

## Curriculum Vitae

### Sara A. Harper, PhD

Assistant Professor of Exercise Science  
Department of Kinesiology  
University of Alabama in Huntsville  
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## EDUCATION

- 2019 – 23 **Postdoctoral Fellow II** - Utah State University (USU), Logan UT  
Department of Kinesiology and Health Science | Sorenson Legacy Foundation  
Center for Clinical Excellence | Emma Eccles Jones College of Education and  
Human Services.
- 2018 – 19 **Postdoctoral Fellow** - the University of Alabama at Birmingham (UAB),  
Birmingham, AL | Department of Medicine, Division of Gerontology, Geriatrics,  
and Palliative Care | UAB Center for Exercise Medicine, Mentor: Dr. Thomas W.  
Buford
- 2014 – 16 **Ph.D., Exercise Physiology** | Kent State University, Kent, OH  
Dissertation: *The influence of BDNF Val66Met polymorphism on cognition,  
depression, quality of life, and motor symptoms in individuals with Parkinson's  
disease after dynamic cycling.* Mentor: Dr. Angela L. Ridgel
- 2013 – 14 **MS, Exercise Physiology** | Kent State University, Kent, OH  
Thesis: *The influence of lateral foot displacement on cycling efficiency and  
maximal cycling power.* Mentor: Dr. John McDaniel
- 2008 – 12 **BS, Physical Education - Exercise Science Concentration** | Kent State  
University, Kent, OH
- 2010 Attended BS Exercise Science | University of Northern Colorado, Greeley, CO  
*National Student Exchange Program*

## PROFESSIONAL EXPERIENCE

- 2023 – Pres. **Assistant Professor of Kinesiology**, University of Alabama at Huntsville, AL
- Human factors/Healthy, Age-Related Physical function & Ergonomics/Exercise Research laboratory
  - Instructor of record for Exercise Physiology, Research in Exercise Science I, & Research in Exercise Science II
- 2019 – 23 **Postdoctoral Fellow II** - USU, Logan UT
- Neuromechanics laboratory
  - Perception-Action laboratory
  - Neuromuscular Research laboratory
  - Body Composition laboratory
- 2018 – 19 **Postdoctoral Fellow**, University of Alabama at Birmingham, Birmingham, AL
- UAB Center for Exercise Medicine
  - Translational Exercise, Aging, and Microbiome laboratory

- 2017 **Research Assistant II**, Case Western Reserve University, Cleveland, OH
- School of Medicine, Department of Epidemiology & Biostatistics
  - Revving Up Exercise for Sustained Weight Loss by Altering Neurological Reward and Drive (REWARD) Study. NIH R01CA175100 Award
- 2016 – 17 **Visiting Assistant Professor**, Tiffin University, Tiffin, OH
- 2013 – 16 **Graduate Assistant**, Kent State University, Kent, OH
- Motor Control and Vascular Health Laboratories
  - Department of Exercise Physiology, School of Health Sciences
- 2015 **Guest Contributing Free-Lance Writer**, Haywood Doe Consulting Co. LLC, Niles, OH
- 2014 – 15 **Health Fitness Specialist**, Health Fitness Corporation, Cleveland, OH
- 2010 – 11 **Contributing Writer**, Ohio Sport & Fitness Magazine, Cleveland, OH
- 2010 **Personal Trainer**, Fitness Together, Hudson, OH
- 2009 **Specialized Sports Coach**, Skyhawks Sports Academy, Cleveland, OH

### PROFESSIONAL CERTIFICATIONS

- 2001 – Pres. **Adult & Pediatric CPR/AED/First Aid**, American Red Cross (Adult First Aid/CPR/AED 09/2023, valid for 2 years)
- 2016 – Pres. **Certified Exercise Physiologist**, American College of Sports Medicine certified in 2016, recertified through 12/2025
- 2017 – Pres. **Exercise is Medicine Credential: Level II**, American College of Sports Medicine, expires 2027
- 2021 – Pres. **Utah State Licensed Radiologic Practical Technician**, American Registry of Radiologic Technologists (AART) Bone Densitometry Equipment Operator Exam, expires 05/31/2023
- 2019 – 21 **HeartCode® BLS**, American Heart Association, expired 09/2021
- 2018 – 20 **General Electric Healthcare DXA Operator Training**, American Society of Radiologic Technologists

### PROFESSIONAL AFFILIATIONS

- 2011 – Pres. Member, American College of Sports Medicine
- 2019 – Pres. Member, Gerontological Society of America
- 2022 – Pres. Member, Human Factors and Ergonomics Society
- 2023 – Pres. Member, Southeast American College of Sports Medicine Chapter
- 2023 – Pres. Member, American Council of the Blind
- 2023 – Pres. Building Safety Professional Member, International Code Council
- 2023 – Pres. Member, Tennessee Valley Human Factors and Ergonomics Society
- 2023 – Pres. Associate Member, UAB Integrative Center for Aging Research
- 2018 – 23 American Heart Association
- 2021 – 22 Council on Undergraduate Research
- 2020 – 22 Southwest American College of Sports Medicine Chapter
- 2012 – 17 Midwest American College of Sports Medicine Chapter
- 2016 – 17 National Strength and Conditioning Association

### HONORS/AWARDS

#### *Utah State University*

- 2021 **Utah State University Student Association**, Distinguished Service Award Recipient, nominated by mentee Alex Braeger

#### *The University of Alabama at Birmingham*

- 2018           **UAB Clinical Investigator Training Program**  
*Kent State University*
- 2016 – 17      **Level III Leadership and Mentorship Program**, Midwest American College of Sports Medicine (MWACSM)
- 2016           **Best Doctoral Student Poster Presentation**, MWACSM
- 2016           **Graduate Student Volunteer of the Year Award**, College of Education, Health and Human Services (EHHS)
- 2015           **Graduate Student Research Award Recipient**, MWACSM
- 2015           **Regional President's Cup Award**, MWACSM
- 2014           **Outstanding Master Student**, Department of Exercise Science
- 2014           **Best Master's Student Presentation**, Northeast Ohio Exercise Science Conference
- 2012           **Service and Leadership Award**, EHHS
- 2011, 12       **Excellence in Leadership Award**, EHHS
- 2011           **Most Impactful Service Award**, EHHS
- 2011           **Spirit of Service Award**, EHHS

## TEACHING EXPERIENCE

**University of Alabama in Huntsville**, instructor of record

- Spring 2024       KIN 327 Exercise Physiology  
 Spring 2024       KIN 452 Research in Exercise Science II  
 Fall 2023          KIN 451 Research in Exercise Science I  
 Fall 2023          KIN 327 Exercise Physiology

**Olli Lifelong Learning Institute, University of Alabama in Huntsville**, instructor of record

- Spring 2024       Stairway safety

**Utah State University**, instructor of record

- 2022 – 23         Co-Director, SCCE – Interprofessional Education  
 2020 – 23         SCCE – Interprofessional Education Facilitator/Mentor  
 Sum 2022         KHS – KIN 5100 – Fitness Assessment and Prescription  
 Fall 2021         Independent Study – SCCE – Interprofessional Education

**Utah State University**, guest lectures

- Fall 2021         KHS – Exercise Physiology – Epigenetics Overview  
 Spr. 2022         KHS – Exercise Physiology – Epigenetics Overview  
 Spr. 2021         SCCE – Interprofessional Education – *Marketing your IP Experience*  
 Spr. 2021         KHS – Measurement and Evaluation – *Reliability and Validity Chapters*  
 Spr. 2021         KHS – Biostatistics – *Surveys & Other Descriptive Research Methods*  
 Fall 2020         KHS – Neuroscience Symposia Course – *Emotional Recognition*  
 Fall 2020         Masters in Athletic Training Program – Youngstown State University – *The Research Process*  
 Spr. 2020         KHS – Biomechanics Laboratory – *Running Kinematics*  
 Spr. 2020         SCCE – Interprofessional Education – *Marketing your IP Experience*

Note: Sorenson Center for Clinical Excellence (SCCE); Kinesiology and Health Sciences (KHS).

