent of heart failure phenotype, in aortic banded swine. APS Physiology Summit, Long Beach, CA, 2023. **Poster of Distinction Award – Water and Electrolyte Homeostasis Section**
12. **Darla L. Tharp**, Amira R. Amin, Pamela K. Thorne, Christina M. Mueller, Jinliang Li, T. Dylan Olver, Michael S. Kapiloff, Craig A. Emter. Decreased arterial elastance following a novel RSK3/mAKAP β gene therapy is associated with improved bradykinin-dependent pial artery dilation in aortic-banded, Western diet-fed female Ossabaw swine. APS Physiology Summit, Long Beach, CA, 2023.
13. Sergiy Sukhanov, Yusuke Higashi, Tadashi Yoshida, Svitlana Danchuk, Mitzi Alfortish, Traci Goodchild, Amy Scarborough, Thomas Sharp, Jeffrey Schumacher, Douglas K. Bowles, Jan Ivey, **Darla L. Tharp**, Zach Rozenbaum, James S. Jenkins, Daniel Garcia, David Lefer, Jay K Kolls,

Patrice Delafontaine. Insulin-like growth factor I reduces human-like coronary atherosclerosis. *Am. J. of Med. Sci.* Volume 365, Issue S2. Feb 2023.

14. Sergiy Sukhanov, Yusuke Higashi, Tadashi Yoshida, Svitlana Danchuk, Mitzi Alfortish, Traci Goodchild, Amy Scarborough, Thomas Sharp, Jeffrey Schumacher, Douglas K. Bowles, Jan Ivey, **Darla L. Tharp**, Zach Rozenbaum, James S. Jenkins, Daniel Garcia, David Lefer, Jay K Kolls, Patrice Delafontaine. Insulin-like growth factor I reduces atherosclerosis in Rapacz pigs. Abstract 11537 for American Heart Association Scientific Sessions, Chicago IL, Nov 4-8, 2022, *Circulation*, 2022, 146 (S18).
15. Jinliang Li, Amira R. Amin, **Darla L. Tharp**, Pamela K. Thorne, Christina M. Mueller, Federico Cividini, Craig A. Emter, and Michael S. Kapiloff. A novel gene therapy inhibits the development of heart failure in an Ossabaw swine model of cardiometabolic heart failure. Stanford-Cornell Cardiovascular Research Symposium. Stanford University, Palo Alto, CA, 2022.
16. Emily E. Hoffman, Pamela K. Thorne, Philip J. Johnson, Kile S. Townsend, Lynn M. Martin, Warwick M. Bayly, Craig A. Emter, and **Darla L. Tharp**. Furosemide-induced dilation of pulmonary veins as a prophylactic for exercise-induced pulmonary hemorrhage. Missouri Physiological Society Meeting, September 2022. **Emily E. Hoffman: First Place Presentation Award.**
17. **Darla L. Tharp**, Shannon C. Kelly, Amira Amin, Kleiton A. S. Silva, Pamela K. Thorne, Christina M. Mueller, Jan R. Ivey, T. Dylan Olver, Pilar Ruiz-Lozano, and Craig A. Emter. Hypoglycosylated Follistatin-Like 1 Attenuates the Loss of Coronary and Cerebral Vascular Functional Capacity in Ossabaw Swine with Cardiometabolic Heart Failure with Reduced Ejection Fraction. *FASEB J.* 36:s1:R6025, May 2022.
18. Emily E. Hoffman, Pamela K. Thorne, Philip J. Johnson, Kile S. Townsend, Lynn M. Martin, Warwick M. Bayly, Craig A. Emter, and **Darla L. Tharp**. Furosemide-induced dilation of pulmonary veins as a prophylactic for exercise-induced pulmonary hemorrhage. National Veterinary Scholars Symposium. Madison, WI August 2022.
19. Adam G. Goodwill, Hana E. Baker, Gregory M. Dick, Patricia E. McCallinhart, Chastidy A. Bailey, Joshua J. Man, **Darla L. Tharp**, Iris Z. Jaffe, Douglas K. Bowles, Aaron J. Trask, Johnathan D. Tune, Shawn B. Bender. Mineralocorticoid receptor blockade normalizes coronary resistance in obese swine independent of functional alterations in Kv channels. *FASEB J*, Volume 35. First published: May 2021.
20. Douglas K. Bowles, **Darla L. Tharp**. KCa3.1 contributes to atherosclerotic lesion development induced by low, oscillatory flow. *FASEB J*. Volume 33, Issue S1. First published: April 2019.
21. Douglas K. Bowles, **Darla L. Tharp**, Jan Ivey, M. Harold Laughlin. Endurance exercise training does not limit coronary atherosclerosis in familial hypercholesterolemic swine. *FASEB J*. Volume 33, Issue S1. First published: April 2019
22. Christian G. Aragonez, Vincent J. de Beer, **Darla L. Tharp**, Douglas K. Bowles, M. Harold Laughlin, Daphne Merkus, Dirk J. Duncker, Shawn B. Bender. Differential impact of severe familial hypercholesterolemia on regional skeletal muscle and organ blood flows during exercise: effects of PDE5 inhibition. *FASEB J*. Volume 33, Issue S1. First published: April 2019

