Curriculum Vitae
Nicholas A. Carlini, PhD

Department of Health, Sport, and Human Physiology, University of Iowa
Phone: (484) 947-7574 • Email: nicholas-carlini@uiowa.edu
ORICD ID: 0000-0002-1632-1947

EDUCATION & RESEARCH TRAINING

Postdoctoral Fellow (2026-current)
Primary Mentor: Kanokwan 'Mandy' Bunsawat, PhD
Department of Health, Sport, and Human Physiology, University of Iowa
Integrative Neurovascular Physiology Laboratory (INPL)

Postdoctoral Fellow (2023-2025)
Primary Mentor: Joel D. Trinity, PhD
Department of Internal Medicine, Division of Geriatrics, University of Utah
Utah Vascular Research Laboratory (UVRL)

Doctorate (PhD) – Human Bioenergetics (2019-2023)
Masters (M.S.) – Clinical Exercise Physiology (2017-2019)
Primary Mentor: Bradley S. Fleenor, PhD
Co-Mentor: Matthew P. Harber, PhD
Ball State University, Muncie, IN
Human Performance Laboratory (HPL)
Clinical Exercise Physiology
Adult Physical Fitness Program

Undergraduate (B.S.) – Exercise Science & Public Health (2012-2017)
Primary Mentor: Scott A. Mazzetti, PhD
Laboratory for Human Performance (LHP)
School of Health Sciences
Salisbury University, Salisbury, MD

RESEARCH INTERESTS

My current research interests are in applied cardiovascular/exercise physiology and human bioenergetics with a primary focus on **1**) understanding physiological mechanisms that underlie declines in cardio- and neurovascular health and physical function with healthy aging and in conditions that accelerate aging processes specifically obesity, diabetes, and metabolic syndrome and **2**) determining practical lifestyle interventions (e.g., small muscle mass and whole-body exercise, inspiratory muscle strength training, supplementation, diet, etc.) to improve cardiometabolic health and physical function in these populations. This includes identifying novel mechanisms contributing to metabolic inflexibility, blood vessel and autonomic dysfunction and arterial stiffness from physical inactivity, aging, and cardiometabolic disease.

GRANT FUNDING/HONORS/AWARDS

Postdoctoral Grant(s)

Advanced Fellowship in Geriatrics Program: Spring 2024 (Awarded 4/1/24-4/1/27)
Awarded Funding Amount: $180,000 for 3 years
George E. Wahlen VA Medical Center, Geriatric Research, Education, and Clinical Center (GRECC)
Utah Vascular Research Laboratory, Salt Lake City, Utah
Completed: 1/6/26
PMID(s): 41553699, 40839391, 39120467

Doctoral Grant

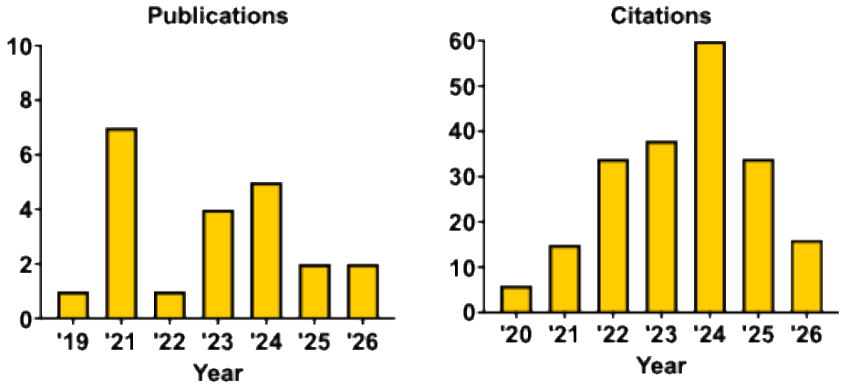
ASPiRE Internal Research Grant: Spring 2022 (Awarded 5/1/22-4/30/23)
Awarded Funding Amount: $700
Project Title: Cardiorespiratory Fitness and Enhanced Mitochondrial-related Endothelial Function
PMID: 38568933