**Tiffin University**, instructor of record

- Spring 2017      EXS 146 Introduction to Exercise Science (two sections)

Fall 2016 NAT 124 Introduction to Athletic Training (two sections)  
EXS 442 Exercise Prescription  
EXS 442L Exercise Prescription Laboratory  
NAT 260 Lifetime Fitness and Wellness  
NAT Survey of Health Issues  
Note: Exercise Science (EXS).

**Tiffin University**, Guest lecture

Fall 2016 EXS 422 Exercise Physiology – *The IRB Process*  
Note: Exercise Science (EXS).

**Kent State University**, Exercise Physiology Adjunct Professor

Sum 2016 EXSC 45080 Physiology of Exercise  
Note: Exercise Science (EXSC).

**Kent State University**, Graduate Assistant

Spring 2016 EXSC 35068 Statistics for the Exercise Scientist Laboratories (two sections)  
EXSC 45080 Physiology of Exercise Laboratory  
Fall 2015 EXSC 35068 Statistics for the Exercise Scientist Laboratories (three sections)  
Spring 2015 EXSC 35068 Statistics for the Exercise Scientist Laboratories (three sections)  
Fall 2014 EXSC 35068 Statistics for the Exercise Scientist Laboratories (two sections)  
EXSC 35022 Exercise Leadership  
Spring 2014 EXSC 35022 Exercise Leadership for the Older Adult  
EXSC 35022 Exercise Leadership  
Fall 2013 EXSC 40612 Exercise Leadership for the Older Adult  
EXSC 45080 Physiology of Exercise Laboratories  
Note: Exercise Science (EXSC).

**Kent State University**, Guest lectures

Mar 2016 Speaker, Cleveland Heights Parkinson's disease support group  
Apr 2016 Speaker, Avon Rock Steady Boxing Parkinson's disease support group  
Nov 2015 Guest lecturer, KSU EXSC 35068 Statistics for the Exercise Scientist *Post-Hoc Analyses*  
Oct 2015 Guest lecturer, KSU EXSC 35068 Statistics for the Exercise Scientist *Between and Within T-tests*  
Oct 2015 Speaker, Hudson Laurel Lake Parkinson's disease support group  
Feb 2015 Guest lecturer, KSU EXSC 35022 Exercise Leadership *Risk Factor Analysis*  
Oct 2014 Guest lecturer, KSU EXSC 35068 Statistics for the Exercise Scientist *Post-Hoc Analyses*  
Sept 2014 Guest lecturer, KSU EXSC 35068 Statistics for the Exercise Scientist *Descriptive Statistics*

**MENTORING EXPERIENCE**

**The University of Alabama in Huntsville**, Faculty Mentoring

2023 – Pres. Hailey Hicks, master's student, College of Engineering

**Utah State University**, Postdoctoral Fellow Mentoring

URCO = USU Undergraduate Creative and Opportunity Award; UG = undergraduate; CEHS = College of Education and Human Services  
2019 – 23 Abubukker K, master's student, thesis committee member

2020 – 23 Brown CB, graduated May 2022, MPH student  
 2020 – 23 Long C, URCO Awardee, master's student, thesis committee member  
 2021 – 23 Turner A, UG student  
 2021 – 23 Burch T, UG student  
 2021 – 23 Jordin T, UG student  
 2022 – 23 Lu B, master's student, thesis committee member  
 2022 – 23 Fisher C, master's student  
 2022 – 23 Dickey T, master's student  
 2022 – 23 Cafferty L, master's student  
 2021 – 23 Baggett C, CEHS Awardee, UG student  
 2021 – 23 Mitton C, UG student, graduated May 2023  
 2021 – 23 Carroll P, UG student, graduated May 2023  
 2020 – 23 Poulsen SL, UG student, graduated May 2022  
 2022 Beckwith A, Research Engineer Technician  
 2020 – 22 Jensen S, UG student  
 2022 – 22 Perkes K, UG student  
 2021 – 22 Kennington D, UG student  
 2021 – 22 Gray C, UG student  
 2021 – 22 Abugu E, master's student, graduated Dec 2022  
 2021 – 22 Speth J, UG student, graduated Dec 2022  
 2021 – 22 Hellstern B, UG student, graduated in Dec 2021  
 2021 – 22 Marks M, UG student, graduated May 2022  
 2020 – 22 Harrison K, master's student, graduated Aug 2022  
 2020 – 22 Zollinger BJ, UG student, graduated May 2022  
 2020 – 22 Boman T, UG student, graduated May 2022  
 2020 – 22 Gibbs N, Research Engineer Technician  
 2021 – 22 Reel K, URCO Awardee, UG student  
 2021 – 22 Ashworth L, master's student, major committee professor  
 2021 – 22 Overson C, UG student, graduated May 2022  
 2021 – 22 Simonson AA, UG student, graduated May 2022  
 2022 Fullmer S, Research Engineer Technician  
 2020 – 21 Corbridge S, URCO Awardee, graduated May 2021  
 2020 – 21 Hale AE, UG student, graduated May 2021  
 2020 – 21 Rolfe E, UG student  
 2020 – 21 Wilding M, UG student  
 2019 – 21 Braeger A, master's student  
 2021 Earley G, master's student, graduated May 2022  
 2021 Warner J, graduated May 2021  
 2021 Rowley AM, URCO Awardee, graduated Dec 2021  
 2019 – 20 Schultz A, mechanical engineering student

**University of Alabama at Birmingham, Postdoctoral Fellow Mentoring**

2019 Connor K, Research Coordinator  
 2018 – 19 Peramsetty S, UG Research Assistant  
 2018 – 19 Knighton A, UG Research Assistant  
 2018 – 19 Haggag R, UG Intern  
 2018 – 19 Holt C, Research Coordinator I  
 2018 – 19 Balagee V, UG Intern

**Kent State University, Graduate Student Mentoring**

2016 Dowdell BT, doctoral student

**PUBLICATIONS cited 642 times (*h-index: 11*)**

†Mentees, IF = Impact Factor, NA = Impact Factor unavailable (e.g., new journal)

1. Bolton DAE, Baggett CC<sup>†</sup>, Mitton CA<sup>†</sup>, **Harper SA**, Richardson JK. *Suppressing a blocked balance recovery step: A novel method to assess an inhibitory postural response*. Brain Sci. 2023, 13, 1488. doi: 10.3390/brainsci13101488. IF = 3.3.
2. Abugu E<sup>†</sup>, **Harper SA**, Kim Y<sup>†</sup>, Bolton DAE. *Cortical activation when inhibiting a compensatory step*. Gait & Posture. In press. doi: 10.1016/j.gaitpost.2023.10.016. IF = 2.84.
3. Brown CB<sup>†</sup>, Barrett TS, Long C<sup>†</sup>, Corbridge S<sup>†</sup>, Braeger A<sup>†</sup>, Zollinger BJ<sup>†</sup>, Hale AE<sup>†</sup>, Harrison K<sup>†</sup>, Poulsen SL<sup>†</sup>, Boman T<sup>†</sup>, Dakin CJ, **Harper SA**. *Step edge highlighters and illuminance changes influence stair descent in a real-world setting*. Ergonomics. doi: 10.1080/00140139.2022.2141347. IF = 2.561.
4. **Harper SA**, Thompson BJ. *Interaction between age and fatigue on antagonist muscle coactivation during an acute post-fatigue recovery phase*. Frontiers in Aging – Musculoskeletal Aging. Accepted Sep 2022. doi: 10.3389/fragi.2022.1005080. IF = NA.
5. **Harper SA**, Long C<sup>†</sup>, Corbridge S<sup>†</sup>, Barrett, TS, Braeger A<sup>†</sup>, Zollinger BJ<sup>†</sup>, Hale AE<sup>†</sup>, Brown CB<sup>†</sup>, Harrison K<sup>†</sup>, Poulsen SL<sup>†</sup>, Boman T<sup>†</sup>, Dakin CJ. *Stairway visual contrast enhancement to reduce fall-related events*. J Ergonomics 2022;12(303) doi: 10.35248/2165-7556-22.12.30. IF = 2.93.
6. Rowley MA<sup>†</sup>, Warner J<sup>†</sup>, **Harper SA**, Beethe AZ, Whelan R, Ruddy KL, Bolton DAE. *A method to assess response inhibition during a balance recovery step*. Gait & posture 2022. PMID: 35453084. doi: 10.1016/j.gaitpost.2022.04.009. IF = 2.84.
7. Lavin KM, Coen PM, Baptista LC, Bell MB, Drummer D, **Harper SA**, Lixandrão ME, McAdam JS, O'Bryan SM, Ramos S, Roberts LM, Vega RB, Goodpaster BH, Bamman MM, Buford TW. *State of Knowledge on Molecular Adaptations to Exercise in Humans: Historical Perspectives and Future Directions*. Compr Physiol. 2022;12(2):3193-279. PMID: 35578962; PMCID: 9186317. doi: 10.1002/cphy.c200033. IF = 9.09.
8. **Harper SA**, Corbridge S<sup>†</sup>, Long C<sup>†</sup>, Barrett TS, Braeger A<sup>†</sup>, Zollinger BJ<sup>†</sup>, Hale AE<sup>†</sup>, Brown CB<sup>†</sup>, Harrison K<sup>†</sup>, Poulsen SL<sup>†</sup>, Boman T<sup>†</sup>, Dakin CJ. *Safe stairway negotiation: distraction's influence on handrail use and successful stairway negotiation*. Journal of Safety Research. 2022 Sep; 82:314-322. PMID: 36031259. doi: 10.1016/j.jsr.2022.06.007. IF = 3.487
9. **Harper SA**, Thompson BJ. *Potential benefits of a minimal dose eccentric resistance training paradigm to combat sarcopenia and age-related muscle and physical function deficits in older adults*. Frontiers in Physiology. 2021;12. PMID: 34916963. doi: 10.3389/fphys.2021.790034. IF = 4.556.

