

**Abigail Tice, PhD**  
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### **CURRENT POSITION**

*July 2024-Present **Postdoctoral Associate***

Mentor: Ladda Thiamwong, PhD, RN, FAAN, FNAP

Utilizing exercise and early detection of frailty to prevent fall risk in community-dwelling older adults

### **PAST POSITIONS**

*May 2023-May 2024 **Postdoctoral Fellow***

Mentor: Terence Ryan, PhD

Investigating the mechanisms skeletal muscle wasting and mitochondrial dysfunction in chronic kidney disease, peripheral artery disease, and aging

### **EDUCATION**

*2019-May 2023 **PhD Exercise Physiology***

Mentor: Jennifer Steiner, PhD

Dissertation Title: *Investigating the role of scheduled voluntary exercise in protecting skeletal muscle core clock and health against alcohol-induced disruptions*

*2017-2019 **M.S. Exercise Physiology***

West Virginia University, Morgantown, WV

Randall Bryner, EdD

Thesis Title: *Chronic stress exacerbates the negative effects of obesity on pancreatic b-cell health through the upregulation of the expression of thioredoxin-interacting protein and other pro-apoptotic factors*

*2013-2017 **B.S. with Honors, Exercise Physiology, Cum Laude***

West Virginia University, Morgantown, WV

### **RESEARCH GRANT AWARDS AND PROJECTS**

American College of Sports Medicine Student Doctoral Grant

Role: PI

Amount: \$5,000

Funding Period: 07/2022 - 07/2023

Title: The potential protective effects of daily exercise against alcohol-induced disruptions to muscle clock oscillation

Dissertation Award Program Florida State University College of Health and Human Sciences

Role: PI

Funding: \$1,000

Funding Period: 07/2022 - 2/2022

Title: Investigating the role of scheduled voluntary exercise in protecting skeletal muscle core clock and health against alcohol-induced disruptions

Dissertation Research Grant Florida State University Graduate College

Role: PI

Funding: \$1,000

Funding Period: 3/2023 - 12/2023

Title: Investigating the role of scheduled voluntary exercise in protecting skeletal muscle core clock and health against alcohol-induced disruptions

American Heart Association Postdoctoral Fellowship

Role: PI

Funding: \$144,580

Status: PI rescinded award due to moving to UCF to transition from lab to life model of research.

Title: The role of PDK4 in the ischemic mitochondrial myopathy of chronic limb threatening ischemia

Ruth L. Kirschstein Postdoctoral Individual National Research Service Award

Role: PI

Funding: \$224,868

Status: PI declined award due to moving to UCF to transition from lab to life model of research.

Title: The role of PDK4 in the ischemic mitochondrial myopathy of chronic limb threatening ischemia

R01MD018025-03S2, Office of the Director (Scientific Workforce Diversity, COSWD)/ NIH Thiamwong (PI)

Role: Post-doctoral scholar

Funding Period: 09/30/2024-06/30/2025

Title: Optimizing a technology-based body and mind intervention to prevent falls and reduce health disparities in low-income populations

R61/R33 Application

Role: Co-I

Status: Submitted 10/03/2024

Title: Research Engagement, Accessibility, and Digital Health Interventions Bus (ReadiBus)

UCF Seed Funding Program

Role: Co-PI

Status: Submitted

Title: Rapid Blood Test for Early Identification of Individuals with High Risk of Alzheimer's Disease