23. **Darla L. Tharp**, Zhe Sun, Gerald A. Meininger, Douglas K. Bowles. KCa3.1 Inhibition Decreases Integrin/Extracellular Matrix Interaction in Vascular Smooth Muscle. *FASEB J.* Volume 30, Issue S1. First published: April 2016
24. Hsiao-Tung Yang, Pamela K. Thorne, **Darla L. Tharp**, Douglas K. Bowles, M. Harold Laughlin. Ankrd: novel modulator of skeletal muscle vascular adaptation following femoral artery occlusion. *Proc Physiol Soc* 37, PCA347. 2016
25. **Darla L. Tharp**, Douglas K. Bowles. KCa3.1 inhibition decreases size and alters composition of atherosclerotic lesions induced by low, oscillatory flow. *FASEB J.* Volume 29. First Published: April 2015
26. Vincent J. de Beer, Shawn B. Bender, Daphne Merkus, Elza D. Van Deel, **Darla L. Tharp**, M. Harold Laughlin, Douglas K. Bowles, Dirk J. Duncker. Coronary microvascular dysfunction in a porcine model of familial hypercholesterolemia results in perturbations of myocardial oxygen balance at rest and during exercise. *Cardiovascular Research.* Volume 103. First published: July 2014.
27. **Darla L. Tharp**, Jan R. Ivey, Douglas K. Bowles. Exercise alone limits reductions in intimal smooth muscle K⁺ current in a swine model of coronary artery disease. *FASEB J.* Volume 26, Issue S1. First published: April 2012
28. Shawn B. Bender, Vincent J. de Beer, **Darla L. Tharp**, Douglas K. Bowles, Dirk J. Duncker, M Harold Laughlin, Daphne Merkus. Blunted exercise-induced vasodilation in familial hypercholesterolemic swine does not involve enhanced ET-1-mediated vasoconstriction. *FASEB J.* Volume 26, Issue S1. First published: April 2012
29. Vincent J. de Beer, Daphne Merkus, Shawn B. Bender, **Darla L. Tharp**, Jan R. Ivey, Douglas K. Bowles, Dirk J. Duncker, M Harold Laughlin. Reduced NO Bioavailability Hampers Exercise Induced Vasodilation in Familial Hypercholesterolemic Swine. *FASEB J.* Volume 26, Issue S1. First published: April 2012
30. **Darla L. Tharp**, Jan R. Ivey, Doug K. Bowles. Exercise attenuates reductions in intimal smooth muscle K⁺, but not Ca²⁺ currents in a swine model of coronary artery disease. *FASEB J.* Volume 25, Issue S1. First published: April 2011
31. Shawn B. Bender, Daphne Merkus, Vincent J. de Beer, **Darla L. Tharp**, Dirk J. Duncker, M Harold Laughlin, Douglas K. Bowles. Blunted pulmonary dilation during exercise in familial hypercholesterolemic swine does not involve endothelin-1. *FASEB J.* Volume 25, Issue S1. First published: April 2011
32. Tammy L. Strawn, Jan R. Ivey, **Darla L. Tharp**, Manavjot Sidhu, Douglas K. Bowles, Daniel A. Lawrence, William P. Fay. Development and Characterization of a Large Animal Model to Study the Role of Plasminogen Activator Inhibitor-1 in Postangioplasty Coronary Artery Remodeling *ATVB.* Vol 30 Issue 11, Nov 2010