PUBLICATIONS (11 first author, 8 second author)

Totals as of March 2026:
Publications: 22
Citations: 212
h-index (10), i10-index (10)

PubMed - NAC

Google Scholar - NAC



Peer-Reviewed (22)

1. **Carlini NA,** Bielski LM, Mudd CN, Harman-Hornbeck TC, Harber MP, Fleenor BS. Age-related hearing loss in healthy older adults is associated with arterial stiffening and higher aortic systolic blood pressure: potential role of inflammation. *Frontiers in Aging*, *2026*. PMID: 41756249

2. **Carlini NA**, Ruple BR, Rostamkhani H, Shi H, Mascheck JA, Hanson BE, Rajasekaran RS, Richardson RS, Drummond MJ, Broxterman RM, Trinity JD. Age and sex shape plasma lipid associations to skeletal muscle mitochondrial respiration and H_2O_2 emission. *GeroScience, 2026.* PMID: 41553699

3. Ruple BA, **Carlini NA**, Kofoed JS, Rostamkhani H, Hanson BE, Wilcox I, Craig JC, Osburn SC, Drummond MJ, Broxterman RM, Trinity JD. Transcriptomic analyses of peripheral blood mononuclear cells reveal age-specific basal and acute exercise responsiveness differences in humans. *American Journal of Physiology Endocrinology and Metabolism, 2025*. PMID: 40695537

4. **Carlini NA,** Harber MP, Fleenor BS. Acute effects of MitoQ on vascular endothelial function are influenced by cardiorespiratory fitness and baseline FMD in middle-aged and older adults. *Journal of Physiology, 2024.* PMID: 38568933

5. **Carlini NA,** Harber MP, Fleenor BS. Lower estimates of myocardial perfusion are associated with greater aortic perivascular adipose tissue density in humans independent of aortic stiffness. *American Journal of Physiology Heart and Circulatory Physiology*, *2024.* PMID: 39150391

6. **Carlini NA,** Stump OE, Lumadue EJ, Harber MP, Fleenor BS. Aortic stiffness is associated with higher nighttime ambulatory blood pressure in middle-aged and older adults. *J Cardiopulmonary Rehabilitation Prevention, 2024.* PMID: 38875161

7. **Carlini NA,** Cloud RMT, Harber MP, Fleenor BS. Cardiorespiratory fitness is associated with estimates of myocardial perfusion: influence of age and sex. *American Journal of Physiology Heart and Circulatory Physiology*, *2024.* PMID: 37947437

8. **Carlini NA,** Romanowski S, Rabalais EN, Kistler BM, Campbell MS, IM Krishnakumar, Harber MP, Fleenor BS. Coconut sugar derived from coconut inflorescence sap powder lowers systolic blood pressure and arterial stiffness in middle-aged and older adults: a pilot study. *Journal of Applied Physiology, 2023.* PMID: 36656985

9. Hughes RP, **Carlini NA,** Fleenor BS, Harber MP. Mitochondrial-targeted antioxidant (MitoQ) ingestion acutely blunts VO_{2max} in physically inactive females. *Physiological Reports, 2023.* PMID: 38061764

10. Fleenor BS, **Carlini NA,** Ouyang A, Du B, Harber MP. Greater aortic perivascular adipose tissue density is associated with aging, aortic stiffness and central blood pressure in humans. *Journal of Applied Physiology, 2023.* PMID: 36759156

11. Fleenor BS, **Carlini NA,** Ouyang A, and Harber MP. Perivascular adipose tissue-mediated arterial stiffening in aging and disease: an emerging translational therapeutic target? *Pharmacological Research, 2022*. PMID: 35339679

12. **Carlini NA**, Harber MP, and Fleenor BS. Age-related carotid extra-media thickening is associated with increased blood pressure and arterial stiffness. *Clinical Physiology and Functional Imaging, 2021*. PMID: 34051051