## **PUBLICATIONS**

1. Tangen, AR, **Tice, AL**, McNeill, A, Jessup, M, Wang, Y, Steiner, JL. Sex-Specific Impact of Prenatal Alcohol Exposure on Metabolism and Physical Performance in Adult Mice. *Submitted to the Journal of Alcohol and Alcoholism*.
  2. Jessup, M, **Tice, AL**, McNeill, A, Tangen, A, Liu, ML, McCarthy, DM, Bhide, PG, Steiner, JL, Wang Y. Auditory Deficits in a Mouse Model of First-Trimester Prenatal Alcohol Exposure. *Submitted to the International Journal of Molecular Sciences*.
  3. **Tice, A.L.\***, Lafontant, K.\*, Gumadelly, R., Suarez, J.R.M., Blount, A., Banarjee, C., Fukuda, D.H., Stout, J.R., Park, J.H., Lighthall, N.R., Thiamwong, L. Examining Sleep the Night Before a Reported Fall Among Community-dwelling Older Women: A Case Series. *Submitted to the Journal of Clinical Sleep Medicine*.
- \*Authors contributed equally to this work**
4. **Tice, A.L.**, Conner, N, Zhang, W, Huo, Q, Li, Y, Emrich, C, Xie, R, Thiamwong, L. (2025). Associations of Frailty, Fear of Falling, and Fall Risk in Community-Dwelling Older Adults in Orlando, Florida. *Journal of Frailty, Sarcopenia, and Falls*
  5. **Tice, A. L.**, Rossetti, M. L., Laudato, J. A., Lee, C., Hickner, B., Gordon, B. S., Steiner, J. L. (2025). Scheduled exercise partially offsets alcohol-induced clock dysfunction in skeletal muscle and liver of female mice. *Biological Rhythms*.
  6. Palzkill, V. R., Tan, J., Moparthy, D., **Tice, A. L.**, Ferriera, L. F., Ryan, T. E. (2024) A 6-minute Limb Function Assessment for Therapeutic Testing in Experimental Peripheral Artery Disease Models. *JACC: Basic to Translational Science. bioRxiv*.
  7. **Tice, A. L.** and Steiner, J. L. (2024). Binge alcohol induces NRF2-related antioxidant response in skeletal muscle of female mice. *Biochemical and Biophysical Research Communications*, 714, 149968.
  8. **Tice, A. L.**, Fletcher E., McNeill, A. G., Laskin G. R., Laudato, J. A., Rossetti, M. L., Gordon, B. S., Steiner, J. L. (2024). The effects of chronic alcohol intoxication on aerobic exercise-induced adaptations in female mice. *Journal of Applied Physiology*, 136(4), 721-738.
  9. Laudato, J. A., **Tice, A. L.**, Johnson, B. R., Russo, A., Rossetti, M. L., Bridges, B. O., Egan, A., Gordon, B. S., Steiner, J. L. (2023). Impact of prior alcohol use on the subsequent development of cancer cachexia in male and female mice. *Alcoholism: Clinical and Experimental Research*, 47(7), 1271-1282.
  10. **Tice, A. L.\***, Bridges B. O.\*, Laudato, J. A., Gordon, B. S., Steiner J. L. (2023). Mealtime alcohol consumption suppresses the feeding induced rise in skeletal muscle mTORC1 signaling in a time-dependent manner. *Molecular and Cellular Endocrinology*, 566, 111914.
- \*Authors contributed equally to this work**
11. **Tice, A. L.**, Laudato, J. A., Gordon, B. S., Steiner, J. L. (2022). Chronic alcohol consumption disrupts the skeletal muscle circadian clock in female mice. *Journal of Biological Rhythms*, 07487304221141464
  12. **Tice, A. L.**, Laudato, J. A., Fadool, D. A., Gordon, B. S., Steiner, J. L. (2022). Acute binge alcohol alters whole-body metabolism and the time-dependent expression of skeletal muscle specific metabolic markers for multiple days in mice. *American Journal of Physiology-Endocrinology and Metabolism*, 323(3), E215-E230
  13. Ismaeel, A., Laudato, J. A., Fletcher, E., Papoutsi, E., **Tice, A.**, Hwa, L. S., Miserlis, D., Jamurtas, A. Z., Steiner, J., Koutakis, P. (2022). High-Fat Diet Augments the Effect of Alcohol on Skeletal Muscle Mitochondrial Dysfunction in Mice. *Nutrients*, 14(5), 1016.

14. **Tice, A. L.**, Laudato, J. A., Rossetti, M. L., Wolff, C. A., Esser, K. A., Lee, C., Lang, C. H., Vied, C., Gordon, B. S., Steiner, J. L. (2021). Binge alcohol disrupts skeletal muscle core molecular clock independent of glucocorticoids. *American Journal of Physiology-Endocrinology and Metabolism*, 321(5), E606-E620.
15. Laudato, J. A., **Tice, A. L.**, Call, J. A., Gordon, B. S., & Steiner, J. L. (2021). Effects of alcohol on skeletal muscle contractile performance in male and female mice. *PloS one*, 16(8), e0255946.
16. Hornsby, W. G., **Tice, A. L.**, Stone, J. D., Merrigan, J. J., Hagen, J., Wagle, J. P., Cunanan, A. J., Stone, M. H. (2021). Changes in Maximal Strength and Home Run Performance in NCAA Division I Baseball Players Across 3 Competitive Seasons: A Descriptive Study. *Journal of Functional Morphology and Kinesiology*, 6(1), 4.

