

Sauyeh Kathleen Zamani, Ph.D.

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Education

Ph.D. University of Texas at Arlington, 2019 - 2024
Department of Kinesiology
Integrative and Applied Physiology
Dissertation: Pathophysiologic Consequences of Pericardial Fat Assessed by Magnetic Resonance Imaging
Mentor: Michael D. Nelson, Ph.D.

M.Sc. University of Texas at Arlington, 2017 - 2019
Department of Kinesiology
Exercise Science
Thesis: Diastolic Dysfunction in Women with Ischemia and No Obstructive Coronary Artery Disease: Novel Insight from Left Atrial Feature Tracking
Mentor: Michael D. Nelson, Ph.D.

B.Sc. University of Texas at Arlington, 2010 - 2014
Department of Kinesiology
Exercise Science

Certifications

- American Heart Association Basic Life Support (BLS), 2024.
- Fundamentals of Physiology, Certificate of Achievement. Harvard Medical School, 2021.

Professional Organizations

- **Member.** European Society of Cardiology (ESC)
- **Member.** American Heart Association (AHA)
- **Member.** International Society for Magnetic Resonance in Medicine (ISMRM)

Honors

Fellowship

- **Ph.D. Dissertation Fellowship Recipient.** University of Texas at Arlington, 2024.

Scholarships

- **Departmental Scholarship (Lyla Lobdell POTS) Recipient.** Recognized for exceptional standing in the Integrative and Applied Physiology Ph.D. track. University of Texas at Arlington, 2023.
- **Dean's Scholarship Recipient.** Recognized for exceptional academic achievement. University of Texas at Arlington, 2010 - 2011.

Awards

- **Inaugural International Research Travel Fund Awardee.** Awarded through a competitive, university-wide process for excellence and significance of an international research proposal to support attendance at the International Society for Magnetic Resonance in Medicine (ISMRM) Conference in Cape Town, South Africa. Midwestern State University, 2026.
- **Certificate of Distinction.** Awarded for intentional learning accomplishments in research, leadership, community engagement, global connections, and career development. University of Texas at Arlington, 2024.
- **Best Poster Presentation Award.** Canadian Women's Heart Health Summit. Canada, Vancouver, 2023.
- **Best Poster Presentation Award.** Kinesiology Graduate Research Day. University of Texas at Arlington, 2019.

Professional Experience

Academic

Assistant Professor (Tenure-Track) in Exercise Physiology

Institution: Midwestern State University, Wichita Falls, TX

Timeline: Aug 2025 – Present

Chair: Michael Olson

Responsibilities and Outcome:

- Delivered innovative, student-focused exercise science courses that promoted engagement, strengthened critical thinking, and consistently earned excellent evaluations.
- Established a research program in cardiovascular physiology and exercise science, developing a laboratory foundation to support future studies and collaborations.
- Contributed to the university community through active service on committees, professional initiatives, and participation in campus-wide events.

Assistant Professor (Tenure-Track) in Exercise Science

Institution: Georgia College and State University, Milledgeville, GA

Timeline: Aug 2024 – Aug 2025

Director: Mike Martino

Responsibilities and Outcome:

- Designed and delivered dynamic, high-impact exercise science courses, fostering student engagement and significantly improving performance, as reflected in outstanding course evaluations.
- Developed a state-of-the-art research lab in cardiovascular physiology and exercise science to advance cutting-edge research and create high-impact student opportunities.

- Actively contributed to university service through participation in campus events and academic engagement initiatives.

Adjunct Lecturer in Exercise Science

Institution: Texas Wesleyan University, Fort Worth, TX

Timeline: Aug 2023 - Dec 2023

Director: Pamela D. Rast

Responsibilities and Outcome:

- Designed and delivered comprehensive course materials, including syllabi, lesson plans, assignments, quizzes, and exams for both lecture and lab components, ensuring alignment with course objectives.
- Implemented interactive learning experiences by assigning student presentations and guiding them to articulate lesson concepts independently, driving critical thinking and enhancing communication skills.
- Integrated visual and creative teaching methods by incorporating my original drawings into lecture slides and whiteboard illustrations, simplifying complex concepts and promoting active learning.
- Enhanced learning through multimedia by incorporating instructional videos of laboratory activities, providing a dynamic and interactive connection between theoretical concepts and practical applications.

Research

Director

Health Assessment and Rehabilitation Training (HART) Laboratory.

Institution: Midwestern State University, Wichita Falls, TX.

Timeline: Aug 2024 - Present

Graduate Research Assistant

Institution: University of Texas at Arlington

Sponsored Project: Mechanism of exercise intolerance in heart failure with preserved ejection fraction: Precision therapy based on patient specific pathophysiology. (NIH P01HL137630).