13. **Carlini NA**, Harber MP, and Fleenor BS. Oscillometric estimates of aortic blood pressure as alternatives for carotid blood pressure to assess carotid stiffness in humans. *Hypertension Research, 2021*. PMID: 33686264

14. Fleenor BS, **Carlini NA**, Kaminsky LA, Whaley MH, Peterman JE, and Harber MP. Healthy vascular aging is associated with higher cardiorespiratory fitness. *J Cardiopulmonary Rehabilitation Prevention, 2021*. PMID: 33027218

15. Harber MP, McCurry A, **Carlini N,** Kistler B, and Fleenor BS. Caffeine ingestion alters central hemodynamics following aerobic exercise in middle-aged men. *European Journal of Applied Physiology, 2021.* PMID: 33098463

16. Tisdel DM, Gadberry JJ, Burke SL, **Carlini NA**, Fleenor BS, and Campbell MS. Dietary fat and alcohol in the prediction of indices of vascular health among young adults. *Nutrition, 2021.* PMID: 33515808

17. Fountain WA, Valenti ZJ, Lynch CE, Guarnera SR, Meister BM, **Carlini NA**, Lynch KE, Kuszmaul DJ, Chaves AB, and Mazzetti SA. Order of concentric and eccentric muscle actions affects metabolic responses. *The Journal of Sports Medicine and Physical Fitness, 2021*. PMID: 33480518

Reviews (4)

1. **Carlini NA,** Wray DW, Moreau KL, Bunsawat K. Vascular function in women with heart failure with preserved ejection fraction: a mismatch beyond diastole. *Journal of Applied Physiology*. 2025. PMID: 40839391

2. Fleenor BS, **Carlini NA,** and Martens CR. Nutraceuticals in the prevention and therapeutic treatment of cardiovascular and cerebrovascular disease. *J Cardiopulmonary Rehabilitation Prevention. 2023.* PMID: 36656154

3. Campbell MS, **Carlini NA,** and Fleenor BS. Influence of curcumin on performance and post-exercise recovery. *Critical Reviews in Food Science and Nutrition. 2021.* PMID: 32319320

4. Fleenor BS, **Carlini NA,** and Campbell MS. Curcumin and arterial function in health and disease: impact on oxidative stress and inflammation. *Current Opinion in Clinical Nutrition and Metabolic Care. 2019.* PMID: 31577640

Editorials (1)

1. **Carlini NA,** Culver MN, Wynne BM, Hyndman KA, Bunsawat K. Diving deep towards the bottlenose dolphins' anti-arterial aging secret: insight for the circulating milieu as a novel mechanism to preserve endothelial health. *American Journal of Heart and Circulatory Physiology*, *2024.* PMID: 39120467

MANUSCRIPTS – UNDER REVIEW/IN PREPARATION

1. **Carlini NA,** Hanson BE, Ruple BA, Craig JC, Fermoyle CC, McKenzie AI, Bisconti AV, Pelka EZ, Rostamkhani H, Wilcox I, Richardson RS, Drummond MJ, Rajasekaran RS, Broxterman RM, Trinity JD. Targeted Nrf2 activation improves age-related endothelial dysfunction and prevents disuse-induced vascular dysfunction in younger and older adults. – ***Under Review***

2. **Carlini NA,** Brown MK, Holder KJ, Hughes RP, Harber MP, Fleenor BS. Sex-dependent association between vascular endothelial function and myocardial perfusion in healthy adults. – ***Under Review***

3. **Carlini NA,** Iacovelli JJ, Ianetta D, Jarrett CL, Puchalapalli VR, Ryan JJ, Brinker L Wray DW, Harber MP, Fleenor BS, Bunsawat K. Disease-related alterations in central hemodynamics in patients with heart failure with preserved ejection fraction: role of biological sex and obesity - ***In preparation***

4. **Carlini NA,** Ruple BA, Kofoed J, Hanson BE, Craig JC, Rostamkhani H, Manuel AM, Stewart PA, Wanagat J, Broxterman RM, Trinity JD. Effect of acute exercise-induced redox signaling in peripheral blood mononuclear cells with aging. - ***In preparation***