**Complete list of publications can be found at:**

<https://www.ncbi.nlm.nih.gov/myncbi/abigail.tice.2/bibliography/public/>

## CONFERENCE PRESENTATIONS

1. **Tice AL**, Hornsby WG, Stone J, Wagle JP, Stone MH. A Descriptive Analysis of Changes in Maximal Strength and Home Runs across Several Seasons and during the Introduction of BBCOR Bats in NCAA Division I Baseball. Coaches College Conference, Johnson City, TN, 2018. Poster Presentation
2. **Tice AL**, Branyan KW, DeVallance ER, Marshall KL, Kelley EE, Olfert IM, Chantler PD, Bryner RW. Effects of Obesity and Exercise on Pancreatic Oxidative Stress, Morphology, and Health. Van Liere, WVU, 2019 and Experimental Biology Conference, Orlando, FL, 2019. Poster Presentation
3. Burrage E, Aboaziza E, Marshall KL, Moore J, Johnson J, O'Reily J, Hare L, Dangott S, **Tice AL**, Chantler PD, Olfert IM. Vaping during pregnancy impairs cerebrovascular function in offspring. Society of Toxicology Conference, Baltimore, MD, 2019.
4. Aboaziza E, Burrage E, Moore J, Marshall KL, Johnson J, O'Reily J, Hare L, Dangott S, **Tice AL**, Chantler PD, Olfert IM. In utero exposure to electronic cigarettes results in aortic dysfunction. Society of Toxicology Conference, Baltimore, MD, 2019.
5. Parsley M, Burrage E, Marshall KL, Clemons G, **Tice AL**, Bryner RW, Brundage K, Kelley EE, Chantler PD. The Immunological Response to Chronic Stress in Obese Mice. Experimental Biology Conference, Orlando, FL, 2019. Poster Presentation
6. Burrage E, Aboaziza E, Marshall KL, Moore J, Johnson J, O'Reily J, Hare L, Dangott S, **Tice AL**, Chantler PD, Olfert IM. In Utero Exposure to Electronic Cigarettes Causes Cerebrovascular Impairment with Aging. Experimental Biology Conference, Orlando, FL, 2019. Poster Presentation
7. Burrage E, Marshall KL, Parsley M, **Tice AL**, Aboaziza E, Clay A, Frisbee JC, Kelley EE, Chantler PD. Xanthine Oxidase Mediates Cerebrovascular Function Impairment in Chronically Stressed Mice. Experimental Biology Conference, Orlando, FL, 2019. Poster Presentation
8. **Tice AL**, Gordon BS, Steiner JL. Drinking 'Off' the Clock: Effects of Binge Alcohol on the Skeletal Muscle Core Clock. Florida State University (FSU) Graduate Research Showcase. Tallahassee, FL, February 2020. Oral presentation