10. **Harper SA**, Peters FJ, Pollock BS, Burns KJ, McDaniel J, Ridgel AL. *Design of an eccentric recumbent ergometer to elicit delayed onset muscle soreness*. Research Directs in Health Science. 2021;1(1). PMID: 34368818. IF = NA.
11. **Harper SA**, Beethe AZ, Dakin CJ, Bolton DAE. *Promoting Generalized Learning in Balance Recovery Interventions*. Brain Sci. 2021;11(3):402. PMID: 33810159. doi:10.3390/brainsci11030402. IF = 3.394.
12. **Harper SA**, Kleinoeder J, Ingalls V. *Student Response System Liking and Performance in Kinesiology Active Learning Classroom Environments*. Proceedings of the 12th International Conference on Society and Information Technologies. Mar 2021.
13. **Harper SA**, Bassler JR, Peramsetty S<sup>†</sup>, Yang Y, Roberts LM, Drummer D, Mankowski RT, Leeuwenburgh C, Ricart K, Patel RP, Bamman MM, Anton SD, Jaeger BC, Buford TW. *Resveratrol and exercise combined to treat functional limitations in late life: A pilot randomized controlled trial*. Experimental gerontology. 2020;111111. PMID: 33068691. doi: 10.1016/j.exger.2020.111111. IF = 4.032.
14. Bagley MC, **Harper SA**, McDaniel J, Custer LE. *Single leg aerobic capacity and strength in individuals with surgically repaired anterior cruciate ligaments*. Physical therapy in sport: official journal of the Association of Chartered Physiotherapists in Sports Medicine. 2020;46:131-6. PMID: 32932122. doi: 10.1016/j.ptsp.2020.08.013. IF = 2.365.
15. **Harper SA**, Baptista LC, Roberts LM, Wherry SJ, Boxer RS, Hildreth KL, Seay RS, Allman PH, Carter CS, Aban I, Kohrt WM, Buford TW. *Angiotensin Converting Enzyme Inhibitors Combined with Exercise for Hypertensive Seniors (The ACES Trial): Study Protocol of a Randomized Controlled Trial*. Front Med (Lausanne). 2019;6:327. PMID: 32039215. doi: 10.3389/fmed.2019.00327. IF = 5.091.
16. Roberts LM, Jaeger BC, Baptista LC, **Harper SA**, Gardner AK, Jackson EA, Pekmezi D, Sandesara B, Manini TM, Anton SD, Buford TW. *Wearable Technology To Reduce Sedentary Behavior And CVD Risk In Older Adults: A Pilot Randomized Clinical Trial*. Clinical interventions in aging. 2019;14:1817-28. PMID: 31695350. doi: 10.2147/CIA.S222655. IF = 4.458.
17. Loyd C, Markland AD, Zhang Y, Fowler M, **Harper SA**, Wright NC, Carter CS, Buford TW, Smith CH, Kennedy R, Brown CJ. *Prevalence of Hospital-Associated Disability in Older Adults: A Meta-analysis*. Journal of the American Medical Directors Association. 2020;21(4):455-61.e5. PMID: 31734122. doi: 10.1016/j.jamda.2019.09.015. IF = 4.669.
18. **Harper SA**, Dowdell BT<sup>†</sup>, Kim JH, Pollock BS, Ridgel AL. *Non-Motor Symptoms after One Week of High Cadence Cycling in Parkinson's Disease*. Int J Environ Res Public Health. 2019;16(12):2104. doi: 10.3390/ijerph16122104. PMID: 31197095. IF = 3.390.
19. **Harper SA\***, Roberts LM\*, Layne AS, Jaeger BC, Gardner AK, Sibille KT, Wu SS, Vincent KR, Fillingim RB, Manini TM, Buford TW. *Blood-Flow Restriction Resistance Exercise for Older Adults with Knee Osteoarthritis: A Pilot Randomized Clinical Trial*. J Clin Med. 2019;8(2). PMID: 30795545. doi: 10.3390/jcm8020265. IF = 4.241.

20. **Harper SA**, Bagley M., Custer, L., McDaniel, J. *Comparison of Peak Torque and Aerobic Capacity Asymmetries in the Lower Limbs*. Journal of Exercise and Nutrition. 2019;2(1). IF = NA.
21. Baptista LC, Jaeger BC, Anton SD, Bavry AA, Handberg EM, Gardner AK, **Harper SA**, Roberts LM, Sandesara B, Carter CS, Buford TW. *Multimodal Intervention to Improve Functional Status in Hypertensive Older Adults: A Pilot Randomized Controlled Trial*. J Clin Med. 2019;8(2). PMID: 30736317. doi: 10.3390/jcm8020196. IF = 4.241.
22. Bowen PG, Mankowski RT, **Harper SA**, Buford TW. *Exercise is Medicine as a Vital Sign: Challenges and Opportunities*. Translational Journal of the American College of Sports Medicine. 2019;4(1):1-7. PMID: 30828640. IF = NA.
23. Hower IM, **Harper SA**, Buford TW. *Circadian Rhythms, Exercise, and Cardiovascular Health*. J Circadian Rhythms. 2018;16:7. PMID: 30210567. doi: 10.5334/jcr.164. IF = 2.1.

#### WORK IN PROGRESS (IN REVIEW)

1. **Harper SA**, Brown CB<sup>†</sup>, Dakin CJ. *Real-world stairways and riser height and tread depth dimensions*.
2. Brown CB<sup>†</sup>, Poulsen SL<sup>†</sup>, Barrett TS, Dakin CJ, **Harper SA**. *Inter-step Variations of Stairways and Associations of High-Contrast Striping and Fall-related Event Observations*.
3. Wagner DR, Heath EM, **Harper SA**, Cafferty EA<sup>†</sup>, Evans A<sup>†</sup>, Burch T<sup>†</sup>, McBride J<sup>†</sup>, Spencer S<sup>†</sup>, Vakula MN. *Multicomponent Body Composition Reference Data for University Club Sport Athletes*.