5. Brown MK, **Carlini NA,** Fleenor BS, Harber MP. Acute MitoQ intake blunts attenuates hyperglycemia-induced vascular endothelial function via lower mitochondrial-derived reactive oxygen species - ***In preparation***

6. Ruple BA, **Carlini NA,** Kofoed J, Rostamkhani H, Hanson BE, Craig JC, Osburn SC, Manuel AM, Stewart PA, Wanagat J, Broxterman RM, Trinity JD. Aged mitochondrial DNA is associated with aberrant acute exercise-induced redox responses in human skeletal muscle. - ***In preparation***

PUBLISHED ABSTRACTS/CONFERENCE POSTER PRESENTATIONS (Total: 39, 14 first author, 8 second author)

1. Gao B, Ruple BA, **Carlini NA,** Hybertson BM, Trinity JD, McCord JM. Utilizing Illumina proteomics to advance understanding of Nrf2 activation by PB125 in humans. *Association of Biomolecular Resource Facilities (ABRF),* Pittsburgh PA, March 2026.

2. **Carlini NA,** Hanson BE, Ruple BA, Craig JC, Fermoyle CC, McKenzie AI, Bisconti AV, Pelka EZ, Rostamkhani H, Wilcox I, Richardson RS, Drummond MJ, Rajasekaran RS, Broxterman RM, Trinity JD. Targeted Nrf2 activation preserves disuse-related macrovascular but not microvascular function in younger and older adults. *American Physiological Society Summit,* Minneapolis MN, April 2025.

3. Rostamkhani H, Ruple BA, **Carlini NA**, Hanson BE, Fermoyle CC, McKenzie AI, Richardson RS, Broxterman RM, Trinity JD. Age and basal respiratory capacity influence skeletal muscle OXPHOS responses to MitoQ. *American Physiological Society Summit,* Minneapolis MN, April 2025.

4. **Carlini NA**, Ruple BA, Rostamkhani H, Shi H, Mascheck JA, Hanson BE, Soorappan RN, Drummond MJ, Broxterman RM, Trinity JD. Age and sex-related alterations in the plasma lipidome are linked to lower skeletal muscle respiration and greater mitochondrial oxidative stress in older adults. *University of Utah Department of Internal Medicine (DOIM) Research Symposium*, Salt Lake City, Utah 2025.

5. Rostamkhani H, Ruple BA, **Carlini NA**, Hanson BE, Drummond MJ, Broxterman RM, Trinity JD. Differential effects of PB125 and MitoQ supplementation and limb immobilization on mitochondrial respiration and protein expression in skeletal muscle. *University of Utah Department of Internal Medicine (DOIM) Research Symposium*, Salt Lake City, Utah 2025

6. Collado C, **Carlini NA,** Brown MK, Harber MP, Wood P, Fleenor BS. Associations between plasma lipid species and seated and supine blood pressure in males and females. *Lincoln Memorial University DO Conference*, Harrogate TN 2025.

7. Tanui, P, Edler A, Edler T, Brown MK, **Carlini NA**, Harber MP, Fleenor BS. Influence of biological sex and blood glucose on subendocardial viability ratio in middle-aged and older adults. *Lincoln Memorial University DO Conference*, Harrogate TN 2025.

8. Edler T, Edler A, Tanui P, Brown MK, **Carlini NA**, Harber MP, Fleenor BS. Exploring the impact of blood glucose on arterial stiffness in non-diabetic apparently healthy adults. *Lincoln Memorial University DO Conference*, Harrogate TN 2025.

9. Edler A, Edler T, Tanui P, Brown MK, **Carlini NA**, Harber MP, Fleenor BS. Associations between blood glucose and seated and supine blood pressure in healthy adults. *Lincoln Memorial University DO Conference*, Harrogate TN 2025.

10. Wilbrandt B, Williams D, Brown MK, **Carlini NA**, Harber MP, Fleenor BS. Age, biological sex, and supine blood pressure. *American Medical Association Research Challenge*.