Timeline: Aug 2019 - June 2024

Faculty Mentor: Michael D. Nelson (Imaging Core Lead)

Responsibilities and Outcomes:

- Led the execution of rest and exercise testing procedures on patients, utilizing cutting-edge MRI technology to conduct thorough cardiac assessments.
- Mastered cardiac MRI analysis, encompassing advanced data processing, interpretation, and the creation of detailed, comprehensive reports.
- Led the development of an innovative datasheet for data analysis, demonstrating a proactive and strategic approach to information management.
- Presented research findings through high-impact abstracts at national and international conferences, making significant contributions to global knowledge exchange and advancing the field.
- Authored high-impact manuscripts and abstracts in leading journals, driving significant advancements and contributing to progress in the field.

Graduate Research Assistant

Institution: University of Texas at Arlington

Sponsored Project: Functional myocardial ischemia as a mechanism of diastolic dysfunction in women with coronary microvascular dysfunction. (AHA16SDG27260115).

Timeline: May 2018 - June 2024

Faculty Mentor: Michael D. Nelson (PI)

Responsibilities and Outcomes:

- Led in-depth analysis of cardiac MRI data, evaluating both rest and exercise conditions across multiple projects focused on assessing ischemic heart disease in women.
- Presented impactful research abstracts at national and international conferences, actively engaging with the global scientific community to disseminate findings and foster knowledge exchange.
- Published high-impact manuscripts and abstracts in leading journals, making substantial contributions to advancing research in the field.

Industry

Medical Interpreter

Company: Prisma International Corporation, Arlington, TX

Prisma stands as an excellent language service provider, specializing in on-site interpretation and technical translation services with a particular emphasis on meeting the unique needs of the medical, legal, and court sectors, particularly for individuals with limited proficiency in English originating from diverse foreign countries.

Timeline: Sep 2022 - Jan 2023

Supervisor: Maria D. Craig

Responsibilities and Outcomes:

- Delivered accurate and contextually relevant translations of medical discussions, tailored to individual linguistic preferences.
- Fostered an inclusive environment that promoted awareness of linguistic and cultural diversity, ensuring equitable access to medical information for underserved populations.
- Exemplified a strong commitment to diversity, equity, and inclusion by providing nuanced interpretations, effectively bridging communication gaps in healthcare for marginalized communities.

Cardiac Stress Monitoring Specialist Intern

Company: Texas Health Heart and Vascular Specialists, Fort Worth, TX

Consultants in Cardiology provide compassionate and comprehensive cardiovascular care across multiple locations in the Fort Worth area. The team of skilled cardiologists specializes in advanced and nonsurgical vascular procedures to repair blocked arteries, remove clots, and restore blood flow.

Timeline: Aug 2018 - Dec 2018

Supervisor: Anna King

Responsibilities and Outcomes:

- Conducted diverse cardiac diagnostic tests, including treadmill stress tests, nuclear stress tests, Holter scan (ambulatory electrocardiogram), cardiac positron emission tomography (PET) scans, tilt-table tests, and electrocardiogram 12-lead placements for referred cardiac patients.

- Compiled comprehensive reports detailing test results for physician interpretation.

Cardiovascular Fitness Assessment Specialist Intern

Institution: University of Texas at Arlington

Timeline: Jan 2014 - May 2014

Supervisor: Jeremy Roden

Responsibilities and Outcomes:

- Employed diverse methods, including Body Mass Index (BMI), skin-fold measurement, and bio-electrical impedance analysis, to assess body composition.
- Conducted thorough evaluations of cardiovascular fitness, encompassing muscular strength and endurance testing, flexibility assessments, and sub-maximal exercise testing.
- Delivered precise insights into fitness levels, cardiovascular endurance, and potential health considerations, ensuring a comprehensive understanding of individual well-being.
- Orchestrated client appointments for fitness assessments, adeptly managing associated clerical responsibilities within the realm of medical encounters.

Vice President

Company: Gizlar Group LLC, Arlington, TX

Timeline: Jan 2010 - Aug 2022

Reporting to: Owner, Shahin Daheshpoor

Responsibilities and Outcomes:

- Led strategic decisions and managed budgets for new equipment acquisitions.
- Oversaw and meticulously tracked expenses, inventories, and bank account balances to ensure financial accuracy.
- Prepared and filed taxes, including sales tax, property tax, income return tax, and franchise tax, ensuring compliance.
- Managed monthly financial operations, overseeing a budget of \$15,000 in expenses.
- Boosted revenue by 20% within one year through targeted employee training and enhanced customer service initiatives.
- Compiled and presented detailed quarterly financial reports for property management.
- Directed regular maintenance and improvements, ensuring full compliance with city regulations.