9. Laudato JA, **Tice AL**, Johnson BR, Gordon BS, Kim JS, Steiner JL. Single Alcoholic Binge Reduces Skeletal Muscle Function and Performance. FSU Graduate Research Showcase, Tallahassee FL, February 2020. Oral Presentation
10. Steiner JL, **Tice AL**, Laudato JA, Johnson BR. Novel Binge Drinking Model Causes Perturbations in Muscle Metabolism with Refeeding. Experimental Biology, San Diego, CA, April 2020 (Format altered due to COVID-19).
11. **Tice AL**, Gordon B, Steiner JL. Drinking ‘Off’ the Clock: Effects of Binge Alcohol on the Skeletal Muscle Core Clock. Experimental Biology, San Diego, CA, April 2020 (Format altered due to COVID-19).
12. Laudato JA, **Tice AL**, Dunlap KR, Keith ZA, Steiner JL. Dietary Composition Exacerbates Sex Differences in Skeletal Muscle Myopathy following Chronic Alcohol Intake. Experimental Biology, San Diego, CA, April 2020 (Format altered due to COVID-19).
13. Laudato JA, **Tice AL**, Dunlap KR, Keith ZA, Steiner JL. Chronic Alcohol Consumption in Female Mice Yields Strain Dependent Differences in Muscle Atrophy. ACSM Annual Meeting, San Francisco, CA, 2020. (Format altered due to COVID-19)
14. **Tice AL**, Laudato JA, Fadool DA, Gordon BS, Steiner JL. The Effects of Acute Alcohol Intoxication on Skeletal Muscle Substrate Metabolism Measured Around the Clock. FSU Graduate Research Showcase, Tallahassee, FL, February 2021. Oral Presentation
15. Laudato JA, **Tice AL**, Rosetti ML, Steiner JL. Alcohol Amplifies the Effect of Cancer Cachexia on Skeletal Muscle Anabolic Signaling in C26 Tumor Bearing Mice. FSU Graduate Research Showcase, Tallahassee FL, February 2021.
16. **Tice AL**, Laudato JA, Gordon BS, Steiner JL. Drinking Off(s) the Clock: Chronic Alcohol Suppresses Skeletal Muscle Molecular Clock. Experimental Biology, Online Format, Oral Presentation, April 2021
17. **Tice AL**, Laudato JA, Fadool DA, Gordon BS, Steiner JL. The effects of acute alcohol intoxication on skeletal muscle substrate metabolism measured around the clock. Research Society on Alcoholism, Online Format, June 2021
18. Laudato JA, **Tice AL**, Rossetti ML, Steiner JL. Alcohol Worsens Cancer Cachexia and Anabolic Signaling in C26 Tumor Bearing Mice. Experimental Biology Online Format, April 2021
19. **Tice AL**, Laudato JA, Gordon GS, Steiner JL. Alcohol intoxication stimulates antioxidant gene expression in skeletal muscle in a time dependent manner. FSU Graduate Research Showcase, Tallahassee, FL February 2022. Oral Presentation
20. Laudato JA, **Tice AL**, Rossetti ML, Bridge BO, Gordon BS, Steiner JL. Discontinuation of Chronic Alcohol Consumption Preserves Skeletal Muscle Mass and Body Weight but does not Preserve Force Production. FSU Graduate Research Showcase, Tallahassee FL, February 2022. Oral Presentation
21. Egan A, Laudato JA, Bridges B, **Tice AL**, Rossetti ML, Herling K, Steiner, JL. Effects of alcohol consumption on cancer cachexia. FSU Undergraduate Research Showcase, Tallahassee, FL April 2022. Poster Presentation
22. Lima M, Rossetti ML, Laudato JA, Bridges B, **Tice AL**, Steiner JL. Low-dose alcohol consumption throughout chemotherapy does not amplify muscle wasting. FSU Undergraduate Research Showcase, Tallahassee, FL April 2022. Poster Presentation
23. **Tice AL**, Laudato JA, Gordon BS, Steiner JL. Alcohol stimulates antioxidant gene expression in skeletal muscle in a time dependent manner. Experimental Biology, Philadelphia, PA, April 2022. Poster Presentation