11. Wilbrandt B, Williams D, Brown MK, **Carlini NA**, Harber MP, Fleenor BS. Sex specific relationship between age and supine blood pressure. *Lincoln Memorial University Research Day*, Harrogate TN 2025.

12. Ruple BA, **Carlini NA,** Hanson BE, Craig JC, Fermoyle CC, McKenzie AI, Wilcox I, Richardson RS, Drummond MJ, Rajasekaran NS, Broxterman RM, Trinity JD. Differential effects of PB125 and MitoQ supplementation and limb immobilization on mitochondrial respiration and protein expression in skeletal muscle. *American Physiological Society Summit*, Baltimore, MD, April 2025.

13. Hanson BE, **Carlini NA,** Gifford JR, Kithas AC, Hydren JR, Jarrett, CL, Shields KL, Bisconti AV, Park SH, Craig JC, Kwon OS, Nelson AD, Morgan DE, Jessop JE, Bledsoe AD, Richardson RS, Broxterman RM, Trinity JD. Evaluation of endothelial-mediated mechanisms of passive leg movement hyperemia: impact of age and exercise training. *American Physiological Society Summit*, Baltimore, MD, April 2025.

14. **Carlini NA,** Iannetta D, Iacovelli JJ, Jarrett CL, Puchalapalli VR, Ryan JJ, Brinker L, Wray DW, Bunsawat K. Estimates of myocardial perfusion are associated with obesity in patients with heart failure with preserved ejection fraction: the role of biological sex. *American Physiological Society Summit*, Baltimore, MD, April 2025.

15. **Carlini NA,** Romanowski SM, Baynard T, Harber MP, Bunsawat K, Fleenor BS. Estimates of cardiorespiratory fitness are associated with carotid artery compliance: role of biological sex. *American Physiological Society Summit*, Baltimore, MD, April 2025.

16. **Carlini NA,** Ruple BA, Hanson BE, Craig JC, Fermoyle CC, McKenzie AI, Bisconti AV, Wilcox I, Richardson RR, Drummond MJ, Rajasekaran NS, Broxterman RM, Trinity JD**.** Targeted Nrf2 activation lowers oxidative stress but insufficient to improve vascular function in older adults. *American Physiological Society Integrative Physiology of Exercise Conference*, State College, PA. November 2024.

17. **Carlini NA**, Holder KJ, Brown MK, Hughes RP, Harber MP, Fleenor BS. Mitochondrial-targeted antioxidant enhancing effects on vascular endothelial function in middle-aged and older adults is influenced by cardiorespiratory fitness. *American Physiological Society Summit*, Long-Beach CA. April 2024.

18. Killam M, Hughes RP, **Carlini NA,** Fleenor BS, Harber MP. Mitochondrial-targeted antioxidant (MitoQ) ingestion acutely blunts VO_{2max} in physically inactive females. *Annual Meeting of American College of Sports Medicine*, Boston, MA. May 2024.

19. Betscakos MG, **Carlini NA**, Fleenor BS, Harber MP. MitoQ acutely enhances myocardial perfusion in non-exercising middle-aged and older adults with lower cardiorespiratory fitness. *Annual Meeting of American College of Sports Medicine*, Boston, MA. May 2024.

20. Brown MK, **Carlini NA,** Harber MP, Fleenor BS. Mitochondrial-targeted antioxidant increases vascular endothelial function in non-exercising middle-aged and older adults. *Mid-West American College of Sports Medicine*, Indianapolis, Indiana. October 2023

21. Bennett N, **Carlini NA,** Fleenor BS, Harber MP. Acute MitoQ enhancing effects on vascular endothelial function are inversely associated with cardiorespiratory fitness. *Mid-West American College of Sports Medicine*, Indianapolis, Indiana. October 2023

22. Betscakos MG, **Carlini NA**, Fleenor BS, Harber MP. MitoQ acutely enhances myocardial perfusion in non-exercising middle-aged and older adults with lower cardiorespiratory fitness. *Mid-West American College of Sports Medicine*, Indianapolis, Indiana. October 2023