#### WORK IN PREPARATION

1. Agbeyaka S<sup>†</sup>, Kleinstaeuber M, **Harper SA**. *An Evaluation of Interprofessional Education at the Sorenson Center for Clinical Excellence*.
2. Turner A<sup>†</sup>, **Harper SA**, Beethe AZ, Richardson J, Bolton DAE. *Relationship of Reacstick inhibition performance and EEG reactive balance response*.
3. Warren CM, **Harper SA**, Bhattacharyya KK, Hancock A<sup>†</sup>, Turner A<sup>†</sup>, Bolton DAE. *The role of neuromodulation in reactive balance control*.

#### PRE-PRINT PUBLICATIONS

1. **Harper SA**, Long C<sup>†</sup>, Corbridge S<sup>†</sup>, Barrett TS, Braeger A<sup>†</sup>, Zollinger BJ<sup>†</sup>, Hale AE<sup>†</sup>, Brown CB<sup>†</sup>, Harrison K<sup>†</sup>, Poulsen SL<sup>†</sup>, Boman T<sup>†</sup>, Dakin CJ. *Stairway visual contrast enhancement to reduce fall-related events*. medRxiv. 2022:2022.03.25.22271716. doi: 10.1101/2022.03.25.22271716.
2. Brown CB<sup>†</sup>, Poulsen SL<sup>†</sup>, Barrett TS, Dakin CJ, **Harper SA**. *Inter-step Variations of Stairways and Associations of High-Contrast Striping and Fall-related Event Observations*. medRxiv. 2023.01.28.23285143; doi: 10.1101/2023.01.28.23285143.

#### POPULAR PRESS ARTICLES



1. **Harper SA**, Doe V. *Preparing for winter riding*. Vicki Doe Fitness, Nov 2015.
2. **Harper SA**, Doe V. *Cyclocross exercise recommended for bone health*. Vicki Doe Fitness, Oct 2015.
3. **Harper SA**, Doe V. *Cycling and lifestyle choices; six tips to enhance performance*. Vicki Doe Fitness, Sept 2015.
4. **Harper SA**, Doe V. *Ride away your stress and anxiety there are psychosocial benefits*. Vicki Doe Fitness, Sept 2015.
5. **Harper SA**, Doe V. *Find the right bike for you*. Vicki Doe Fitness, Aug 2015.
6. **Harper SA**, Doe V. *Bike 101: Biking, great addition to exercise regimen; five easy bike checklist steps*. Vicki Doe Fitness, Jun 2015.
7. **Harper SA**. *Shifting Gears. Roll into winter safety. Race preview: Chili bowls and bike*. Ohio Sport & Fitness Magazine. Oct/Nov 2011.
8. **Harper SA**. *Shifting Gears. BMX park makes jump to Ohio. Race preview: ride big. Race across the states, injured & all*. Ohio Sport & Fitness Magazine. Aug/Sept 2011.
9. **Harper SA**. *Shifting Gears. Local cyclists ready to tackle 3,000-mile race. Gear saddle up!* Ohio Sport & Fitness Magazine. Jun/Jul 2011.
10. **Harper SA**. *Shifting Gears. Cycling projects face headwinds. Mountain biking. Women, grab your bikes. GOBA: the great Ohio bike adventure*. Ohio Sport & Fitness Magazine. Apr/May 2011.
11. **Harper SA**. *Shifting Gears. Improve performance with base training. Race feature: vulture's knob winter training series. Gear: five winter cycling training must-haves*. Ohio Sports & Fitness Magazine. Feb/Mar 2011.
12. **Harper SA**, Jackson C. *Tis the season for crossing over*. Ohio Sport & Fitness Magazine. Sept/Oct 2010.

#### **EXTRAMURAL RESEARCH GRANTS FUNDED (\$240,116.00)**

- 2020 – 21 **American Heart Association**, Postdoctoral Fellowship, role: PI, 20POST34990005, title: *Resveratrol and exercise combined to enhance mitochondrial function among older adults* (\$131,356.00).
- 2018 – 19 **National Institutes of Health**, T32HD071866 Interdisciplinary Training in Pathobiology and Rehabilitation Medicine Program Trainee, role: Trainee, Mentors: Dr. Thomas Buford, Co-mentors: Drs. Marcos Bamman, Gary Cutter (\$87,879.00)
- 2016 **Ohio Parkinson Foundation Northeast Region**, role: PI, dissertation, title: *The influence of BDNF Val66Met polymorphism on cognition, depression, quality of life, and motor symptoms in individuals with Parkinson's disease after dynamic cycling* (\$3,048.00).
- 2015 **Midwest American College of Sports Medicine**, Graduate Student Research Award Recipient, role: PI, dissertation, title: *The influence of BDNF Val66Met polymorphism on cognition, depression, quality of life, and motor symptoms in individuals with Parkinson's disease after dynamic cycling* (\$500.00).
- 2015 **Kent State University's School of Health Sciences**, Small Grant Program, role: PI, dissertation, title: *The influence of BDNF Val66Met polymorphism on cognition, depression, quality of life, and motor symptoms in individuals with Parkinson's disease after dynamic cycling* (\$333.00).

2013 **Motion Resolution, LLC**, industry grant, role: P.I., graduate student, title: *The influence of lateral foot displacement on cycling efficiency and maximal cycling power* (\$17,000+).

#### **INTERNAMURAL RESEARCH GRANTS FUNDING** (\$32,521.18)

2021 **Utah State University**, Research Catalyst program, role: Co-I., title: *Establishing a neural marker for inhibitory control during balance recovery* (\$19,652.98).

2021 **Utah State University**, Undergraduate Research and Creative Opportunity, role: Co-Mentor, title: *The Effects of Anterior Cruciate Ligament Injuries on Global Motor Control Deficit Measured by Motor Inhibition* (\$1,895.20).

2021 **Utah State University College of Education and Human Services**, Undergraduate Research Grant, role: Co-Mentor, title: *Blocking a balance recovery step* (\$1,740.00).

2020 **Utah State University**, Undergraduate Research and Creative Opportunity, role: Co-Mentor, title: *Developing a method to assess response inhibition during a balance recovery step* (\$2,000.00).

2020 **Utah State University**, Undergraduate Research and Creative Opportunity, role: Co-Mentor, title: *Mobile Device use's impact on handrail grasp and fall avoidance strategies* (\$2,000.00).

2020 **Utah State University Staff Employment Association**, Professional Development Scholarship, role: PI support to present at the 2020 Keystone Symposia (\$1,000.00).

2015 **Kent State University School of Health Sciences**, Small Grant Program, role: PI, title: *The influence of BDNF Val66Met polymorphism on cognition, depression, quality of life, and motor symptoms in individuals with Parkinson's disease after dynamic cycling* (\$333.00).

2012 – 15 **Kent State University Graduate Student Senate**, Domestic Travel Grant Award Recipient, \$350.00 for four years (\$1,400.00).

2012 **Kent State University Undergraduate Research Council**, Undergraduate Grant, role: Undergraduate Student, Co-I., title: *Single Leg Cycling Rehabilitation* (\$2,500.00).

#### **GRANTS SUBMITTED / IN REVIEW**

2023 **Research and Creative Experience for Undergraduates** (RCEU) Proposal. *Evaluation of stair contrast markings for older adults and individuals experiencing low vision*. Role: PI, Summer 2024.

2023 **Defense Health Agency** DHA-23C-003 STTR (\$275,000, \$100,00 for UAH). *GRIPMASTER – Grip Reinforcement Integrated Power with Magnetic Actuation for Seamless Tactical Exoskeleton Response Proposal*. Role: Co-I, 1 summer months; expertise in muscle activation.

#### **INVITED PRESENTATIONS**

1. **Harper SA**, Brown CB<sup>†</sup>, Poulsen SL<sup>†</sup>, Barrett, TS, Dakin JC. *Inter-step variation of stairways and observations of fall-related events*. UAB Center of Exercise Medicine Symposium on Exercise and Aging. Flash Talk. September 12, 2023.