24. Laudato JA, **Tice AT**, Bridges BO, Rossetti ML, Gordon BS, Steiner JL. Prior Alcohol Use does not Enhance Skeletal Muscle Atrophy and Force Decrements Induced by Cancer Cachexia. Experimental Biology, Philadelphia, PA, April 2022. Poster Presentation
25. **Tice AL**, Gordon BS, Steiner JL. Acute alcohol intoxication differentially alters fat metabolism genes in skeletal muscle and liver. Research Society on Alcoholism, Orlando, FL, June 2022. Poster Presentation
26. Egan AJ, Laudato JA, **Tice AL**, Lima MJ, Rossetti ML, Bridges BO, Gordon BS, Steiner JL. Effects of Prior Alcohol Consumption with Chemotherapy on Cancer Cachexia. 2023 Florida Undergraduate Research Consortium, St. Thomas University, Miami, FL. Poster Presentation
27. **Tice AL**, Laudato JA, Rossetti ML, Gordon BS, Steiner JL. Chronic Alcohol Consumption Impairs Aerobic Exercise-Induced Adaptations to Skeletal Muscle. FSU Graduate Research Showcase, Tallahassee FL, March 2023. Oral Presentation
28. **Tice AL**, Laudato JA, Rossetti ML, Gordon BS, Steiner JL. Chronic Alcohol May Mimic Exercise Effects on Muscle Clock Genes in Female Mice. Advances in Skeletal Muscle Biology in Health and Disease. Gainesville, Florida, March 2023. Poster Presentation
29. Steiner, JL, Bridges, BO **Tice AL**, Laudato JA, Gordon BS. Long-term low dose alcohol intake decreases absolute, but not specific muscle force in a sex specific manner in aged mice. Advances in Skeletal Muscle Biology in Health and Disease. Gainesville, Florida, March 2023. Poster Presentation
30. Bridges, Blake; Laudato, JA **Tice, AL**, Rossetti, ML, Steiner, JL. Chronic Alcohol Consumption reduces Muscle Force and Fatigue Recovery in Aged Female, but not male, mice. Advances in Skeletal Muscle Biology in Health and Disease. Gainesville, Florida, March 2023. Poster Presentation
31. Laudato, JA, **Tice, AL**, Bridges, BO, Rossetti, ML, Gordon, BS, Steiner, JL. Alcohol Consumption Worsens mTOR Signaling and Prevents Preservation of Muscle Atrophy by Chemotherapy During Cancer Cachexia. Advances in Skeletal Muscle Biology in Health and Disease. Gainesville, Florida, March 2023. Poster Presentation
32. Lima M, Laudato JA, **Tice AL**, Egan AJ, Rossetti ML, Bridges BO, Gordon BS, Steiner JL. Interaction of Alcohol use and Chemotherapy treatment on Cancer cachexia in Female mice. Advances in Skeletal Muscle Biology in Health and Disease. Gainesville, Florida, March 2023. Poster Presentation
33. **Tice AL**, Laudato JA, Rossetti ML, Gordon BS, Steiner JL. Chronic alcohol ingestion impairs exercise effects on muscle clock while blunting exercise-induced adaptations. ACSM National Conference, Denver, Colorado, May 2023. Thematic Poster Presentation
34. **Tice A**, Kyoungre K, Thome T, Yang Q, Stone L, Vugman N, O'Malley K, Berceci S, Scali S, Ryan T. Peripheral artery disease patients with chronic kidney disease have lower muscle strength and mitochondrial function compared to those with normal kidney function. American Physiology Summit, Long Beach, California, April 2024. Poster Presentation
35. Wimberly K, Lackey J, **Tice A**, Hepple R, Ryan T. A preliminary assessment of physical function in aged male mice with constitutive activation of the aryl hydrocarbon receptors in skeletal muscle, American Physiology Summit, Long Beach, California, April 2024. Poster Presentation
36. Steiner J, Boykin J, **Tice A**, Laudato J, Murphy R. Continued use of alcohol accelerates cancer cachexia and impairs ability to induce 4E-BP1 but not p70S6K phosphorylation following muscle contraction. American Physiology Summit, Long Beach, California, April 2024. Poster Presentation