Research Funding

Principal Investigator

Midwestern State University, Intramural Grant Award.

Project Title: Novel Cardiac Rehabilitation Exercises in Preventing Heart Failure Progression.

Funding Period: Dec 2025 - July 2026

Award Amount: \$10,000.00

Principal Investigator

Georgia College and State University, Academic Affair Small Grant Award.

Project Title: Novel Cardiac Rehabilitation Exercises in Preventing Heart Failure Progression.

Funding Period: Mar 2025 - Oct 2025

Award Amount: \$5,000.00

Principal Investigator

University of Texas at Arlington, CONHI CRS Pilot Grant Award.

Project Title: Lung water accumulation and ventricular interaction as mechanisms of exercise intolerance in HFpEF.

Study Timeline: Aug 2021 - Aug 2022

Award Amount: \$4,000.00

Teaching

EXPH 6983, Thesis, 3 credits – Graduate

This course prepares students to develop and present a complete thesis proposal. Students will identify a research question, complete a focused literature review, and write the introduction and methods sections. By the end of the course, students will produce a finalized proposal and present it to their committee for review and approval.

- Spring 2026. Rating TBD

EXPH 5033, Clinical Exercise Physiology Chronic Diseases, 3 credits – Graduate

This course examines the scientific principles and clinical techniques used by exercise physiologists to assess fitness in healthy individuals and those with chronic diseases. Emphasis is placed on understanding assessment methodologies, interpreting results, and applying clinical decision-making to support safe and effective evaluation of health-related fitness components.

- Spring 2026. Rating TBD

EXPH 6103, Research Independent Study, 3 credits – Graduate

This course provides graduate students with hands-on research experience by actively participating in ongoing laboratory projects. Students will assist in data collection, analysis, and interpretation under faculty supervision, gaining practical skills in experimental design, research methodology, and scientific communication. The course is tailored to support the development of independent research competencies and contribute meaningfully to the lab's scholarly work.

- Spring 2026. Rating TBD

EXPH 5073, Graduate Topics in Exercise Physiology, 3 credits – Graduate

This course offers graduate students the opportunity to engage directly with ongoing research projects in the faculty's laboratory. Students will participate in experimental design, data collection, and analysis, gaining practical experience in exercise physiology research. Emphasis is placed on developing critical thinking, research skills, and scientific communication while contributing to the advancement of the lab's scholarly activities.

- Spring 2026. Rating TBD

EXPH 6003, Graduate Internship in Exercise Physiology, 3 credits – Graduate

This course provides a supervised, hands-on experience that allows students to apply theoretical knowledge in diverse professional settings. Students will engage in practical activities, develop professional skills, and gain real-world exposure to the day-to-day responsibilities within the field of exercise science, bridging the gap between classroom learning and professional practice.

- Spring 2026. Rating TBD

EXPH 4701, Exercise Physiology Clinical Assessment Laboratory, 1 credit

This laboratory course provides hands-on experiences in exercise physiology, focusing on the body's responses, adjustments, and adaptations to physical activity. Students will actively engage in experiments and assessments designed to demonstrate physiological reactions to varying exercise stresses associated with work, sport, and performance. The course aims to enhance understanding of exercise physiology concepts while developing proficiency in laboratory techniques and clinical assessment skills.

- Spring 2026. Rating TBD

EXPH 6013, Myocardial Physiology and ECG Analysis, 3 credits – Graduate

This class develops content in the physiology of the myocardium with a foundation in electrocardiography (ECG). This includes tissue, cellular, and molecular components of the heart and conditions associated with exercise and pathologies. In addition, the content will include ECG lead placement, rate and rhythm of the heart, ECG complexes and intervals, conduction disturbances, arrhythmia, and identification of cardiac myopathies.

- Fall 2025. Rating TBD

EXPH 2501, Physiology of Sport and Fitness Laboratory, 3 credits

The laboratory sessions are designed to examine the physiological effects of physical work on the major functions of the human body. Activities will focus on how different forms and intensities of exercise influence cardiovascular, respiratory, muscular, and metabolic systems. Emphasis will be placed on applying experimental methods to assess these responses, providing a comprehensive understanding of how the body adapts to the demands of work and exercise.

- Fall 2025. Rating TBD
- Spring 2026. Rating TBD

EXPH 1904, Introduction to Exercise Physiology, 3 credits

Introduction to the study of exercise physiology and exercise science. Topics related to the science of fitness programming and exercise technique will be investigated. The current trends in fitness and exercise will also be discussed.