33. Craig A. Emter, **Darla L. Tharp**, Jan Ivey, and Douglas K. Bowles. Enhanced coronary ET-1 responsiveness and altered K^+ channel Ca^{2+} sensitivity in aortic-banded miniature swine is attenuated by aerobic interval training. *FASEB J.* 24: 1034.5, Apr 2010.
34. Craig A. Emter, Jan Ivey, **Darla L. Tharp**, Douglas K. Bowles. Testosterone Replacement Alters Coronary Vascular Function in Yucatan Miniature Swine. American Physiological Society- Sex Steroids and Gender in Cardiovascular-Renal Physiology and Pathophysiology Conference 2009. Broomfield, CO, July 2009.
35. Xiaochun Long, **Darla L. Tharp**, Brian R. Wamhoff, Douglas K. Bowles, Joseph M. Miano. SRF-Myocardin-Dependent Regulation of a Smooth Muscle-Restricted Ion Channel, *ATVB*. Volume 29, Issue 7, June 2009.
36. **Darla L. Tharp**, Brian R. Wamhoff, Heike Wulff, Girija Raman, Alex Cheong, Douglas K. Bowles. Local Delivery of the $KCa_{3.1}$ Blocker, TRAM-34, Prevents Acute Angioplasty-Induced Coronary Smooth Muscle Phenotypic Modulation and Limits Stenosis *ATVB*. Vol. 28, Issue 6, June 2008.
37. **Darla L. Tharp**, Brian R. Wamhoff, Jennifer L. Casati, Jim R. Turk, Douglas K. Bowles. TRAM-34 coated balloons prevent smooth muscle phenotypic modulation following porcine coronary angioplasty. *FASEB J.* Volume 21, Issue 6. First published: 01 April 2007
38. **Darla L. Tharp**, Brian R. Wamhoff, Jim R. Turk, Douglas K. Bowles. $IKCa_1$ is an immediate early response gene mediating coronary smooth muscle phenotypic modulation. *FASEB J.* Volume 20, Issue 5. First published: 07 March 2006
39. Pranita Katwa, **Darla L. Tharp**, and Douglas K. Bowles. Testosterone inhibits migration of porcine coronary smooth muscle cells via PKC. *FASEB J.* Issue 19, Abstract #908.5, 2005.
40. **Darla L. Tharp** and Douglas K. Bowles. Functional upregulation of intermediate-conductance calcium-activated potassium channels is necessary for smooth muscle cell dedifferentiation and migration. *FASEB J.* Issue 19, Abstract #918.8, 2005.
41. Douglas K. Bowles, Venkateseshu K. Ganjam, Leona J. Rubin, Kamala K. Maddali, **Darla L. Tharp**, Rob K. Mester, and Cris L. Heaps. Endogenous testosterone increases expression and activity of L-type Ca^{2+} channels in coronary smooth muscle. *FASEB J.* Issue 18, Abstract #200.12, 2004.
42. **Darla L. Tharp**, Brian R. Wamhoff, and Douglas K. Bowles. Effects of cyclosporine A on vascular smooth muscle L-type calcium channel activity and gene expression. *FASEB J.* 18, Abstract #829.2, 2004.
43. F. Steven Korte, Lucas L. Linn, **Darla L. Tharp**, Eric A. Mokolke, Michael S. Sturek, and Kerry S. McDonald. Basal phosphorylation of cardiac myofibrillar proteins is decreased in diabetic hyperlipidemic pigs. *Biophys J.* 80(1 Pt 2):260, 2001.

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Google Scholar: <https://scholar.google.com/citations?user=eDEJa9sAAAAJ&hl=en&authuser=1>

X. SERVICE ACTIVITIES:

Department/Center

2024-present: GPAC Member
2024: NextGen Post-Doctoral Fellows Application Reviewer
2024: Applications Reviewer, Maurice Harold Laughlin Scholarship Committee
2020-2021: Co-director, Biomedical Sciences Histopathology Laboratory
2004: Secretary, Biomedical Sciences Graduate Student Organization

Division/College

2023-2024: Poster Judge, Cardiovascular Day
2019-2024: Poster Judge, College of Veterinary Medicine Research Day
2023-2024: CVM Open House Volunteer, Biomedical Sciences Table
2016: Grant Reviewer, College of Veterinary Medicine Phi Zeta Graduate/Professional Students
2013-2018: VET Networking Participant Volunteer

University of Missouri Campus

2020-2022: Panelist – Biochemistry Club Faculty Panel
2003-2005: Student Representative, Graduate Student Association