23. Morris C, Hughes RP, **Carlini NA,** Fleenor BS, Harber MP. Mitochondrial-targeted antioxidant (MitoQ) ingestion acutely lowers maximal oxygen pulse and impairs heart rate recovery. *Mid-West American College of Sports Medicine*, Indianapolis, Indiana. October 2023

24. Van Eck V, Hughes RP, **Carlini NA,** Fleenor BS, Harber MP. Mitochondrial-targeted antioxidant (MitoQ) ingestion does not influence substrate oxidation during exercise. *Mid-West American College of Sports Medicine,* Indianapolis, Indiana. October 2023

25. Killam M, Hughes RP, **Carlini NA,** Fleenor BS, Harber MP. Mitochondrial-targeted antioxidant (MitoQ) ingestion acutely blunts VO_{2max} in physically inactive females. *Mid-West American College of Sports Medicine*, Indianapolis, Indiana. October 2023.

26. **Carlini NA,** Souzis A, Hughes RP, Peterman JE, Kaminsky LA, Whaley MH, Fleenor BS, and Harber MP. Influence of cardiorespiratory fitness on ventilatory threshold. *Annual Meeting of American College of Sports Medicine*, Denver, CO. June 2023.

27. **Carlini NA,** Harber MP, and Fleenor BS. Aortic perivascular adipose tissue density is associated with aging, vascular hemodynamics and myocardial perfusion. *American Physiological Society Integrative Physiology of Exercise Conference,* Baltimore, MD. September 2022.

28. **Carlini NA,** Cloud RMT, Harber MP, and Fleenor BS. Lower subendocardial viability ratio with aging in women is dependent on cardiorespiratory fitness. *Annual Meeting of American College of Sports Medicine*, San Diego, CA. June 2022.

29. Hughes RP, Johnson L, **Carlini NA,** Fleenor BS and Harber MP. Effects of acute aerobic exercise on mental-stress induced arterial stiffness in black young adults. *American Physiological Society Integrative Physiology of Exercise Conference*, Baltimore, MD. September 2022.

30. **Carlini NA,** Stump OE, Lumadue EJ, Harber MP, and Fleenor BS. Carotid-femoral pulse wave velocity is associated with nighttime ambulatory blood pressure. *Annual Meeting of American College of Sports Medicine,* Washington, DC. June 2021 (Virtual).

31. **Carlini, NA,** Harber MP, and Fleenor BS. Age-related increase in extra-media thickness is associated with arterial stiffening and carotid blood pressure. *Experimental Biology*, San Diego, CA, April 2020 (Virtual).

32. Harman TC, **Carlini NA**, Harber MP, Kaminsky LA, Whaley MH, and Fleenor BS. Cardiorespiratory fitness and vascular hemodynamics in middle-aged and older adults. *Annual Meeting of American College of Sports Medicine*, San Francisco, CA. June 2020.

33. **Carlini, NA**, Harber MP, and Fleenor BS. Cardiorespiratory fitness & healthy vascular aging. *Mid-West American College of Sports Medicine*, Grand Rapids Michigan. November 2018

34. **Carlini NA**, A. Steinbeck, B. Smith, B. Kistler, BS Fleenor and MP Harber. Acute influence of caffeine on arterial stiffness and central blood pressures following aerobic exercise. *Annual Meeting of American College of Sports Medicine*, Minneapolis MN. June 2018 (Thematic Poster).

35. Gadberry J, **Carlini NA,** Burke S, Campbell M, and BS Fleenor. Dietary fat intake predicts aortic stiffness independent of physical activity. *Annual Meeting of American College of Sports Medicine*, Minneapolis MN. June 2018.

36. Williams MA, Silva EM, **Carlini NA**, Kistler BM, Fleenor BS & Harber MP. Ambulatory central blood pressure over 24 hours following intermittent vs. continuous moderate intensity exercise. *Mid-West American College of Sports Medicine*, Grand Rapids Michigan. November 2018.