- Fall 2025. Rating TBD
- Spring 2026. Rating TBD

EXPH 1904, Introduction to Exercise Physiology Laboratory, 1 credit

The laboratory focuses on the practical application of integrative physiology concepts introduced in the accompanying lecture. Through hands-on experiments and applied activities, it explores the physiological responses and adaptations that occur during different modes of exercise.

- Fall 2025. Rating TBD

KINE 4233, Clinical Exercise Physiology, 3 credits – Online

This course provides a comprehensive understanding of physiological responses to exercise in clinical populations, including those with chronic diseases or medical conditions. It emphasizes exercise testing, prescription, and program design to enhance health and manage disease effectively.

- Summer 2025. Rating: Not provided.
- Spring 2025. Rating: 4/5

Comment: "I had a great semester. I like the outline you did this semester compared to previous years taught by other professors."

KINE 3203, Physiology of Exercise, 3 credits

This course explores the body's physiological responses and adaptations to physical activity, emphasizing energy systems, cardiovascular, respiratory, and muscular functions. It also delves into environmental physiology, examining how factors like temperature, altitude, and gravity impact performance and health.

- Summer 2025. Rating: Not provided.
- Spring 2025. Rating: 3.7/5
- Fall 2024. Rating: 4.5/5

Comment: "Dr. Zamani is an excellent professor. She listens to what her class needs and if there is something we are struggling with she gives us materials so we can understand. She is very passionate about this subject and teaches it in a way that makes it interesting for us rather than just listing a million words on slides. I would recommend maybe adding some homework assignments to help mellow out grades a little considering our only grades are quizzes and tests. But overall, she is a fantastic professor, and I hope I get the chance to take her again."

KINE 3262, Exercise Testing, 3 credits

This course provides an in-depth, hands-on application of exercise physiology principles in a laboratory setting, focusing on exercise testing, data analysis, and interpretation to evaluate and enhance performance and health outcomes.

- Spring 2025. Rating: 4.5/5
- Fall 2024. Rating: 4.4/5

Comment: "Dr. Zamani is a great professor and taught this course very well! I learned so much about various techniques and was able to practice and apply this through labs and assessments."

KINE 4253, Applied Research in Exercise Science, 3 credits

This course engages students in the complete research process in exercise science, from conceptualizing and designing a study to publishing findings in the university's journal. It emphasizes the practical application of the concepts from exercise physiology and exercise testing, enabling students to conduct and present impactful original research.

- Spring 2025. Rating: 4.5/5
- Fall 2024. Rating: 3.7/5

Comment: "I have had Professor Zamani for several classes and just like all the others, it was very obvious that she is passionate about what she is teaching. She is very intelligent in the field of conducting research and her prior knowledge to the field is very helpful when she gives lectures."

KINE 4311, Physiology of Exercise, 3 credits

This course is focused on integrative physiology, examining the comprehensive understanding of how various physiological systems collaborate to respond to and adapt to exercise stressors. This course explores the interactions between the cardiovascular, respiratory, muscular, and metabolic systems, elucidating the integrated responses that occur during physical activity.

- Fall 2023. Rating: 4/5

Comment: "Collaborative assignments and the time spent outside of class dedicated to studying the material, and the pictures we had to draw really helped with my learning."

KINE 4111, Physiology of Exercise Laboratory, 1 credit

The laboratory centers on the practical application of integrative physiology concepts learned in the corresponding lecture. Through laboratory experiments, students gain insight into physiological responses and adaptations that occur during various forms of exercise.

- Fall 2023. Rating: Not provided.

Professional Services

- **Committee Member.** Master's Thesis. *Dynamic knee stability between athletes in cutting/pivoting sports and endurance athletes.* Dec 2025 – Present.
- **Committee Member.** Master's Thesis. *Effects of four weeks of moderate aerobic exercise training on hemolytic parameters and c-reactive protein in a sedentary population.* Dec 2025 – Present.
- **Committee Member.** Master's Thesis. *Acute blood pressure and heart rate responses to resistance versus aerobic exercises in healthy young adults.* Dec 2025 – Present.
- **Evaluator.** Undergraduate Research and Creative Activities Forum. Assessed student research posters and contributed to the selection of award-winning presentations. Midwestern State University, Nov 2025.
- **Committee Member.** Master's Thesis. *Use of mobile technology for patient care among practicing physiotherapists: A cross-sectional survey of adoption, patterns, barriers, and facilitators.* Nov 2025 – Present.
- **Committee Member.** Athletics Committee. Midwestern State University, Sep 2025 – Present.
- **Committee Member.** Master's Thesis. *The relationship between physical activity and BMI, muscle strength, and quality of life after sleeve gastrectomy.* Sep 2025 – Present.
- **Judge.** Annual State K-5 Science Fair. Judged 5th-grade student posters for creativity, scientific accuracy, and presentation skills. Georgia College and State University, March 2025.
- **Interviewer.** President's Scholarship Competition. Interviewed and rated high school applicants to determine scholarship eligibility based on academics, leadership, and extracurricular involvement. Georgia College and State University, Dec 2024.
- **Exercise Science Program Representative.** Academic Expo. Represented the Exercise Science program, engaged with prospective students, and provided information about the curriculum and opportunities. Georgia College and State University, Sep 2024.
- **Poster Presentation Abstract Reviewer.** Kinesiology Undergraduate Research Day. University of Texas at Arlington, Apr 2022.
- **Ad Hoc Reviewer.** American Journal of Cardiology. Conducted in-depth peer reviews in collaboration with Dr. Michael D. Nelson, 2021.
- **Ad Hoc Reviewer.** American Journal of Physiology-Heart and Circulatory Physiology. Conducted in-depth peer reviews in collaboration with Dr. Michael D. Nelson, 2020.
- **Poster Presentation Abstract Reviewer.** Kinesiology Undergraduate Research Day. University of Texas at Arlington, Nov 2019.
- **Ad Hoc Reviewer.** Journal of Clinical Medicine. Conducted in-depth peer reviews in collaboration with Dr. Michael D. Nelson, 2019.