2. **Harper SA.** *Code integration in health sciences research: a research perspective.* Akron Women in Technology. Mar 2022.
3. Roberts LM, **Harper SA**, Baptista LC, Bassler JR, Jaeger BC, Buford TW. *Resveratrol and exercise to treat functional limitations in late life (RESTORES): A pilot randomized controlled trial.* T32 Data Blitz Oral Presentation. University of Alabama at Birmingham Center for Exercise Medicine Conference. Birmingham, AL. Sept 2019.
4. **Harper SA**, Layne AS, Jaeger BC, Manini TM, Sibille KT, Vincent KR, Wu SS, Borsa PA, Buford TW. *Blood-flow restriction resistance exercise for older adults with knee osteoarthritis.* T32 Data Blitz Oral Presentation. University of Alabama at Birmingham Center for Exercise Medicine Conference. Birmingham, AL. Sept 2018.
5. \***Harper SA**, Bagley MC, Habowski S, Chinn LE, McDaniel J. *Comparison of strength and aerobic capacity imbalances in the lower limbs.* American College of Sports Medicine Conference President's Cup Competition, Boston, MA. Jun 2016. \*ACSM President's Cup Presentation.

## REFERRED PRESENTATIONS

†Mentees, \*presentation award.

1. Conners RT, Whitehead PN, Reno-Smith, AM, **Harper SA.** *Where are they now? Importance of alumni feedback and engagement in exercise science programs.* Southeast American College of Sports Medicine. Pedagogy Tutorial Abstract. SC. Feb. 22-24, 2024. Submitted.
2. Conners, RT., **Harper SA.** *Going beyond traditional measures of program evaluation: What is success for undergraduate exercise science students?* National American College of Sports Medicine Annual Meeting. Tutorial lecture. Boston, MA. May 28 – May 31, 2024. Accepted.
3. Aguilar A, Kyle D, Zaharia N, **Harper SA**, Elliot J. *Expanding Beyond our Kinesiology Department: Identifying & Implementing Diverse Opportunities Through Relationships.* National Association for Kinesiology in Higher Education. Phoenix, AZ. Jan 2024. Accepted. Not presenting in person.
4. Warren CM, **Harper SA**, Bhattacharyya KK, Hancock A<sup>†</sup>, Turner A<sup>†</sup>, Bolton DAE. *The role of neuromodulation in reactive balance control.* 2023 Annual Meeting for the Society for Psychophysiological Research. New Orleans, LA. Sept 27 – Oct 1, 2023.
5. **Harper SA**, Brown CB<sup>†</sup>, Poulsen SL<sup>†</sup>, Barrett, TS, Dakin JC. *Inter-step variation of stairways and observations of fall-related events.* National American College of Sports Medicine Conference. Denver, CO. Jun 2, 2023.
6. Pauls J, Johnson D, Conner W, **Harper SA.** *Designing and Retrofitting for People Movement Safety in Facilities for Public Assembly Seating.* 2023 Slips, Trips, and Falls International Conference. Toronto, CA. Jun 1, 2023
7. Heap K<sup>†</sup>, Wagner DR, **Harper SA**, Cafferty EA<sup>†</sup>, Evans A<sup>†</sup>. *Multicompartment Body Composition Reference Data for Female University Club Sport Athletes (Preliminary*

Data). 2023 National American College of Sports Medicine Conference. Denver, CO. May 31, 2023.

8. Turner A<sup>†</sup>, **Harper SA**, Beethe AZ, Bolton DAE. *Relationship of Reacstick® Inhibition Accuracy and Inhibitory Control During Balance Recovery*. National American College of Sports Medicine Conference. Denver, CO. May 31, 2023.
9. Beethe AZ, **Harper SA**, Lu B<sup>†</sup>, Horsley H<sup>†</sup>, Harrison K<sup>†</sup>, Bolton DAE. *Anterior Cruciate Ligament Injury Alters Cortical Motor Output*. 2023 National Athletic Trainers Association Clinical Symposium. Indianapolis, IN. Jun 2023
10. Brown CB<sup>†</sup>, Poulsen SL<sup>†</sup>, Barrett, TS, Dakin CJ, **Harper SA**. *Inter-step height variation and observation of fall-related events during stairway negotiation*. Southwest American College of Sports Medicine. Oral presentation. Costa Mesa, CA. Oct 2022.
11. Brown CB<sup>†</sup>, Dakin CJ, **Harper SA**. *Inter-step height variation and observation of fall-related events during stairway negotiation*. Utah Society of Public Health Education Conference. Salt Lake City, UT. Nov 2022.
12. Abugu E<sup>†</sup>, **Harper SA**, Kim Y<sup>†</sup>, Bolton DAE. *Prefrontal activation during inhibition of a balance recovery step*. Society for Neuroscience Conference, San Diego, CA. Nov 2022.
13. Bagley MC, **Harper SA**, McDaniel J, Custer LE. *Postural control in individuals with anterior cruciate ligament reconstruction*. National Athletic Trainers Association. Philadelphia, PA. Jun 2022.
14. Reel K<sup>†</sup>, Beethe AZ, **Harper SA**, Studenka BE. *The effect of an anterior cruciate ligament injury on global motor control deficits*. Annual meeting of the North American Society for the Psychology of Sport and Physical Activity. Kona, HI. Jun 2022.
15. **Harper SA**, Roberts LM, Baptista LC, Bassler JR, Jaeger BC, Buford TW. *Resveratrol and exercise to treat functional limitations in late life (RESTORES): A pilot randomized controlled trial*. Keystone Symposia: New Insights into the Biology of Exercise. Keystone, CO. Mar 2020.
16. Roberts LM, Jaeger BC, Baptista LC, **Harper SA**, Jackson E, Gardner AK, Sandesara B, Manini TM, Anton SD, Buford TW. *Wearable technology to reduce sedentary behavior and CVD risk in older adults: A pilot trial*. National American College of Sports Medicine Conference. Orlando, FL. Jun 2019.
17. Dowdell BT<sup>†</sup>, **Harper SA**, Kim JH, Varner AJ, Pollock BS, Ridgel AL FACSM. *The effects of high-cadence cycling on emotional recognition in individuals with Parkinson's disease*. National American College of Sports Medicine Conference. Orlando, FL. May 2019.
18. Baptista LC, Jaeger BC, Anton SD, Bavry AA, Handberg EM, Gardner AK, **Harper SA**, Roberts LM, Sandesara B, Carter CS, Buford TW. *Change in metabolic and inflammatory biomarkers after a 24-week multimodal intervention designed to improve functional status in hypertensive older adults: a pilot randomized controlled trial*. International Conference on Frailty and Sarcopenia Research. Miami Beach, FL. Feb 2019.