37. **Carlini NA**, A. Steinbeck, B. Smith, B. Kistler, BS Fleenor and MP Harber. Acute influence of caffeine on arterial stiffness and central blood pressures following aerobic exercise. *Midwest American College of Sports Medicine*, Grand Rapids, MI. November 2017.

38. Fountain W, Lynch C, **Carlini NA**, Valenti Z, Guarnera S, Heinbockel T, Burke T, Meister B, Webb R, Wilson A, and Mazzetti SA. Neuromuscular and metabolic activity during concentric and eccentric squat exercise. *Mid-Atlantic American College of Sports Medicine*, Harrisburg, PA. November 2016.

39. Valenti, Z., Guarnera S, **Carlini NA,** Fountain WA, Heinbockel T, Lynch C, Burke T, Meister B, Matthews I, Raley C, and Mazzetti SA. Comparison of metabolic rate between concentric and eccentric muscle actions. *Mid-Atlantic American College of Sports Medicine*, Harrisburg, PA. November 2016.

ORAL PRESENTATIONS (2)

1. **Carlini NA**, Steinbeck A, Smith B, Kistler BM, Fleenor BS and Harber MP. Acute influence of caffeine on arterial stiffness and central blood pressures following aerobic exercise. *Annual Meeting of American College of Sports Medicine*, Minneapolis MN. June 2018.

2. **Carlini NA** and Mazzetti SA. Inverse relationship between C-reactive protein and cardiorespiratory fitness level: influence of exercise intensity versus mode. *Salisbury University Student Research Conference (SUSRC),* Salisbury, MD. April 2016.

AD HOC REVIEWER

Journal of Applied Physiology (IF: 3.5)
American Journal of Heart and Circulatory Physiology (IF: 4.1)
Physiological Reports (IF: 2.5)
Journal of Hypertension (IF: 4.8)
Pathophysiology (IF: 2.3)
GeroScience (IF: 7.6)
Microvascular Research (IF: 2.9)
Experimental Physiology (IF: 2.8)

RESEARCH-RELATED SKILLS & TECHNIQUES

Cardiopulmonary Exercise Testing

1. Maximal (VO_{2max}) and submaximal cardiopulmonary exercise testing
2. Cardiac Impedance (PhysioFlow)
3. Interpretation of metabolic, cardiovascular, and respiratory data to develop exercise prescription

Vascular Function

1. Carotid artery ultrasonography
    a. Carotid intima (IMT) and extra media thickness (EMT)
    b. Carotid β-stiffness, compliance, elastic modulus, pulsatility, blood flow and conductance
2. Macrovascular function (brachial artery flow-mediated dilation, FMD)
4. Microvascular function (passive leg movement, PLM)
5. Cardio-vascular hemodynamics/wave reflection parameters (pulse wave analysis, SphygmoCor XCEL)
6. Beat-to-beat blood pressure monitoring (Finapress)
7. Ambulatory blood pressure monitoring (SunTech Medical)

Aortic Stiffness

1. Carotid-femoral pulse wave velocity (SphygmoCor XCEL)

Basic/Bench Work

1. Enzyme linked immunosorbent assay (ELISA)
2. Peripheral Blood Mononuclear Cell (PBMC) isolation
3. Endothelial Cell Culture
4. RNA isolation (PBMCs, endothelial cell culture)

Computer/Technology Skills

1. Data acquisition/analysis and processing
2. BioPac
3. Cardiovascular (CV) Suite
4. Osiri X MD Digital Imaging Software (CT analysis)
5. GraphPad Prism/SPSS
6. Microsoft Office (Word, Excel, PowerPoint)
7. Keynote
8. MetaboAnalyst (lipid omics analysis)

TEACHING/LABORATORY MANAGER

1. **Laboratory Manager: Clinical Exercise Physiology Laboratory (2017-2023)**
    a. Provided daily oversight and coordination of all research-related projects for graduate students.
    b. Developed standard operating procedures for research-related laboratory techniques.
    c. Educational and applicable mentorship of graduate students on assessments of body composition, exercise blood pressure, arterial stiffness, ultrasonography, phlebotomy, and cardiopulmonary exercise testing.