Professional Development

- Incorporating Transformative Experiences in the Classroom. Georgia College and State University, May 2025.
- Quality Matters: Improving Your Online Course. Georgia College and State University, May 2025.
- Financial Literacy. Georgia College and State University, April 2024.
- Learn How American Heart Association Fights for Your Health and How Your Involvement Makes a Difference. Georgia College and State University, Oct 2024.

Manuscripts (Published/Under Review/In Preparation)

- 1) **Zamani SK**, Zaha VG, Babb TG, Sarma S, MacNamara JP, Haykowsky MJ, Levine BD, Thompson RB, Nelson MD. Evaluation of Exercise-Induced Changes in Lung Water Density in Heart Failure with Preserved Ejection Fraction. In Preparation.
- 2) **Zamani SK**, Anderson G, Robuck E, Bartlett MF, Mireles J, Terrick D, Kao Y, Haykowsky MJ, Sarma S, Macnemera J, Berry J, Pandy A, Levine BD, Zaha VG, Nelson MD. Impaired systolic reserve in heart failure with preserved ejection fraction: An exercise cardiac magnetic resonance imaging study. In Preparation.
- 3) **Zamani SK**, Zaha VG, Haykowsky MJ, Nelson MD. Pericardial Fat Across the Spectrum of Health and Disease. In Preparation.
- 4) Bartlett MF, Oneglia AP, Davis D, **Zamani SK**, Siddiqui A, Ricard MD, Nelson MD. Maximal-effort knee-extension exercise impairs skeletal muscle oxidative capacity and VO₂ recovery in vivo. *J Appl Physiol*. 2025. DOI: [10.1152/japplphysiol.00517.2025](https://doi.org/10.1152/japplphysiol.00517.2025).
- 5) Wakeham DJ, **Zamani SK**, Oneglia AP, Howrey MM, Majeed S, Brazile TL, Beckman JA, MacNamara JP, Haykowsky MJ, Zaha VG, Levine BD, Hearon CM, Sarma S, Nelson MD. Circumferential strain and strain rates of the descending aorta as novel measures of aortic stiffness and wall mechanics from standard cardiac MRI. *Exp Physiol*. 2025. DOI: [10.1113/EP092585](https://doi.org/10.1113/EP092585).
- 6) **Zamani SK**, Wei J, Hathorn B, Robuck E, Kwan AC, Pepine CJ, Handberg E, Cipher DJ, Dey D, Bairey Merz CN, Nelson MD. Impact of epicardial fat on coronary vascular function, cardiac morphology, and cardiac function in women with suspected INOCA. *Eur Heart J*. 25(10):1360-1366, 2024. DOI: [10.1093/ehjci/jeae203](https://doi.org/10.1093/ehjci/jeae203).
- 7) Paquin A, Nelson MD, Wei J, **Zamani SK**, Maughan J, Cook-Wiens G, Gulati M, Shufelt C, Petersen JW, Handberg EM, Pepine CJ, Bairey Merz CN. Is There an Association Between Coronary Microvascular Dysfunction and Right Ventricular Size and Function? *JACC*. 83(13):1171, 2024. DOI: [10.1016/S0735-1097\(24\)03161-9](https://doi.org/10.1016/S0735-1097(24)03161-9).
- 8) Nelson MD, Gomez-Arnold JM, Wei J, Lauzon M, **Zamani SK**, Maughan J, Obrutu O, Shufelt C, Handberg E, Pepine CJ, Bairey Merz CN. Contributors to high left ventricular ejection fraction in women with ischemia and no obstructive coronary artery disease: Results from the

women's ischemia syndrome evaluation-coronary vascular dysfunction (WISE-CVD) study. *Am Heart J.* 278(2):41-47, 2024. DOI: [10.1016/j.ahj.2024.08.021](https://doi.org/10.1016/j.ahj.2024.08.021).