19. Varner AJ, Dowdell BT<sup>†</sup>, Kim JH, **Harper SA**, Pollock BS, Ridgel AL, FACSM. *Does high-cadence cycling improve depression in individual with Parkinson's disease?* Midwest American College of Sports Medicine. Grand Rapids, MI. Nov 2018.
20. Dowdell BT<sup>†</sup>, **Harper SA**, Kim JH, Varner AJ, Pollock BS, Ridgel AL FACSM. *The effects of high-cadence cycling on emotional recognition in individuals with Parkinson's disease.* Midwest American College of Sports Medicine. Grand Rapids, MI. Nov 2018.
21. **Harper SA**, Layne AS, Jaeger BC, Manini TM, Sibille KT, Vincent KR, Wu SS, Borsa PA, Buford TW. *Blood-flow restriction resistance exercise for older adults with knee osteoarthritis.* Poster Presentation. Integrative Physiology of Exercise Conference. San Diego, CA. Sept 2018.
22. Ridgel AL, **Harper SA**, Dowdell BT, Pollock BS. *The effects of dynamic cycling on emotional recognition in individuals with Parkinson's disease.* American College of Sports Medicine Conference. Minneapolis, MN. May 2018.
23. Bagley BC, Habowski S, **Harper SA**, McDaniel J, Custer LE. *Comparison of aerobic capacity in healthy and surgically repaired anterior cruciate ligament legs in recreationally active individuals.* National Athletic Training Association Conference. Houston, TX. Jun 2017.
24. **Harper SA**, Ridgel AL. *Effects of val66Met polymorphism on depression and responses to exercise in individuals with Parkinson's disease.* American College of Sports Medicine National Conference. Denver, CO. May 2017.
25. \***Harper SA**, Ridgel AL. *Effects of val66Met polymorphism on depression and responses to exercise in individuals with Parkinson's disease.* MWACSM Conference, Fort Wayne, IL. Nov 2016. \*MWACSM Best Doctoral Student Poster Presentation Award.
26. **Harper SA**, Bagley MC, Habowski S, Chinn LE, McDaniel J. *Comparison of strength and aerobic capacity imbalances in the lower limbs.* American College of Sports Medicine Conference, Boston, MA. Jun 2016.
27. \***Harper SA**, Bagley MC, Habowski S, Chinn (Custer) LE, McDaniel J. *Comparison of strength and aerobic capacity imbalances in the lower limbs.* MWACSM Conference, Fort Wayne, IL. Nov 2015. \*MWACSM President's Cup Award Recipient.
28. Pollock BS, Burns KJ, Stavres J, **Harper SA**, McDaniel J. *Determining the influence of limb and gender on blood pressure regulation and functional sympatholysis during the application of negative pressure.* Midwest American College of Sports Medicine Conference, Fort Wayne, IL. Nov 2015.
29. **Harper SA**, Burns KJ, Pollock BS, McDaniel J. *The influence of lateral foot displacement on cycling efficiency and maximal cycling power.* Midwest American College of Sports Medicine Conference, Merrillville, IL. Nov 2014.
30. **Harper SA**, Burns KJ, Pollock BS, McDaniel J. *The influence of lateral foot displacement on cycling efficiency and maximal cycling power.* American College of Sports Medicine Conference, Orlando, FL. Jun 2014.

31. **Harper SA**, Jetton AC, Landram MJ, Haines TL, Collier SR, Utter AC. *Markers of hydration status, cardiovascular function, and performance in ocean rescue employees*. Southeast American College of Sports Medicine, Greenville, SC. Feb 2013. Prepared but presented by another author.

#### NON-REFERRED PRESENTATIONS

1. **Harper SA**, Brown CB<sup>†</sup>, Poulsen SL<sup>†</sup>, Barrett, TS, Dakin JC. *Inter-step variation of stairways and observations of fall-related events*. UAB Center of Exercise Medicine Symposium on Exercise and Aging. Poster presentation. September 11, 2023.
2. Burch T<sup>†</sup>, **Harper SA**, Cafferty E<sup>†</sup>, Vakula M, Wagner DR. *Differences in bone data between sexes despite similar BMI for university club sport athletes*. Utah State University Student Research Symposium. Logan, UT. Apr 2023.
3. Evans A<sup>†</sup>, Wagner DR, **Harper SA**, Spencer S, Heath EM. *Fat-free max index of university club sport athletes*. Utah Conference on Undergraduate Research. Salt Lake City, UT. Feb 2023.
4. Burch T<sup>†</sup>, **Harper SA**, Cafferty E<sup>†</sup>, Vakula M, Wagner DR. *Differences in bone data between sexes despite similar BMI for university club sport athletes*. Utah Conference on Undergraduate Research. Salt Lake City, UT. Feb 2023.
5. Poulsen SL<sup>†</sup>, Brown CB<sup>†</sup>, Barrett, TS, Dakin CJ, **Harper SA**. *Inter-step height variation and observation of fall-related events during stairway negotiation*. Utah State University Fall Student Research Symposium. Oral Presentation. Costa Mesa, CA. Dec 2022.
6. Lu B<sup>†</sup>, **Harper SA**, Bolton DAE, Beethe AZ. *Reaction Times Altered by Anterior Cruciate Ligament Tear*. International Journal of Exercise Science. Southwest American College of Sports Medicine. Costa Mesa, CA. Oct 2022.
7. Turner A<sup>†</sup>, **Harper SA**, Bolton DAE. *Relationship of Reacstick® Inhibition Accuracy and Inhibitory Control During Balance Recovery*. International Journal of Exercise Science. Southwest American College of Sports Medicine. Costa Mesa, CA. Oct 2022.
8. Cafferty E<sup>†</sup>, **Harper SA**, Thompson BJ. *Interaction between age and fatigue on antagonist muscle coactivation during an acute post-fatigue recovery phase*. International Journal of Exercise Science. Southwest American College of Sports Medicine. Costa Mesa, CA. Oct 2022.
9. Brown CB<sup>†</sup>, Kennington D<sup>†</sup>, **Harper SA**. *Lower limb asymmetries among older adults*. Poster Presentation for the Spring Student Research Symposium at Utah State University. Logan, UT. Apr 2022.
10. Reel K<sup>†</sup>, Beethe AZ, **Harper SA**, Studenka BE. *Global Motor Control Deficit Measured by Motor Inhibition*. Oral Presentation for the Spring Student Research Symposium at Utah State University. Logan, UT. Apr 2022.
11. Baggett C<sup>†</sup>, Mitton C<sup>†</sup>, Bolton, DAE, **Harper SA**. *Blocking a Recovery Balance Step*. Poster Presentation for the Spring Student Research Symposium at Utah State University. Logan, UT. Apr 2022.

12. Overson C<sup>†</sup>, Ashworth L<sup>†</sup>, **Harper SA**. *Does age affect the time to restabilize during a balance test?* Poster Presentation for the Spring Student Research Symposium at Utah State University. Logan, UT. Apr 2022.
13. Carroll P<sup>†</sup>, Ashworth L<sup>†</sup>, **Harper SA**. *The relationship between maximal, isometric strength and time to stabilize*. Poster Presentation for the 2022 Spring Student Research Symposium at Utah State University. Logan, UT. Apr 2022.
14. Rowley M<sup>†</sup>, Warner J<sup>†</sup>, **Harper SA**, Beethe AZ, Bolton DAE. *Developing a Method to Assess Response Inhibition During a Balance Recovery Step*. Oral Presentation for the 2021 Fall Student Research Symposium at Utah State University. Logan, UT Dec 2021.
15. \*Long C<sup>†</sup>, Corbridge S<sup>†</sup>, Braeger A<sup>†</sup>, Dakin CJ, **Harper SA**. *The effect of step edge highlighters and face contrast on stair falls in an applied setting*. Utah State University Student Research Symposium. Virtual oral presentation. Logan, UT. Apr 2021. \*Student Research Symposium Social Sciences and Education Oral Presentation Award.
16. Boman T<sup>†</sup>, Long C<sup>†</sup>, Corbridge S<sup>†</sup>, Braeger A<sup>†</sup>, Dakin CJ, **Harper SA**. *Secondary effects of stair striping distractions on stair negotiation*. Utah State University Student Research Symposium. Virtual oral presentation. Logan, UT. Apr 2021.
17. Boman T<sup>†</sup>, Long C<sup>†</sup>, Corbridge S<sup>†</sup>, Braeger A<sup>†</sup>, Dakin CJ, **Harper SA**. *Secondary effects of stair striping distractions on stair negotiation*. Department of Biology Undergraduate Research Symposium (BURS). Virtual poster presentation. Logan, UT. Apr 2021.
18. ^**Harper SA**, Bassler JR, Jaeger BC, Buford TW. *Resveratrol and exercise to treat functional limitations in late life (RESTORES): A pilot randomized controlled trial*. 2020 Utah State University Student Research Symposium. Oral presentation. Logan, UT. Apr 2020. ^ postponed.
19. Baptista LC, **Harper SA**, Roberts LM, Aban I, Wherry SJ, Boxer RS, Hildreth KL, Seay RS, Kohrt WM, Buford TW. *ACE Inhibitors Combined with Exercise for Hypertensive Seniors: Design of a Randomized Controlled Trial*. UAB Aging Symposium. Birmingham, AL. Oct 2019.
20. **Harper SA**, Roberts LM, Baptista LC, Bassler JR, Jaeger BC, Buford TW. *Resveratrol and exercise to treat functional limitations in late life (RESTORES): A pilot randomized controlled trial*. UAB Aging Symposium. Birmingham, AL. Oct 2019.
21. **Harper SA**, Roberts LM, Baptista LC, Aban I, Wherry SJ, Boxer RS, Hildreth KL, Seay RS, Kohrt WM, Buford TW. *ACE Inhibitors Combined with Exercise for Hypertensive Seniors: Design of a Randomized Controlled Trial*. 30<sup>th</sup> Annual Vascular Biology and Hypertension Symposium. Birmingham, AL. May 2019.
22. **Harper SA**, Roberts LM, Layne AS, Jaeger BC, Gardner AK, Manini TM, Sibille KT, Vincent KR, Wu SS, Borsa PA, Buford TW. *Blood-flow restriction resistance exercise for older adults with knee osteoarthritis: A pilot randomized clinical trial*. National Center for Medical Rehabilitation Research (NMCRR). Birmingham, AL. Mar 2019.
23. Lloyd C, Markland AD, Zhang Y, Fowler K, **Harper SA**, Wright NC, Carter CS, Buford TW, Kennedy R, Brown CJ. *Prevalence of Hospital-associated Disability in Older Adults:*

*A Systematic Review and Meta-analysis*. 35<sup>th</sup> Annual Department of Medicine Trainee Research Symposium. Birmingham, AL. Mar 2019.