State/Regional/International

2023-present: American Physiological Society Chapter Advisory Committee Member
2024: Past-President, Missouri Physiological Society
2023: President, Missouri Physiological Society
2022-2023: Chair, Missouri Physiological Society Annual Meeting Committee
2022: President-Elect, Missouri Physiological Society
2021: Recruitment and Meeting Coordinator, Missouri Physiological Society

Professional Memberships

American Physiological Society since 2005
American Heart Association since 2005
Missouri Physiological Society since 2021

Grant Reviews

2025: American Heart Association Career Development Award Vascular 3
2024: External Grant Reviewer for Natural Sciences and Engineering Research Council of Canada (NSERC)

Editorial Boards

2023: Frontiers in Physiology – Vascular Physiology

Journal Reviews

Journal of Molecular and Cellular Cardiology since 2008
American Journal of Physiology: Heart & Circulatory Physiology since 2009
Hypertension since 2009

Arteriosclerosis, Thrombosis, and Vascular Biology since 2011
Journal of the American College of Cardiology since 2022
Journal of Applied Physiology since 2022
Frontiers in Physiology since 2022
American Journal of Veterinary Research since 2023
Physiological Reviews since 2025
Physiological Reports since 2025

XI. TEACHING ACTIVITIES:

Graduate and Professional

<i>August 2007 To December 2020</i>	Instructor, Cellular and Molecular Biology, College of Veterinary Medicine, University of Missouri, Columbia, MO <ul style="list-style-type: none">- Prepared course notes and lecture material- Provided six lectures to ~90-130 Veterinary and Graduate students- Prepared two quizzes and two exams- Proctored and graded two quizzes and two exams- Recorded lectures for online reference
November 2020	Guest Lecturer, Exercise Physiology, Course Director: Frank Booth. Exercise Training and Coronary Atherosclerosis in Familial Hypercholesterolemic Swine
Fall 2023	Guest Lecturer, Multidisciplinary Approaches, Course Director: Salmon Hyder. Utilizing Pressure-Volume Loops to Assess Cardiac Function in Heart Failure

Undergraduate

<i>August 2000 To December 2000</i>	Undergraduate Teaching Assistant, General Biology Course, Department of Biological Sciences, University of Missouri, Columbia, MO <ul style="list-style-type: none">- Gave pre- and post-laboratory lectures- Assisted with laboratory set-up and clean-up- Directed and assisted with experiments- Proctored and graded all quizzes and exams
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Trainees

Mentor – Graduate Students

2024-present: Eryn Wagoner, Doctoral Student, Biomedical Sciences, Advisor
2024-present: Soraya Nekouian, Doctoral Student, Biomedical Sciences, Thesis Committee member

Supervisor – Veterinary Research Scholars Program

2024-present: Shannon Draper, Pre-Veterinary Scholar
2022-2023: Emily E. Hoffman, Veterinary Student

Mentor – American College of Internal Medicine Forum Talk and Published Proceeding

2023: Kyle S. Townsend, Equine Internal Medicine

XII. TRAINING ACTIVITIES

2024: PI Leadership Program, Division of Research, Innovation, & Impact, University of Missouri

XIII: COMMUNITY OUTREACH AND VOLUNTEER ACTIVITIES:

Volunteer Activities

Fitness for a Cure Fundraiser for the American Cancer Society, 2017-2025

Daniel Boone Little League Baseball All-Star Coordinator, 2013-2015

Daniel Boone Little League Baseball Player Agent, 2013-2015

Daniel Boone Little League Baseball Coach, 2011-2015

Day of Caring – Clean up Columbia, MO, 2002

Healthcare Volunteer, Acute Care and Short Stay Facility, University of Missouri Healthcare, Columbia, MO, 2000-2001

American Red Cross Volunteer, 1998-1999

Certifications/Positions

CRP Certified: November 2017 - Present

Les Mills BodyPump Certified Instructor. November 2018 – Present

Les Mills BodyFlow Certified Instructor. January 2018 - Present

Les Mills BodyAttack Certified Instructor. February 2017 - Present

Wilson's Groups Fitness Master Coach. January 2024-Present

Wilson's Group Fitness Coach. January 2019-2023

Wilson's Group Fitness Instructor. January 2018-December 2018

Wilson's Group Fitness Recruit. January 2017-December 2017