- 9) **Zamani SK**, Sarma S, MacNamara JP, Hynan LS, Haykowsky MJ, Hearon CM, Wakeham DJ, Brazile T, Levine BD, Zaha VG, Nelson MD. Excess pericardial fat is related to adverse cardio-mechanical interaction in heart failure with preserved ejection fraction. *Circulation.* 148(18):1410-1412, 2023. DOI: [10.1161/CIRCULATIONAHA.123.065909](https://doi.org/10.1161/CIRCULATIONAHA.123.065909).
- 10) Oneglia AP, **Zamani SK**, Bartlett MF. Shear stress-induced flow mediated dilation: Is it up to hemoglobin? *J Physiol.* 598(24):5609-5610, 2020. DOI: [10.1113/JP280649](https://doi.org/10.1113/JP280649).
- 11) **Zamani SK**, Samuel TJ, Wei J, Thomson LE, Tamarappoo BK, Sharif B, Bairey Merz CN, Nelson MD. Left atrial stiffness in women with ischemia with no obstructive coronary artery disease: Novel insight from left atrial feature tracking. *Clin Cardiol.* 43(9):986-992, 2020. DOI: [10.1002/clc.23395](https://doi.org/10.1002/clc.23395).
 - *Featured in Daily Edition of DocWire News.*

Abstracts (Published/Submitted)

- 1) Hathorn B, **Zamani SK**, Webb R, Grant C, Pixler L, Ashari N, Wang J, Zaha VG, Nelson MD. Lower body negative pressure recapitulates upright posture during supine exercise cardiac magnetic resonance imaging. *ISMRM.* 2025. Presented in Hawaii, Honolulu.
- 2) **Zamani SK**, Wei J, Hathorn B, Robuck E, Kwan AC, Pepine CJ, Handberg E, Cipher DJ, Dey D, Bairey Merz CN, Nelson MD. Epicardial fat is associated with adverse ventricular remodeling and diastolic dysfunction in women with ischemia but no obstructive coronary artery disease. Women's Cardiovascular and Brain Health Symposium. *University of North Texas Health Science Center, Women's Cardiovascular and Brain Health Symposium.* 2024. Presented in Fort Worth, Texas.
- 3) Oliveira-Gomes D, Brazile TL, MacNamara JP, **Zamani SK**, Hearon CM, Wakeham DJ, Nelson MD, Levine BD, Sarma S. Effects of epicardial adipose tissue on cardiac function and exercise hemodynamics in patients with Heart Failure with Preserved Ejection Fraction. *Circulation.* 150 (S1), 2024. DOI: [10.1161/circ.150.suppl_1.4143816](https://doi.org/10.1161/circ.150.suppl_1.4143816). Presented in Chicago, Illinois.
- 4) **Zamani SK**, Zaha VG, Sarma S, MacNamara JP, Wakeham DJ, Hearon CM, Haykowsky MJ, Levine BD, Nelson MD. Exercise cardiac magnetic resonance imaging in heart failure with preserved ejection fraction. *European Journal of Preventive Cardiology.* 31 (S1), 2024. [10.1093/eurjpc/zxae175.179](https://doi.org/10.1093/eurjpc/zxae175.179). Presented in Athens, Greece.
- 5) Hathorn B, **Zamani SK**, Zaha VG, Babb T, Hussain T, Haykowsky MJ, Levine BD, Zia A, Grodin JL, Nelson MD. Exercise cardiac magnetic resonance imaging across the lifespan. *European Journal of Preventive Cardiology.* 31 (S1), 2024. [10.1093/eurjpc/zxae175.177](https://doi.org/10.1093/eurjpc/zxae175.177). Presented in Athens, Greece.