24. Roberts LM, Jaeger BC, Baptista LC, **Harper SA**, Jackson E, Gardner AK, Sandesara B, Manini TM, Anton SD, Buford TW. *Wearable technology to reduce sedentary behavior and CVD risk in older adults: A pilot trial*. 35<sup>th</sup> Annual Department of Medicine Trainee Research Symposium, poster presentation. Birmingham, AL. Mar 2019.
25. Baptista LC, Jaeger BC, Anton SD, Bavry AA, Handberg EM, Gardner AK, **Harper SA**, Roberts LM, Sandesara B, Carter CS, Buford TW. *24-week multimodal intervention designed to improve functional status in hypertensive older adults: a pilot randomized controlled trial*. 35<sup>th</sup> Annual Department of Medicine Trainee Research Symposium, poster presentation. Mar 2019.
26. **Harper SA**, Roberts LM, Layne AS, Jaeger BC, Gardner AK, Manini TM, Sibille KT, Vincent KR, Wu SS, Borsa PA, Buford TW. *Blood-flow restriction resistance exercise for older adults with knee osteoarthritis: A pilot randomized clinical trial*. 35<sup>th</sup> Annual Department of Medicine Trainee Research Symposium. Birmingham, AL. Mar 2019.
27. **Harper SA**, Roberts LM, Layne AS, Jaeger BC, Gardner AK, Manini TM, Sibille KT, Vincent KR, Wu SS, Borsa PA, Buford TW. *Blood-flow restriction resistance exercise for older adults with knee osteoarthritis: A pilot randomized clinical trial*. University of Alabama at Birmingham Postdoctoral Research Day. Birmingham, AL. Feb 2019.
28. Baptista LC, Jaeger BC, Anton SD, Bavry AA, Handberg EM, Gardner AK, **Harper SA**, Roberts LM, Sandesara B, Carter CS, Buford TW. *Change in metabolic and inflammatory biomarkers after a 24-week multimodal intervention designed to improve functional status in hypertensive older adults: a pilot randomized controlled trial*. University of Alabama at Birmingham Postdoctoral Research Day. Birmingham, AL. Feb 2019.
29. **Harper SA**, Dionne-Odom JN, Gbolahan O, Singh H, McFarland G. *A pilot randomized control trial of daily symptom and peak flow reporting via smartphone vs. usual care for patients with persistent asthma*. Clinical Investigation Training Program. University of Alabama at Birmingham, Birmingham, AL. Oct 2018.
30. **Harper SA**, Layne AS, Jaeger BC, Manini TM, Sibille KT, Vincent KR, Wu SS, Borsa PA, Buford TW. *Blood-flow restriction resistance exercise for older adults with knee osteoarthritis*. T32 poster presentation. University of Alabama at Birmingham Center for Exercise Medicine Conference. Birmingham, AL. Sept 2018.
31. **Harper SA**, Ridgel AR. *Effects of val66Met polymorphism on depression and responses to exercise in individuals with Parkinson's disease*. 31<sup>st</sup> meeting of the Ohio Physiological Society. Nov 2016.
32. **Harper SA**, Pollock BS, Ridgel AL. *Effects of Brain-derived neurotrophic factor (BDNF) polymorphism on non-motor symptoms in individuals with Parkinson's disease*. Take Control! A Symposium to Advance Research on Parkinson's disease. Northeast Ohio Medical College of Pharmacy, Rootstown, OH. May 2016.



33. \*Wisniewski J<sup>†</sup>, **Harper SA**, Bagley MC, Habowski S, Chinn LE, McDaniel J. *Comparison of muscular strength and aerobic capacity imbalances in the lower limbs*. Northeast Ohio Exercise Science Conference, Cleveland, OH. Apr 2016. \*Best Undergraduate Student Presentation.
34. **Harper SA**, Pollock BS, Ridgel AL. *Effects of Brain-derived neurotrophic factor (BDNF) polymorphism on non-motor symptoms in individuals with Parkinson's disease*. Kent State University's College of Education, Health and Human Services Gallery of Research, Kent, OH. Apr 2016.
35. **Harper SA**, Bagley MC, Habowski S, Chinn LE, McDaniel J. *Comparison of strength and aerobic capacity imbalances in the lower limbs*. Graduate Student Symposium, Kent, OH. Apr 2016.
36. **Harper SA**, Pollock BS, Ridgel AL. *Effects of Brain-derived neurotrophic factor (BDNF) polymorphism on non-motor symptoms in individuals with Parkinson's disease*. Kent State University's Neuroscience Symposium, Kent, OH. Apr 2016.
37. **Harper SA**, Peacock CA, Wilson KA, Ridgel AL. *Cognitive function and fitness improvements after a multidimensional exercise intervention in older adults*, Northeast Ohio Exercise Science Conference. Youngstown, OH. Apr 2015.
38. **Harper SA**, Peacock CA, Wilson KA, Ridgel AL. *Cognitive function and fitness improvements after a multidimensional exercise intervention in older adults*, College of Education, Health and Human Services Gallery of Research. Kent, OH. Apr 2015.
39. **Harper SA**, Peacock CA, Wilson KA, Ridgel AL. *Cognitive function and fitness improvements after a multidimensional exercise intervention in older adults*, Kent State University's Neuroscience on Aging Symposium. Kent, OH. Apr 2015.
40. **Harper SA**, Peacock CA, Wilson KA, Ridgel AL. *Cognitive function and fitness improvements after a multidimensional exercise intervention in older adults*, Graduate Student Symposium. Kent, OH. Apr 2015.
41. Peters F, **Harper SA**, McDaniel J, Ridgel AL. *Development of an eccentric cycling paradigm to produce delayed onset muscle soreness*. Northeast Ohio Exercise Science Conference. Youngstown, OH. Apr 2015.
42. \***Harper SA**, Burns KJ, Pollock BS, McDaniel J. *The influence of lateral foot displacement on cycling efficiency and maximal cycling power*. NEOESC, Kent, OH. Apr 2014. \*Best Master's Student Presentation.
43. **Harper SA**, Burns KJ, Pollock BS, McDaniel J. *The influence of lateral foot displacement on cycling efficiency and maximal cycling power*. Kent State University Graduate Student Symposium, Kent, OH. Apr 2014.
44. **Harper SA**, Burns KJ, Pollock BS, LaScola P, McDaniel J. *Single leg cycling: implications for rehabilitation*. NEOESC, Alliance, OH. Apr 2012.