2. **EXSC 202 - Fall 2022 – Role: Primary Instructor**
    a. ***Course:*** *Fitness Assessments in Exercise Science*
    b. ***Course Description:*** A laboratory-based course designed to introduce rationales and procedures of various health and fitness assessments as well as interpretation of testing results.

- Rationale for preassessment screening
- Cardiovascular disease risk factor assessment
- Measuring physical fitness and body composition
- Estimation of cardiorespiratory fitness from field and submaximal exercise tests
- Measuring cardiorespiratory fitness: cardiopulmonary exercise testing
- Metabolic calculations
- Muscular fitness and flexibility

Undergrad Student Enrollment: *18*

3. **EXSC 493 - Fall 2018 – Role: Laboratory Instructor**
    a. ***Course:*** Advanced Concepts in Exercise Physiology
    b. ***Course Description:*** The effect of exercise on physiological functions in humans during acute and chronic activity

Undergrad Student Enrollment: *20-25*

MENTORSHIP

1. Mikaela Brown, M.S. (role: co-mentor)
    a. Primary mentor: Dr. Matthew P. Harber
    b. Institution: Ball State University, Clinical Exercise Physiology Laboratory
    c. Current position: Research assistant/laboratory manager at Lincoln Memorial University

2. Spencer Romanowski, M.S. (role: co-mentor)
    a. Primary mentor: Dr. Bradley S. Fleenor
    b. Institution: Ball State University, Clinical Exercise Physiology Laboratory
    c. Current position: Doctoral Candidate, Iowa State University (mentor: Wesley K. Lefferts, PhD)

3. Varshitha Reddy Puchalapalli, B.S. (role: co-mentor)
    a. Primary mentor: Dr. Kanokwan (Mandy) Bunsawat
    b. Institution: Utah Vascular Research Laboratory (UVRL)
    c. Current position: Research assistant volunteer

4. Helya Rostamkhani, M.S. (role: co-mentor)
    a. Primary mentor: Dr. Joel D. Trinity
    b. Institution: Utah Vascular Research Laboratory (UVRL)

c. Current position: PhD Student, UVRL

CERTIFICATIONS

- CITI Biomedical/Researcher *Current*
- Good Clinical Practice (US FDA) *Current*
- OSHA Bloodborne Pathogens *Current*
- Shipping and Transport of Regulated Biological Materials *Current*
- IACUC Animal Training *Current*

MEMBERSHIPS

- American Physiology Society (APS) *2019-Current*
- American Heart Association (AHA) 2024-*Current*
- North American Artery (NAA) *2024*
- American College of Sports Medicine (ACSM) *2015-Current*
    - Chapters: Mid-Atlantic (’15-’17), Mid-West (’17-’23)
- Clinical Exercise Physiology Association (CEPA) *2022-Current*

PROFESSIONAL REFERENCES

Primary MS & PhD Mentor

Bradley S. Fleenor, PhD
Associate Professor of Physiology
DeBusk College of Osteopathic Medicine
Lincoln Memorial University
Harrogate, TN 37752
Email: bradley.fleenor@LMUnet.edu
Phone: (423) 869-6429

Co-MS & PhD Mentor

Matthew P. Harber, PhD
Professor of Health Sciences
Department of Kinesiology
Taylor University
Upland, Indiana 46989
Email: mtharber@taylor.edu

Postdoctoral Mentor

Joel D. Trinity, PhD
Associate Professor
Division of Geriatrics
Department of Internal Medicine
University of Utah
Utah Vascular Research Laboratory (UVRL)
Phone: 512-689-2187
Email: joel.trinity@hsc.utah.edu

Postdoctoral Mentor

Kanokwan 'Mandy' Bunsawat, PhD
Assistant Professor
Health, Sport, and Human Physiology
University of Iowa
Integrative Neurovascular
Physiology Laboratory (INPL)
Email: Kanokwan-bunsawat@uiowa.edu