- 6) Paquin A, Nelson MD, Wei J, **Zamani SK**, Maughan J, Cook-Wiens G, Gulati M, Shufelt Ch, Petersen JW, Handberg EM, Pepine CJ, Bairey Merz CN. Is there an association between coronary microvascular dysfunction and right ventricular size and function. *JACC*. 83 (13S), 2024. DOI: [10.1016/S0735-1097\(24\)03161-9](https://doi.org/10.1016/S0735-1097(24)03161-9). Presented in Atlanta, Georgia.
- 7) Ranasinghe S, Szczepaniak L, Nelson MD, Cui Y, **Zamani SK**, Oneglia AP, Hathorn B, Muhyieddeen A, Obrutu O, Maughan J, Kwan AC, Li D, Bairey Merz CN, Wei J. Myocardial steatosis in women with ischemia and no obstructive coronary arteries. *JACC*. 83 (13S), 2024. DOI: [10.1016/S0735-1097\(24\)03467-3](https://doi.org/10.1016/S0735-1097(24)03467-3). Presented in Atlanta, Georgia.
- 8) **Zamani SK**, Robuck E, Wei J, Kwan AC, Pepine CJ, Handberg E, Cipher DJ, Dey D, Bairey Merz CN, Nelson MD. Epicardial fat is associated with adverse ventricular remodeling and diastolic dysfunction in women with ischemia but no obstructive coronary artery disease. *Eur Heart J*. 44(2S), 2023. DOI: [10.1093/eurheartj/ehad655.2533](https://doi.org/10.1093/eurheartj/ehad655.2533). Presented in Netherland, Amsterdam.
- 9) **Zamani SK**, Anderson G, Palmero Canton A, Bartlett MF, Tetrick T, Kao Y, Nelson MD. Metabolic Cost and Reproducibility of Exercise Cardiac Magnetic Resonance Imaging. *Medicine & Science in Sports & Exercise*. 55(9S): 194-194, 2023. DOI: [10.1249/01.mss.0000981532.53698.b9](https://doi.org/10.1249/01.mss.0000981532.53698.b9). Presented in Denver, Colorado.
- 10) **Zamani SK**, Mireles JD, Shrestha M, Wei J, Kao Y, Handberg EM, Pepine CJ, Thompson RB, Bairey Merz CN, Nelson MD. Increased Left Ventricular Ejection Fraction in Women with Ischemia but no Obstructive Coronary Artery Disease: Novel insight from strain imaging. *Canadian Journal of Cardiology*. 39(5): S9, 2023. DOI: [10.1016/j.cjca.2023.02.046](https://doi.org/10.1016/j.cjca.2023.02.046). Presented in Vancouver, Canada.
 - *Best Poster Presentation Award*.
- 11) **Zamani SK**, Zaha VG, Sarma S, Levine BD, Nelson MD. Paracardial fat is related to adverse ventricular interdependence in heart failure with preserved ejection fraction. *University of Penn Medicine*. 2023. Presented in Philadelphia, Pennsylvania: Oral Presentation for the Young Investigator Competition.
- 12) Wakeham DJ, **Zamani SK**, Howrey MM, Majeed S, Brazile TL, MacNamara JP, Levine BD, Hearon Jr CM, Sarma S, Nelson MD. Descending Aortic vascular strain as a novel measure of arterial stiffness attainable from Cardiac MRI. *North American Artery*. 2023. Presented in Iowa, Iowa.
- 13) Bartlett MF, Palmero-Canton A, Oneglia AP, Anderson GK, **Zamani SK**, Mireles J, Requilme R, Ricard MD, Nelson MD. Evidence of Mitochondrial Uncoupling in Human Quadriceps during All-Out Knee Extension Exercise. *Integrative Physiology of Exercise*. 2022. Presented in Baltimore, Maryland.
- 14) **Zamani SK**, Aldiwani H, Razipour A, Wei J, Kwan AC, Berman DS, Dey D, Bairey Merz CN, Nelson MD. Pericardial fat from a single horizontal long axis cardiac magnetic resonance cine

image: a validation study against three-dimensional cardiac computed tomography. *Eur Heart J.* 43(2S), 2022. DOI: [10.1093/eurheartj/ehac544.223](https://doi.org/10.1093/eurheartj/ehac544.223). Presented in Barcelona, Spain.

15) **Zamani SK**, Zaha VG, Sarma S, MacNamara JP, Haykowsky MJ, Jaffery MF, Ricard MD, Levine BD, Nelson MD. Pericardial fat is adversely related to cardio-mechanical interaction in heart failure with preserved ejection fraction: implications for exercise intolerance. *Eur Heart J.* 43(2S), 2022. DOI: [10.1093/eurheartj/ehac544.782](https://doi.org/10.1093/eurheartj/ehac544.782). Presented in Barcelona, Spain.

16) **Zamani SK**, Zaha VG, Jaffery MF, Babb TG, Sarma S, MacNamara JP, Levine BD, Thompson RB, Nelson MD. Evaluation of Exercise-Induced Changes in Lung Water Density in Heart Failure with Preserved Ejection Fraction. *Faseb J.* 36(1S), 2022. DOI: doi.org/10.1096/fasebj.2022.36.S1.R3301. Presented in Philadelphia, Pennsylvania.