## **SERVICE – INTERNATIONALLY**

2023 – Pres. Slips, Trips, and Falls Technical Committee

- 2023 – Pres. Slips, Trips, and Falls Technical Committee IEA 2024 Symposium Lead
- 2023 – Pres. Review Editor, *Frontiers of Aging*
- 2023 – Pres. Editor-in-Chief, *Research Directs in Health Sciences*
- 2021 – 06/23 Associate Editor, *Research Directs in Health Sciences*

**SERVICE - NATIONALLY**

- 2023 – Pres. International Code Council A117.1 Sub-committees on contrast
- 2023 – Pres. Abstract Reviewer, Southeast American College of Sports Medicine Conference
- 2023 – Pres. Abstract Reviewer, Gerontology Society of America Annual Scientific Meeting
- 2020 – 23 Reviewer, *International Journal of Environmental Research and Public Health*
- 2020 – 23 Review Board, *Healthcare*
- 2020 – 23 Senior Editor, *Curiosity: USU Undergraduate Research Journal*
- 2021 – 22 Fellowship Human Studies 1 Committee Reviewer, American Heart Association
- 2022 Reviewer, Human Factors and Ergonomics Seed Grant Review *Targeting the Intersections of HF/E and Anti-Racism/Anti-Bias*
- 2021 Reviewer-in-Training Program for Fellowships Human Studies 1, American Heart Association
- 2021 Abstract Reviewer, Gerontology Society of America Annual Scientific Meeting
- 2020 Interactive Science for Everyone Series, American Heart Association

**Ad Hoc External Reviewer**

- 2023 Archives of Physical Medicine and Rehabilitation, Frontiers in Public Health (Aging and Public Health), BMC Geriatrics, Medicine & Science in Sports & Exercise, PLOS ONE
- 2022 Experimental Gerontology, Perceptual and Motor Skills
- 2021 Frontiers in Neurology Neurorehabilitation, Journal of Clinical Medicine, BMC Sports Science, Medicine & Rehabilitation, Applied Sciences, Arthritis Care & Research, BMC Geriatrics
- 2020 BMC Geriatrics, Physiology and Behavior, Journal of Frailty & Aging, Physical & Occupational Therapy in Geriatrics
- 2019 Experimental Gerontology, Journal of Geriatric Medicine and Gerontology, Frontiers in Aging Neuroscience, International Journal of Sports Science & Coaching, Aging Clinical and Experimental Research, Journal of Biomechanics, Medicine, Science, Sport and Exercise
- 2018 Experimental Gerontology, Journal of Science and Medicine in Sport, Frontiers in Physiology, Technology, Knowledge, and Learning

**SERVICE - UNIVERSITY**

- 2023 Kinesiology Department Alumni Relations Committee, Huntsville, AL
- 2023 College of Education Alumni Engagement Committee, Huntsville, AL
- 2023 College of Education Signature Lectures Committee, Huntsville, AL
- 2023 Evaluator/Moderator, USU Student Research Symposium, Logan, UT
- 2023 URCO Grant Review Panel, Presidential Doctoral Research Fellows, Logan, UT
- 2020 – 23 SCCE Interprofessional Experience leadership and planning team, Logan, UT
- 2022 – 23 Co-Director, SCCE Interprofessional Experience, Logan, UT
- 2022 – 23 Rural Education Center working group, USU, Logan, UT
- 2021 – 22 Office of Research, Undergraduate Student Research Fair, Logan, UT
- 2021 – 22 Reviewer, USU Spring URCO Awards, Logan, UT
- 2022 Escort, USU KHS Spring Undergraduate Graduation Ceremony, Logan, UT
- 2021 Judge, Fall USU Student Research Symposium, Logan, UT

2021 USU Faculty Research Mentor Orientation, Logan, UT  
 2021 Reviewer, USU Summer GRACO Awards, Logan, UT  
 2021 Asst. Reader, USU KHS Spring Graduation Ceremony, Logan, UT  
 2021 Interviewer, Aggies Elevated Program for practice job interviews, Logan, UT  
 2021 Judge and Speaking Fellow, USU Student Research Symposium, Logan, UT  
 2020 Utah Conference on Undergraduate Research volunteer, USU, Logan, UT  
 2020 Wellness Exposition KHS volunteer, Logan, UT  
 2018 Three-minute thesis judge, UAB Graduate School, Birmingham, AL  
 2016 – 17 Exercise Science Club Co-Advisor, Tiffin University, Tiffin, OH  
 2017 Exercise Science Club Health Fair, Tiffin University, Tiffin, OH  
 2017 Celebration of Service Award Ceremony Committee, KSU, Kent, OH  
 2016 MWACSM student quiz bowl, Tiffin University representative, Tiffin, OH  
 2014 – 16 Graduate Advisory Council, College of Education, Health, and Human Services, KSU, Kent, OH  
 2013 – 15 Graduate Student Senator for Health Sciences, KSU, Kent, OH  
 2015 Graduate International Travel Award Committee, KSU, Kent, OH  
 2015 Graduate Research Award Committee, KSU, Kent, OH  
 2014 Graduate International Travel Award Committee, KSU, Kent, OH  
 2013 Researcher, University Hospitals Parkinson's Boot Camp, Cleveland, OH

#### *Thesis Committee Service*

2022 – 23 Bonny Lu, masters student committee  
*Reaction times altered by an anterior cruciate ligament tear*  
 2022 – 23 Christopher Long, masters student committee  
*Comparing dorsiflexor muscle activity during the swing phase of gait while walking in water versus on land*  
 2020 – 23 Kareem Abubukker, masters student committee  
*Relationships between muscle characteristics and step outcomes in young and old adults*  
 2021 – 22 Leandra Ashworth, masters student committee chair (major professor)  
*Relationship of eccentric strength and forward perturbation restabilization after foot contact*

#### *Department Service*

2021 – 23 Certified Radiological Technician (DXA operator)  
 2020 – 22 Copywriter, KHS Department website content  
 2021 – 22 KHS seminar series  
 2021 – 22 KHS journal club  
 2021 KHS Jeopardy Game  
 2021 KHS Alumni Career Webinar  
 2021 CEHS Education week – KHS Carnival Booth

#### **SERVICE - COMMUNITY**

2023 Beginner's Mountain Bike Clinic, September 2023, Huntsville, AL  
 2023 Volunteer, Agility Sports Network, Boccia Clinic (July 2023)  
 2021, 22 Adopt-A-Trail Event, Logan/Cache County, UT  
 2020 Trails Cache Trail Review, Logan/Cache County, UT  
 2019 Trips for Kids volunteer, Birmingham, AL  
 2019 Birmingham Urban Mountain Peddlers co-ride leader, Birmingham, AL  
 2019 Community outreach, Senior Spirit Exposition, Birmingham, AL

2019 Community outreach, UAB Health and Wellness Fair, Birmingham, AL  
 2018 Community outreach, Hoopersville Senior Center, UAB Center for Exercise  
 Medicine, Birmingham, AL  
 2018 Community outreach, City of Gardendale Senior Center, UAB Center for  
 Exercise Medicine, Birmingham, AL  
 2018 Equal Access Birmingham 5<sup>th</sup> Annual Heart + Sole 5k volunteer, UAB,  
 Birmingham, AL  
 2009 – 18 Volunteer, Cleveland Area Mountain Bike Association, Cleveland, OH  
 2012 – 16 Hand Cycle Marathon Race Volunteer for Cleveland and Canton, OH, and  
 Pittsburgh, PA  
 2014 – 15 Fundraising & Event Committee Member, Bike Cleveland, Cleveland, OH  
 2012 Girls On The Run Coach, High Mountain Chapter, NC, Banner Elk, NC  
 2010 – 12 Girls With Sole Coach, Cleveland, OH  
 2010 – 12 Founder & President of the KSU Running Club, Kent, OH

**MISC.**

2023 – Pres. Women’s Outdoor Club, Alabama, member  
 2023 – Pres. Huntsville Mountain Bike Riders, member  
 2014 – 15 Team Phenomenal Hope Race Across America (RAAM) team member, USA  
 2014 – 15 Team Phenomenal Hope RAAM alternate racer, USA  
 2013 Ultramarathon Cycling Association Anne McSweeney Women's Scholarship  
 Recipient for the Pacific-Atlantic-Cycling (PAC) Tour  
 2012 Team H<sub>2</sub>Ope 4-person racing team in RAAM, USA  
 2011 Team H<sub>2</sub>Ope 4-person racing team in RAAM, USA