37. **Tice, AL**, Chen, C, Gurupur, V, Ng, BP, Fukuda, D, Lopez, J, Choi, H, Thiamwong, L. Inadequate Sleep Associated with Frailty Development and Fall Risk in Low-Income Older Adults. Gerontological Society of America Summit. Seattle, WA. November 2024. Poster Presentation.
38. **Tice, AL**, Conner, N, Zhang, W, Huo, Q, Li, Y, Emrich, C, Xie, R, Thiamwong, L. Frailty, fall risk, and fear of falling positively associated in community-dwelling older adults. Gerontological Society of America Summit. Seattle, WA. November 2024. Poster Presentation.
39. Leinbach, CB, **Tice, AL**, Blout, A, Lighthall, N, Thiamwong, L. Association between physical frailty, attention and executive function in low-income older adults. Gerontological Society of America Summit. Seattle, WA. November 2024. Poster Presentation.
40. Leinbach, CB, **Tice, AL**, Lopez, J, Thiamwong, L. University-City Partnership to Recruit Diverse, Low-Income Seniors to Alleviate Health Disparities. Gerontological Society of America Summit. Seattle, WA. November 2024. Poster Presentation.
41. Lafontant, K, Zamarripa, E, **Tice, A**, Blount, A, Suarez, JR, Kim, D, Stout, JR, Thiamwong, L. Reactance/Height as a Potential Bioimpedance Indicator of Frailty Among Community-Dwelling Older Adults. Gerontological Society of America Summit. Seattle, WA. November 2024. Poster Presentation.
42. **Tice, AL**, Lafontant, K, Gummadavelly, R, Suarez, JRM, Banarjee, C, Fukuda, DH, Chen, C, Thiamwong, L. Sleep the Night Before a Reported Fall Among Low-Income Community-Dwelling Older Women: A Case Series. American College of Sports Medicine Southeast Regional Conference. Greenville, SC. February 2025. Oral Presentation.
43. Steiner, JL, **Tice, AL**, Murphy, RD, Laudato, JA, Tangen, AR, Lima, MJ, McNeil, AG, Johnson, BR, Gordon, BS. Alcohol's Impact on Markers of Hepatic Metabolism in Male Mice During Distal Site Cancer. American Physiological Society. April 2025. Baltimore, MD. Submitted as a Poster Presentation.
44. Tangen AR, **Tice, AL**, Steiner, JL. Effects of Early-Life Alcohol Consumption and Aerobic Exercise on Aging Outcomes. American Physiological Society. April 2025. Baltimore, MD. Submitted as a Poster Presentation.
45. Kawaida, MY, **Tice, AL**, Alvarez, S, Lackey, JA, Hepple, RT, Ryan, TE. Skeletal Muscle PGC-1 $\alpha$  Alleviates Age-Related Declines in Physical Function by Modulating L-Kynurenine Metabolism. American Physiological Society. April 2025. Baltimore, MD. Submitted as a Poster Presentation.
46. Wimberly, K, Lackey, JA, **Tice, AL**, Yang, Q, Luo, X, Wei-LaPierre, L, Hepple, RT, Ryan, TE. A Preliminary Assessment of Physical Function And Transcriptome Dynamics in Aged Mice with Constitutive Activation of the Aryl Hydrocarbon Receptors in Skeletal Muscle. American Physiological Society. April 2025. Baltimore, MD. Submitted as a Poster Presentation.

## MENTORING EXPERIENCE

### PhD Students

Robert Murphy (2022-2023)

Blake Bridges (2022-2023)

### Masters Students

Addison McNeil (2022-2023)

Blake Bridges (2021-2022)

#### Undergraduate Students

Alyssa Galiano (2024-Present)

Cecil Latta (2024-Present)

Daniel Ramirez (2024-Present)

Eman Ali (2024-Present)

Dea Chovatia (2024-Present)

Estefania Zamarripa (2024-Present)

Miguel Grisales Coca (2024-Present)

Parker Sawyer (2024-Present)

Jinju Nam (2024-Present)

Vanessa Deulofeu (2024-Present)

Avery Tangen (2022-2023)

Mariana Lima (2021-2023)

Arthur Egan (2021-2023)

Keelin Herling (2021-2022)

Nicole Cinquino (2021)

Allyson Russo (2019-2020)

#### **AWARDS AND HONORS**

##### *Academic*

**2019** Endowment for Excellence Fellowships & Scholarships Fund; Florida State University

**2020** Adelaide D. Wilson Graduate Fellowship Endowment Fund; Florida State University

**2020** Pao-Sen Chi Memorial Scholarship; Florida State University

**2021** Wood-Parramore Scholarship; Florida State University

**2022** Endowment for Excellence – Sandels Fund for Excellence II; Florida State University

**2022** Fellows Society Member; Florida State University

##### *Research*

**2016** Student Travel Grant Coaching & Sport Science College Conference; East Tennessee State University

**2018** Student Travel Grant Coaching & Sport Science College Conference; East Tennessee State University

**2019** Van Liere Research Conference Masters Poster Competition Award; West Virginia University

**2021** APS Endocrinology & Metabolism Section Research Recognition Award



**2021** Research & Creativity Day; First Place Presentation Award; Florida State University

**2022** Research & Creativity Day; First Place Presentation Award; Florida State University

**2022** Research Society on Alcoholism Doctoral Student Grant Finalist

**2022** American College of Sports Medicine Doctoral Student Grant winner

**2023** American College of Sports Medicine Charles M. Tipton Student Research Award

**2023** Research & Creativity Day; Third Place Presentation Award; Florida State University

### **PROFESSIONAL SERVICE**

1. Dissertation Award Program Grant Reviewer 2021
2. Guest Reviewer for American Physiological Society Journal 2024