17) **Zamani SK**, Wei J, Kwan AC, Berman DS, Shufelt C, Bairey Merz CN, Nelson MD. Longitudinal changes in cardiac morphology and function in women with INOCA: Results from repeat magnetic resonance imaging a median of 6 years apart. *Eur Heart J.* 42(1S), 2021. DOI: [10.1093/eurheartj/ehab724.0228](https://doi.org/10.1093/eurheartj/ehab724.0228). Presented Virtually: Due to Covid 19.

18) **Zamani SK**, Samuel TJ, Wei J, Thomson LE, Tamarappoo BK, Bairey Merz CN, Nelson MD. Diastolic dysfunction in women with ischemia and no obstructive coronary artery disease: Novel insight from left atrial feature tracking. *University of North Texas Health Science Center, Women's Cardiovascular and Brain Health Symposium*. 2020. Presented in Fort Worth, Texas: Oral presentation.

19) **Zamani SK**, Samuel TJ, Wei J, Thomson LE, Tamarappoo BK, Bairey Merz CN, Nelson MD. Diastolic dysfunction in women with ischemia and no obstructive coronary artery disease: Novel insight from left atrial feature tracking. *University of Texas at Arlington*. 2019. Presented in Arlington, Texas: For the UT Arlington Kinesiology Research Day.

- *Best Poster Presentation Award.*

20) **Zamani SK**, Samuel TJ, Wei J, Thomson LE, Tamarappoo BK, Bairey Merz CN, Nelson MD. Diastolic dysfunction in women with ischemia and no obstructive coronary artery disease: Novel insight from left atrial feature tracking. *Eur Heart J.* 40(S):1666, 2019. DOI: [10.1093/eurheartj/ehz748.1032](https://doi.org/10.1093/eurheartj/ehz748.1032). Presented in Paris, France.

Invited Presentations

- Pathophysiologic consequences of pericardial fat assessed by magnetic resonance imaging. New Voices Research Symposium. University of Texas at Arlington, 2024.

Student Mentorship

- 1) Kim Ngan Phung, Exercise Physiology Master Student and Graduate Teaching Assistant. Midwestern State University, 2025 – Present.
 - Supervised the student's thesis, offering strategic guidance on research design, methodology, and data interpretation.

- Provided mentorship to the teaching assistant on laboratory teaching, assessment responsibilities, and student communication.
- Coached the teaching assistant in facilitating lecture exam review sessions and enhancing student learning outcomes.

2) Yagna Pandit, Exercise Physiology Master Student and Graduate Teaching Assistant. Midwestern State University, 2025 – Present

- Provided comprehensive mentorship on the master's thesis, guiding research planning, methodological approach, and data analysis.
- Trained and supervised the teaching assistant in conducting lab demonstrations, grading assignments, and addressing student questions effectively.

3) Maverick Moxey II, Exercise Physiology Master Student and Graduate Teaching Assistant. Midwestern State University, 2025 – Present.

- Guided the teaching assistant in delivering lab demonstrations, evaluating student work, and addressing student inquiries.
- Supported the teaching assistant in leading lecture exam review sessions and fostering student understanding.

4) Chloe Hoang, Pre-Medical Student Research Intern. University of Texas at Arlington, 2023 - 2024.

- Successfully completed the initial round of cardiac MRI data analysis with great reproducibility, demonstrating a high level of accuracy and reliability.
- Enhanced proficiency in the analysis of cardiac MRI data within an ongoing project focused on heart failure patients.

5) Gabriel G. Hillebrand, Medical Student Research Intern. University of Texas at Arlington, 2023.

- Contributed to an upcoming manuscript in preparation by meticulously analyzing cardiac MRI data.
- Accomplished the creation and delivery of a poster presentation showcased at Kinesiology Undergraduate Research Day at University of Texas at Arlington.

6) Manisha Shrestha, Undergraduate Student Research Intern. University of Texas at Arlington, 2022.

- Actively conducted detailed cardiac MRI data analysis crucial to the research project, contributing to the publication of the corresponding abstract in the Canadian Journal of Cardiology.
- Successfully created and delivered a poster presentation showcased at Kinesiology Undergraduate Research Day at University of Texas at Arlington.

Press Releases

- 1) UT Arlington Health Bulletin, 2023.
- 2) UT Arlington Innovations in Health Research Magazine, 2022.

<https://innovationsmagazine.uta.edu/the-heart-of-the-heart/>

3) UT Arlington Health Magazine, 2020.

https://cdn.web.uta.edu/-/media/project/website/conhi/documents/news-publications/uta_health_2020.ashx?revision=a90b8db6-79af-44a9-85b3-28353a1655af

4) UT Arlington Inquiry Magazine, 2019.

List of References

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